

1 **Investigating business outcomes of healthy food retail strategies: a systematic scoping**
2 **review**

3 **Abstract**

4 Large changes to food retail settings are required to improve population diet. However, limited
5 research has comprehensively considered the business implications of healthy food retail
6 strategies for food retailers. We performed a systematic scoping review to identify types of
7 business outcomes that have been reported in healthy food retail strategy evaluations. Peer-
8 reviewed and grey literature were searched. We identified qualitative or quantitative real-world
9 food or beverage retail strategies designed to improve the healthiness of the consumer nutrition
10 environment (e.g. changes to the “marketing mix” of product, price, promotion and/or
11 placement). Eligible studies reported store- or chain-level outcomes for measures of
12 commercial viability, retailer perspectives, customer perspectives and/or community
13 outcomes. 11,682 titles and abstracts were screened with 107 studies included for review from
14 15 countries. Overall item sales, revenue, store patronage, and customer level of satisfaction
15 with strategy were the most frequently examined outcomes. There was large heterogeneity in
16 outcome measures reported and in favourability for retailers of outcomes across studies. We
17 recommend more consistent reporting of business outcomes and increased development and
18 use of validated and reliable measurement tools. This may help generate more robust research
19 evidence to aid retailers and policy-makers to select feasible and sustainable healthy food retail
20 strategies to benefit population health within and across countries.

21

22 **Keywords:** retail, consumer, process, food environment, consumer welfare, economic analysis

- 23 **Abbreviations:** WHO, World Health Organisation; SSBs, sugar-sweetened beverages;
- 24 MMAT, Mixed Method Appraisal Tool; OECD, Organization for Economic Co-operation and
- 25 Development; RCT, Randomised Control Trial.

26 **Introduction**

27 The World Health Organisation (WHO) and many governments around the world have set
28 ambitious targets to reduce the burden from non-communicable disease including “[halting]
29 the rise in diabetes and obesity” by 2020 ¹. There is now wide acceptance that changes in the
30 food environment will be instrumental in achieving these goals ². Indeed, the WHO has urged
31 governments to “develop policy measures that engage food retailers and caterers to improve
32 the availability, affordability and acceptability of healthier food products” ¹.

33 In addition to policy measures, there has been increasing interest in food retail environment
34 changes, with several reviews having investigated the many ways in which retailers can
35 encourage healthier customer purchases ³⁻⁷. In particular, retailers can influence the consumer
36 nutrition environment⁷, including utilising the traditional “marketing mix” of product, price,
37 promotion and placement of food and beverages⁸. To date, evaluations of these strategies have
38 largely focused on their impact on customer purchases or the actual changes to the consumer
39 nutrition environment ^{3,9-11}. There are comprehensive existing guidelines for the evaluation of
40 the direct effect of healthy food retail strategies on nutrition and health outcomes ^{12,13}, with the
41 assumption that measurable changes in the food environment lead to changes in purchase and
42 therefore changes in consumption and health outcomes ¹⁴.

43 The nutrition outcomes of healthy food retail strategies may be influenced by business
44 outcomes. Broadly, we consider business outcomes to include outcomes which may affect
45 retailers’ likelihood of implementing and sustaining a healthy food retail strategy - namely
46 commercial viability, customer and retailer perspectives, and community outcomes (**Table 1**).
47 Business outcomes may be directly affected by changes in purchasing, which in turn may act
48 as barriers or enablers to implementation and sustainability of strategies. The conceptual
49 framework for this review can be found in **Appendix I**. The traditionally acknowledged
50 ‘mechanism’ of effect from a change in food environment to a change in purchasing and

51 ultimately health outcomes is influenced by numerous ‘contextual factors’¹⁵⁻¹⁷. For example,
52 in a traditional linear pathway of effect, an increase in price of sugar-sweetened beverages
53 (SSBs) in a convenience store may reduce purchases of SSBs, and increase purchases of bottled
54 water^{18,19}, which may in turn lead to reduced customer SSB consumption and reduced
55 community risk of obesity. Integrating business outcomes into the effect path, customer store
56 satisfaction may decrease with SSB price increases, which may reduce store patronage and in
57 turn reduce customer purchases of SSBs and healthy alternatives at the convenience store. This
58 may lead to a reduction in profit, which leads the retailer to remove the price increase on SSBs.
59 Thus the potential community health behaviour and health outcome benefits of the SSB price
60 increase (e.g. decreased rates of obesity or tooth decay) may not be fully realised.

61 Many retailers acknowledge and value the potential health impact of their food outlet in their
62 community¹⁹⁻²². However, for retail store staff, managers, owners and customers, business
63 outcomes may be just as, or more, important than health outcomes when assessing the ‘success’
64 of a healthy food retail strategy, and therefore whether the strategy is feasible and sustainable.
65 For retailers, perceptions of customer acceptability^{22,23}, the effect on business profits^{20,22}, and
66 relationships with suppliers and buyers groups¹⁹ may be key variables in determining strategy
67 ‘success’^{24,25}. Risk of adverse outcomes may discourage retailers from implementing such
68 changes¹⁹. A holistic understanding of business outcomes of healthy food retail strategies
69 therefore encompasses community outcomes, customer perspectives and retailer perspectives,
70 as well as commercial viability outcomes.

71 We are aware of only five reviews to date that have examined business outcomes of healthy
72 food retail strategies using one or more of the strategies of the traditional marketing mix
73 framework. None have examined a broad range of business outcomes and how they may
74 influence the implementation of healthy food retail strategies. A systematic review by Grech
75 et al. synthesised profitability outcomes of healthier vending machine strategies²⁶, which

76 suggested strategies that altered availability may result in reduced profits only where there is
77 surrounding competition. Further, Hillier-Brown et al. examined the impact of healthier ready-
78 to-eat meal strategies (mainly calorie labelling) on healthiness of customer purchases and store-
79 level outcomes ²⁷. Although the authors included profitability measures (a business outcome)
80 in their search, no overall profit or sales measures were reported. Gittelsohn et al. ²⁸ examined
81 outcomes of healthy food retail strategies in small stores, and extracted information on
82 “consumer psychosocial factors”, of which three studies examined attitudes towards stocking
83 healthier foods. Retailer perspectives and commercial viability outcomes of these strategies
84 were not examined. Gittelsohn et al. ²⁹ conducted a further review focused on sales, purchasing
85 and consumption effects of retail pricing interventions and noted that four included studies
86 found improved revenue or total profits. Kraak et al. ³⁰ conducted a review examining a wider
87 range of interventions in restaurants, both marketing mix and other choice architecture changes.
88 Several studies demonstrated number of customer transactions and/or revenue were unaffected,
89 and moderate customer acceptance of healthy default choices. Two further reviews have
90 examined selected actual or anticipated business outcomes of healthy food retail strategies and
91 noted characteristics of successful strategies included retailer approval (largely dependent on
92 profitability), customer engagement with the strategy ³¹, and customer demand ³². A systematic
93 review of healthy grocery store and supermarket strategies by Cameron et al. ³³ (2016) found
94 no studies that examined economic impact of strategies. No review to date has synthesised the
95 measurement of a holistic range of business outcomes of healthy food retail initiatives across
96 a range of retail settings. There is a clear gap in the literature comprehensively summarising
97 the business outcomes that may present barriers or enablers to engaging retailers in the
98 initiation and maintenance of healthy food retail strategies.

99 Our primary research question was “What types of business outcomes of healthy food and
100 beverage retail strategies have been reported between 1997 and 2017?” Our secondary research

101 questions were (1) “What measurement tools are commonly used to evaluate business
102 outcomes?” (2) “Does measurement of business outcomes differ by strategy, study
103 characteristics, or food retail setting?” (3) “Within studies reporting on business outcomes,
104 what exploratory associations are reported between healthy food retail strategies and business
105 outcomes?”

106

107 **Methods**

108 Due to the form of the research questions, multidisciplinary nature of the research area and
109 probable methodological heterogeneity of results, we considered a systematic scoping review
110 to be the appropriate method. We followed the methodology and reporting guidelines by the
111 Joanna Briggs Institute ³⁴. The researchers prepared and agreed upon objectives, inclusion
112 criteria and methods for this scoping review in advance, which were documented in a protocol
113 and registered with PROSPERO (ID CRD42017070263). All researchers agreed upon iterative
114 changes to methodology. We present the final review strategy below.

115

116 **Search strategy**

117 In **Table 1** we outline a typology which includes the *a priori* and emergent business outcomes
118 of interest in this review, as well as detailing data collection methods for each measure (further
119 described under **Results**). Based on the results of preliminary searches in Medline via OVID
120 and EMBASE, input from our multidisciplinary team, key papers on mapping the retail space
121 ^{9,27,35}, reviews of retail social outcomes ^{36,37}, and key retail and implementation theory papers
122 ^{16,17,24,25,38,39}, a full search strategy was developed. Relevant electronic databases of peer-
123 reviewed literature were searched from a range of disciplines: Medline via OVID, EMBASE,
124 Scopus, Business Source Complete, Academic Source Complete, EconLit, PsycInfo, and

125 Cochrane Database of Systematic Reviews. Grey literature was sourced from Open Grey,
126 Google Scholar (first 15 pages only), plus websites and reports from relevant organizations,
127 including the Economic Research Service (ERS) of the United States Department of
128 Agriculture (USDA), the Australian Government, Australian not-for-profit organisations, the
129 USA Department of Health, United Kingdom (UK) Government, the New Zealand
130 Government and the Canadian Government. Theses were sourced from Trove, Proquest
131 dissertations, and Ethos databases. Searches were restricted to English publications involving
132 humans from 1997 to the date of the search in July 2017 in order to capture more contemporary
133 retail practices and research methods. **Appendix II** lists searched databases and corresponding
134 search strategies, including subject headings. A librarian was consulted regarding the final
135 search strategy.

136 The reference lists of all initially included studies and relevant retrieved review articles were
137 used to capture any citations missed by electronic searches (backwards search). Citation
138 searches of included papers were performed using the Science Citation Index and Social
139 Science Citation Index (forward search).

140

141 **Study selection**

142 After the removal of duplicates in Endnote X8, titles and abstracts were initially screened by
143 one researcher, using Rayyan data management software⁴⁰. If multiple articles examined the
144 same initiative and outcomes, only the most recent article was included. A second researcher
145 screened the title and abstract of all included studies and any additional studies where the first
146 researcher was unsure of initial screening classification. Full text articles were reviewed
147 independently against eligibility criteria (**Table 2**) by two researchers. Discrepancies were
148 screened by a third researcher and resolved with discussion. Eligibility criteria were reviewed

149 periodically within the research team at each stage of the review process⁴¹. We included studies
150 which evaluated interventions to improve the healthiness of the real-world in-store food and
151 beverage environment. This included interventions based around one or more components of
152 the traditional marketing mix (4Ps) or any other strategies that altered the environment, such
153 as choice architecture or ‘nudge’ strategies^{42,43}. Studies in the school setting were excluded
154 from the analysis as initiatives are exclusively targeted at children, often do not involve
155 exchange of money for food, and food retail may be heavily influenced by external policies
156 (e.g. procurement requirements), unlike other food retail settings. They will be the subject of a
157 subsequent planned review.

158

159 **Data collection**

160 Data was extracted independently by two researchers and charted using a pro-forma matrix
161 table of study characteristics into Microsoft Excel, which was piloted first. Inconsistencies
162 were resolved by discussion with a third reviewer. Originally, we intended to extract
163 information on the influence of structural, process or contextual factors on business outcomes.
164 However, due to the large number of included studies, we instead focused on increasing the
165 richness of data on business outcomes by exploring the effect of the healthy retail strategies on
166 the favourability of business outcomes.

167

168 **Quality appraisal**

169 While quality appraisal is not generally part of scoping reviews³⁴, we considered mapping the
170 current strength of the evidence to be an important contribution in this emerging research space.
171 Quality appraisal of all included articles was independently conducted by two researchers using
172 the Mixed Method Appraisal Tool (MMAT)⁴⁴⁻⁴⁶ to allow concomitant assessments of

173 qualitative, quantitative, and mixed methods studies. Quality appraisal was based on
174 underlying study design of the paper. Qualitative process evaluations of RCTs were evaluated
175 as qualitative studies⁴⁷. The number of “Yes” answers were divided by the number of
176 applicable criteria to derive a percentage score. Note that when overall scores for qualitative or
177 quantitative studies were 1/3 or 2/3, overall score were rounded up to 50% and 75%,
178 respectively, in order to align with scoring for mixed methods studies within the MMAT.

179

180 **Data synthesis**

181 Synthesis included simple vote counting of the number of studies addressing different business
182 outcomes. Thematic analysis was used to describe the main business outcomes under *a priori*
183 headings of commercial viability, retailer perspectives, customer perspectives, and community
184 outcomes, with openness to new themes arising from the data. Terminology for the themes
185 (**Table 1**) was updated after completion of the review to reflect terminology in included studies.

186 We used NVivo data management software⁴⁸ to conduct a cluster analysis to identify which
187 business outcomes were most often reported together. We also made exploratory summaries of
188 the impact of healthy food retail strategies on business outcomes, reported by strategy type
189 according to the four Ps of merchandising (product, price, place, and promotion)⁸, or reported
190 as a “combined” strategy where more than one of the 4Ps was used at once. We made expert
191 judgments to suggest whether effects were likely to be considered favourable, unfavourable or
192 neutral by retailers (e.g. profit increase corresponded to a favourable outcome) (see **Appendix**
193 **III** for full list of definitions for favourable, unfavourable, and neutral outcomes per measure).
194 Where multiple measures were used for the same business outcome and showed conflicting
195 direction of effects, we reported outcomes as “mixed”. We summarised favourability of
196 outcomes for ‘food service outlets’ (including quick-service restaurants, full-service

197 restaurants, cafés, cafeteria, kiosks, food trucks, and canteens) and ‘grocery stores’ (including
198 supermarkets, grocery stores, butchers, pharmacies, convenience stores/ corner stores, and
199 vending machines) separately.

200 **Results**

201 Our database searching identified 9,711 relevant documents, and additional forwards and
202 backwards citations searching, screening of reference lists of relevant reviews, and grey
203 literature searching identified 2,809 documents. 11,682 unique titles were screened, and 488
204 full-texts were assessed for eligibility after excluding 11,194 records based on title and abstract.
205 A further 381 were excluded after full text screening. Finally, 107 papers were included in the
206 review, encompassing 107 unique studies (**Figure 1**).

207

208 **Description of included studies**

209 For full data extraction summaries of included studies see **Appendix IV Tables S5 to 8**. Note
210 that for counts below, studies that included multiple settings or strategies are included under
211 each relevant category.

212 The context for studies varied greatly, with 15 Organization for Economic Co-operation and
213 Development (OECD) countries represented. The majority of studies were conducted in the
214 USA (n=56)^{18,49-103} or Canada (n=13)¹⁰⁴⁻¹¹⁶. Studies encompassed food service (n=44),
215 grocery (n=56) and mixed (n=7) retail settings including cafeterias (n=24)<sup>18,53,58,59,61,72,78-
216 80,84,85,88,92,97,98,104,115,117-124</sup>, full service restaurants (n=18)^{51,53,54,57,63,64,73,81,82,96,106,123,125-129},
217 corner stores and/or grocery stores (n=19)^{23,49,50,55,56,62,68,73,77,89,90,95,99,100,103,130-134},
218 supermarkets (n=16)^{35,63,71,83,101,130,135-144}, vending machines (n=13)^{52,65-67,74,91,108-111,113,145-147},
219 quick-service restaurants (n=13)^{57,69,70,73,76,86,87,93-95,106,148,149}, and cafés (n=5)^{54,73,125,131,150}.
220 Approximately half of these retailers were considered to have a mandate that integrated health

221 including universities (n=15)^{52,59,61,67,74,82,115,117,118,121,124,147,149,150}, healthcare settings
222 (n=18)^{18,58,70,78-80,84,85,88,92,97,98,104,107,113,119,120,123,145,146,151}, workplaces
223 (n=11)^{53,65,80,85,91,97,98,119,120,122,123,152}, and sports and recreation centres (n=7)^{109-112,114,116,153}.

224 Six initiatives were retailer-led^{57,93,101,107,130,148}, 29 were the result of partnerships^{35,49,54,62-}
225 ^{64,66,74-77,83,84,90,97,105,106,108,127,129,131-133,135,137,141-143,154}, and 41 were researcher-led, with the
226 remainder government-, industry- or health organisation-led. More than half of the included
227 studies (n=66) identified one or more business outcomes in the primary aim of the study. Fifty-
228 three studies were associated with a specific government or industry policy, e.g. the Victorian
229 government “Healthy Choices” guidelines¹⁵⁵.

230 Evaluation frameworks or theories were rarely described (n=15)^{56,69,73,83,91,96,97,109-}
231 ^{111,113,119,129,135,143}. The most frequently described theories were the socioecological model
232 (n=2)^{56,135}, participatory research approach (n=3)^{69,73,143}, the RE-AIM framework³⁹ (n=2)^{73,139},
233 and Greenhalgh’s adaptation¹⁵⁶ of Roger’s diffusion of innovations theory¹⁷ (n=3)¹⁰⁹⁻¹¹¹.

234 Healthy food retail strategies commonly involved changes to a combination of multiple aspects
235 of the consumer nutrition environment (n=60). The most common strategy types were
236 promotion (n=80), including menu labelling and point-of-purchase posters promoting healthy
237 alternatives. Fifty-one studies included changes to ‘product’, including product reformulation
238 in food service and changes to packaged or non-packaged product availability. Thirty-three
239 studies altered price, and 19 altered placement, such as removing confectionery from
240 supermarket checkouts. Eight studies included additional strategies not in the traditional 4Ps
241 marketing mix, for example renovations to stores including new refrigerators to incentivise
242 retailers and improve display ambience^{23,49,77,90,134}. Fifty-six percent of study sub-group
243 treatments focused on increasing purchases of healthy “core” foods¹⁵⁷ or beverages (e.g.
244 reducing the price of bottled water) (n=85 study subgroups), 16% discouraged consumption of

245 unhealthy “discretionary” foods and beverages (e.g. calorie labelling) (n=24), and 28%
246 encouraged substitution from discretionary to core foods (e.g. traffic light labelling) (n=42).
247 Study designs varied. Seventy-seven studies were exclusively quantitative, five exclusively
248 qualitative, and 27 mixed method studies. All exclusively qualitative studies were post-
249 intervention only. Nineteen studies were RCTs, 31 were pre-post without control, 27 pre-post
250 with control and 10 post-only without control.

251

252 **Quality appraisal**

253 The methodological quality score of included papers ranged from 25% (5% of papers), 50%
254 (29%), 75% (41%) and 100% (23%). See **Appendix IV Table S8** for quality scores for
255 individual studies.

256

257 **Frequency and heterogeneity in reporting and measurement of business outcomes**

258 Below we summarise the frequencies of business outcomes reported to date under *a priori*
259 identified headings. Note that the frequencies of outcomes are summed across all studies, and
260 therefore the total number of outcomes reported is greater than the total number of studies.
261 Very few studies used explicitly validated or pre-tested tools for one or all tested business
262 outcomes (detail in **Appendix IV Table S10**). Reported business outcome domains across
263 studies are summarised in **Figure 2** with frequencies per outcome measure per strategy type
264 reported in **Appendix IV Table S11**. Frequently used or validated tools for each outcome
265 category are described below.

266 Commercial viability

267 Eighty-five studies reported on commercial viability outcomes. The most frequently reported
268 of all outcomes was total sales (n=36)^{18,35,52,55,57-59,64,66,67,72,74,78,80,81,86-}
269 88,93,100,110,112,114,116,117,120,125,131,136,138,140,145,147,148,150, followed by revenue (n=25)
270 18,35,51,52,58,59,70,74,75,79,87,88,93,94,98,108,110,112,116,132,138,144-146,153. These were largely determined
271 through objective sales data, using electronic sales
272 systems^{51,52,58,59,64,70,72,75,78,79,81,83,84,86,88,93,98,100,103,115-117,120,121,125,136,144,148-150}. Three recent
273 studies used individualised data from customer loyalty cards^{118,135,138}. Time and/or cost
274 associated with implementation and maintenance (n=20)
275 23,53,60,62,63,69,80,95,97,99,108,109,111,116,119,123,128,135 was measured
276 qualitatively^{23,53,63,69,99,108,109,111,119,123,128}, using monetary costs^{60,62,80,95,116,135}, or through
277 quantitative surveys⁹⁷. An emergent outcome of ‘wastage’ (n=5)^{53,63,68,131} was measured
278 qualitatively^{63,131}, by number of fresh fruit and vegetable items discarded in a grocery setting⁶⁸,
279 or by weighed plate waste in restaurant settings⁵³. Wastage measurement was considered
280 valuable because of the economic loss it represents^{53,68}, and relation to wider social and
281 environmental impacts⁵³, as well as its own inherent value^{63,131}.

282 Retailer perceptions

283 Retailer perceptions were reported in 20 studies^{23,56,60,62,63,68,69,73,75,76,89,95,106,122,123,129-131,141,146}.
284 The most frequently reported retailer perception measures were community stewardship
285 (n=13)^{23,50,62,69,89,95,106,122,123,129,131,141,146}, and retailer level of satisfaction with strategy
286 (n=10)^{50,56,63,68,73,75,76,106,130,131}. Some studies additionally described community stewardship as
287 a reinforcing motivator for strategy maintenance as well an outcome^{106,129,146}. No emergent
288 outcomes were found.

289 Next we describe two validated instruments for retailer perception measures. Seo et al.¹²⁹
290 evaluated a menu reformulation strategy in a full-service restaurant using a quantitative self-
291 administered retailer questionnaire. It included items based on restaurateur attitude towards

292 strategy, subjective norms, perceived behavioural control, and perceived innovation
293 characteristics. The authors conducted preliminary validity and reliability testing (**Appendix**
294 **IV Table S10**). Gittelsohn et al. also used a quantitative measure of retailer perspectives, the
295 “Store Impact Questionnaire”^{56,71}. This was a pre-tested, standardised instrument with
296 questions relating to several retailer psychosocial outcomes including “outcome expectations
297 for sales” and “outcome expectations for overall programme impact”.

298 Qualitative studies reporting on retailer perceptions often used semi-structured or in-depth
299 interviews to generally explore barriers and enablers to the initiative^{23,60,95,97,130}. Other
300 studies^{50,68,75,123,146} described *a priori* questions that specifically addressed different business
301 outcomes, including retailer perceptions.

302 Customer perspectives

303 Customer perceptions were reported in 50 studies. The most frequently reported outcomes were
304 customer level of satisfaction with the healthy food retail strategy (n=34)
305 ^{23,53,54,60,63,69,75,76,80,85,91,92,95,97,98,100,104,105,109,120,121,123,124,127,130,133,134,137,139,141,143,149,151,154} and
306 customer store satisfaction (n=14) ^{53,61,73,77,82,92,106,113,119,122,126,127,133,134,143,145,154}, which were
307 frequently measured within the same study (see **Figure 3**). Customer perspectives were almost
308 exclusively measured using customer surveys<sup>53,54,61,75-77,80,82,90-92,98-100,104-
309 106,113,120,121,123,124,126,127,133,134,137,139,141,143,145,149,154</sup>. Satisfaction measures either explicitly rated
310 the strategy itself^{54,75,76,80,98,100,121,123,124,134,137,139,141,143,149,154}, elements of the store relevant to
311 the strategy^{53,54,77,82,91,92,105,106,113,120,126,127,133,134,145,154}, or the store overall^{53,127,133,134}. Only one
312 study stated it had used a validated tool to measure customer satisfaction; Stastny et al.⁸² used
313 a self-administered customer survey developed by ‘The National Society of Healthcare Food
314 Service Managers’ (HFM) in a foodservice setting. Detail on validation was not provided and
315 the cited weblink no longer works. Lessa et al.¹²⁶ also measured customer store satisfaction

316 using a survey developed by an industry association, the Spanish Institute for Quality Tourism.
317 This survey is written in Spanish and does not appear to be available in English.

318 An emergent relevant business outcome was spend per transaction ^{49,88,90,94,102,103,112,118,134,142}.
319 This was alternatively framed as a commercial viability outcome by some studies ^{90,102}, or as a
320 customer perspective outcome¹⁰³, with the relevant goal for customers to maintain or reduce
321 spend per transaction while improving healthiness of purchases. For consistency in
322 enumeration, we have classified all spend per transaction outcomes as commercial viability
323 outcomes.

324 Community outcomes

325 Only one included study ¹⁰⁷, explicitly explored community outcomes, in this case a ‘societal
326 shift towards healthier food’. This retailer-led strategy involved the removal of carbonated
327 sugar-sweetened and artificially-sweetened soft drinks from sale in a pharmacy in a remote
328 town with only two other food retail outlets. Thus, by collecting the sales data from these three
329 food retail outlets, the researchers were able to determine the overall community shift towards
330 healthier beverage purchases.

331 Clustering of business outcomes

332 A cluster analysis of business outcomes revealed that outcomes within each *a priori* identified
333 theme were mostly likely to be collected in the same studies (**Figure 3**). The fewer ‘links’
334 between outcomes, the more frequently they were reported together. In particular, revenue and
335 total sales were closely related, as were feedback from community and external organisations
336 and retail staff personal satisfaction level. Some clustering is likely to be due to the use of the
337 same data collection tools (e.g. total sales and revenue, and customer store satisfaction and
338 customer level of satisfaction with strategy). In other cases, the outcomes may be linked
339 conceptually (e.g. feedback from community and external organisations and retail staff

340 personal satisfaction level) or causally in a way that is beyond the scope of this review (e.g.
341 community stewardship and time and/or cost associated with implementation and
342 maintenance).

343

344 **Effect of strategies on business outcomes**

345 **Figure 2** includes the exploratory summary of favourability of business outcomes by strategy
346 type (detail in **Appendix IV S11**). We examined favourability findings for food service outlets
347 and grocery stores separately, however we found that results were similar. Therefore we report
348 overall findings here for simplicity, and include stratified results in **Appendix IV Tables S12**
349 **and S13**.

350 There was variability in reporting direction of effect of outcomes (n=322 outcomes reported
351 for n=150 strategy subgroups) (overall 45% outcomes favourable, 15% unfavourable, 34%
352 neutral). Five percent of outcomes were ‘mixed’ meaning that multiple measures of the same
353 outcome suggested different directions of effect. Favourable outcomes were reported for 85%
354 retailer perception outcomes, 65% customer perception outcomes (12% unfavourable, 16%
355 neutral) and 31% commercial viability outcomes (18% unfavourable, 45% neutral). Favourable
356 outcomes were reported for 58% product only strategy outcomes, 32% promotion only strategy
357 outcomes (15% unfavourable, 47% neutral), and 24% price only strategy outcomes (10%
358 unfavourable outcomes, 67% neutral).

359 Overall, the favourability of 1% of study outcomes could not be reported, where there was no
360 comparison group and authors did not indicate whether a result was considered favourable or
361 unfavourable (e.g. absolute time and/or cost associated with implementation and maintenance).
362 Some studies included favourable outcomes in some outcome categories and unfavourable or

363 neutral outcomes in others, for example favourable community stewardship and unfavourable
364 profitability outcomes.

365

366 **Discussion**

367 **Summary and relevance of main findings**

368 One hundred and seven studies were identified describing business outcomes of healthy food
369 retail strategies. Examination of business outcomes to date has been largely limited to objective
370 commercial viability outcomes and customer perspectives. There has been limited exploration
371 of retailer perspectives or community outcomes. In all strategy types, total sales, revenue, and
372 customer level of satisfaction with strategy were among the most frequent measurement
373 outcomes.

374 As the rationale for collecting these business outcomes was often not specified *a priori*, it is
375 difficult to conclude whether the outcomes were (i) perceived as most important in indirectly
376 influencing health outcomes¹⁰⁴; (ii) considered relevant in their own right; and/ or (iii)
377 considered easy to collect (e.g. total sales). Retailers were acknowledged to be key
378 implementation decision-makers in many studies that did include retailer perspectives^{50,123,130}.
379 These studies demonstrated that retailers considered a variety of factors in evaluating the
380 success of a strategy, including community stewardship. Seo et al.¹²⁹ found that the strongest
381 predictor of restaurateur intention to sustain healthy restaurant strategy was “perceived
382 behavioural control” (i.e. having control over the strategy, sufficient technical resources,
383 employee support). The variable was a stronger predictor than subjective norms, relative
384 advantage for restaurant, community stewardship, and retailer support of strategy.

385 Only one included study reported on community outcomes¹⁰⁷. This may be due to several
386 factors including low perceived importance of these outcomes by researchers, difficulty in

387 obtaining data, and difficulty in attributing broader changes to a specific retail strategy. While
388 our focus in this review was on retailer-led strategies (or strategies that have the potential to be
389 retailer-led), findings may also be useful for other nutrition strategies which may affect (but
390 not be implemented by) retailers, and for government priority-setting. For example, industry
391 opposition to SSB taxation has included discussions of the potential impact on the economy
392 and employment¹⁵⁸. Further, a holistic assessment of business outcomes including economic
393 analyses, consumer welfare and commercial viability could be incorporated into economic
394 analyses of retail and food policy interventions which currently focus on cost-benefit outcomes
395 from a government healthcare investment focus.

396 There was a large amount of variability in favourability of outcomes across outcome type and
397 strategy type. In the current review, retailer and customer perceptions were generally
398 favourable across all strategy types. Preliminary estimates suggested favourable effects of
399 'product' strategies on commercial viability outcomes in particular, similar to Grech et al.'s
400 systematic review in vending machines ²⁶. We found neutral or favourable effects of
401 'promotion' strategies on commercial viability. This finding differs from the review by
402 Gittelsohn et al.²⁸ who found increases in sales of promoted foods in all small store trials that
403 reported sales data. Findings may differ due to the fact that commercial viability measures
404 reported here also incorporate total store sales and therefore account for customer substitution
405 effects. Customer demographics, barriers and enablers may also differ across settings (other
406 than small stores examined in Gittelsohn et al.), affecting the feasibility of strategies and
407 customer response to change. Moreover, mixed favourability across different outcome
408 categories (e.g. customer perspectives and commercial viability) may increase complexity of
409 retailer decision-making, as it requires retailers to explicitly trade-off these outcomes.

410 We found that electronic sales data were commonly used to measure commercial viability
411 outcomes (e.g. revenue, total item sales), but few validated tools were reported for retailer

412 perspective and customer perspective outcomes. Business outcomes were often considered
413 secondary outcomes and sometimes not included in stated aims and objectives by researchers.
414 In contrast, business outcomes could be considered primary outcomes for retailers, store staff,
415 and customers. In general, the selection of business outcomes and measurement tools could be
416 chosen in consultation with the retailer, considering feasibility, and the marginal cost and value
417 of adjusting nutrition data collection methods (e.g. including questions on customer level of
418 satisfaction in a survey focusing on changes in consumption). This may be facilitated by a
419 participatory action research approach⁷³. Consideration of which types of business outcomes
420 are most relevant to different strategies and settings may allow for more tailored data collection
421 in future studies.

422

423 **Strengths and limitations of studies included in the review**

424 The quality of the included studies varied considerably. Thirty-five percent of studies were
425 rated as 50% or lower quality rating, 41% of studies scored 75%, and 23% of studies scored
426 100%. While the MMAT focuses on primary outcome measures, business outcomes were
427 frequently not primary outcome measures. The development of a tailored tool or more guidance
428 on quality appraisal for secondary study outcomes would have aided in more useful appraisal
429 of included studies. We initially intended to contact original authors for further information on
430 studies, but given the focus on the review on reporting of outcomes, we considered doing so
431 unnecessary to answer our research questions.

432 Many organisations recommend multicomponent public health nutrition interventions ¹⁵⁹.
433 However, the heterogeneity in type of healthy food retail strategies, including over half of
434 studies with more than one strategy type, created difficulties in estimating the direction of effect
435 of specific strategy components on business outcomes. Future research could estimate the

436 effect of specific strategy components together, for example combined pricing and promotion
437 strategies. Moreover, very few included studies examined strategies beyond the traditional 4Ps
438 marketing mix. Additional strategies across the traditional marketing mix, nudge and choice
439 architecture ^{42,43} should continue to be investigated as innovative means of encouraging
440 healthier food purchasing, and their impact on business outcomes reported.

441 Approximately one quarter of included studies used a mixed methods design. This was
442 frequently used to collect a range of different study outcomes, including nutrition-related
443 outcomes, in addition to business outcomes. Collection of similar outcomes from multiple
444 sources may also aid in triangulation of results.

445 Very few studies used validated or standardised tools to measure business outcomes;
446 particularly customer and retailer perspectives. This high heterogeneity in customer and retailer
447 outcome measures is likely to make any quantitative meta-analysis of these outcomes very
448 difficult. However, this may be possible for some sales data-based outcomes in popular settings
449 (e.g. grocery stores) and strategies (e.g. strategies to increase fruit and vegetable availability).

450 A number of validated tools exist for evaluating consumer nutrition environment changes
451 ^{12,13,160}. Our review suggests that similar tools should be developed to measure business
452 outcomes, and that the psychometric properties of existing tools should be more rigorously
453 tested and reported in different settings. At a minimum, face validity of tools should be reported
454 and discussed through a theoretical and literature-based approach ^{73,109-111,139}.

455

456 **Methodological strengths and limitations of the review**

457 This review used a systematic scoping review methodology which allowed us to be open to
458 emerging themes and outcomes of interest³⁴. We have summarised a broader range of business
459 outcomes than has previously been collected ²⁶⁻²⁸ from different disciplines to allow the

460 comprehensive mapping of measures used in this growing research field. Although the
461 favourability of business outcomes of healthy food retail strategies was not a primary outcome
462 of our study, our exploratory summary of impact provides an indication of these effects.
463 However, because business outcomes were often not the primary outcome, studies may have
464 been underpowered to detect changes. Second, weighting of evidence by study design and
465 sample size was beyond the scope of this review. Third, we only included studies that reported
466 on business outcomes, and therefore this review cannot report the overall frequency of
467 reporting of business outcomes in healthy food retail evaluations. Studies that do not report
468 business outcomes may be less likely to demonstrate favourable outcomes.

469

470 **Recommendations for future research**

471 Based on our study findings and key criteria from existing nutritional epidemiology reporting
472 guidelines^{12,14,161,162} we formulated recommendations (**Table 3**). These recommendations are
473 intended to supplement existing recommendations, by specifically targeting factors to improve
474 consistency and usefulness of reporting of business outcomes. They should also be used with
475 reference to the business outcomes typology in **Table 1**, which advises on selection of specific
476 outcome measures and tools.

477 As a first step to better understanding the influence of business outcomes within the direct
478 pathway of effect of healthy food retail strategies, this study was an ‘effectiveness’ focused
479 review¹⁶³ (i.e. what outcomes are reported and what is direction of effect). We leave more
480 precise estimates of the magnitude of effect on business outcomes and a focus on the effect of
481 business outcomes on the implementation and sustainability of healthy food retail strategies to
482 future reviews. Furthermore, the interrelationship and influence of contextual and process
483 factors (e.g. store infrastructure) on implementation, business outcomes and health-related

484 outcomes should be investigated. For example, the process evaluation of an RCT of a grocery
485 discounting strategy in remote Australian stores, “SHOP@RIC”, found that effective and
486 ongoing communication with the store managers was important to implementation fidelity¹³⁰.
487 Finally, this review did not include school food provision interventions, and their unique
488 context and importance for childhood nutrition warrants a dedicated review of business
489 outcomes in this setting.

490 This review also revealed the need to develop consistent business outcome terminology. We
491 searched a wide range of terms *a priori* and came across many more during screening and data
492 extraction. We selected terms to identify distinct constructs and align with existing terminology
493 and with the public health and business literature^{9,16,17,24,25,27,36-39}. Foremost, terms used to
494 describe business outcomes in healthy food retail studies should be consistent in order to
495 facilitate future reviews and evidence syntheses, and the ultimate goal of facilitating the
496 selection of different strategy types to optimise different stakeholder outcomes. We also
497 recommend consulting with retailers to ensure that identified business outcomes encompass
498 the most important outcomes for them. This goal may also be assisted by further studies with
499 retailers to determine which outcomes are generally most influential in decision-making (e.g.
500 as per Seo et al.¹²⁹). The relative importance of different outcomes may also differ by retailer
501 governance structure (e.g. chain versus independent retailer) and by motivation for intervention
502 (e.g. government- versus retailer-led). Core business outcomes which could be consistently
503 collected and compared across healthy food retail strategies using validated tools should be
504 identified. The relevance of community outcomes to evaluation should also be further
505 considered in light of potential retailer and government interest in the broader impact of healthy
506 food retail strategies.

507

508 **Conclusions**

509 This systematic scoping review of the reporting of business outcomes of healthy food retail
510 strategies found that examination of business outcomes to date has largely focused on objective
511 commercial viability outcomes and customer perspectives, with limited exploration of retailer
512 perspectives or community outcomes. Based on our findings, we recommend more consistent
513 reporting of business outcomes, the development and use of validated and reliable
514 measurement tools, and consultation with retailers to ensure that identified business outcomes
515 encompass those outcomes perceived as most important. Improved reporting may assist
516 retailers and policy-makers to select feasible and sustainable healthy food retail strategies to
517 promote a healthier food environment to benefit population health, while taking into account
518 the consequences for retailers, customers, and the broader community.

519

520 **Conflict of interest disclosures:** None to declare

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Table 1: Summary of business outcome concepts and measures

Term	Scope	Definitions and examples of measures ^a	Data collection methods ^b
Commercial viability	Total sales	Total number or volume of food and beverage items sold.	Electronic sales data, sales receipt data, customer loyalty cards.
	Revenue	Total income.	
	Profitability	Revenue minus expenditure; or profit margins.	
	Wastage	Plate waste in cafeterias; or discarded products due to expiry in stores. (NB: Emergent outcome)	Weighed plate waste.
	Time and/or cost associated with implementation and maintenance	Upfront and ongoing infrastructure or equipment costs; staffing costs; or cost of changing suppliers.	Contract documents, billing receipts, work plan allocation, wholesale cost of ingredients/stock, staffing costs; Qualitative interviews with retailers.
	Return on investment	Return on investment for retailer, e.g. monetary investment per 100 items sold (does not include ‘health-based’ cost benefits); or cost-benefit analysis.	Return- Electronic sales data; Investment- As above for time/cost measures.
	Competitiveness	Providing point-of-difference compared to other similar retailers.	Qualitative interviews with store managers/ owners.
	Value creation	Whether retailers consider the strategy adds value to their business, e.g. is attractive to customers.	
	Opportunity costs	“Opportunities foregone at the time an asset or resource is used...” (1) e.g. Retailer discussion of other lines or projects that were displaced due to healthy food strategy.	
	Attitudes of business stakeholders	Attitudes of stakeholders including staff, suppliers, industry organisations.	Qualitative interviews with store managers/ owners/ stakeholders.
Store patronage	Foot-traffic; or frequency of customer purchases; or customer loyalty to store; or number of transactions	Electronic sales data; door counters.	
Spend per transaction	Revenue per customer transaction. (NB: Emergent outcome)	Electronic sales data; sales receipts from customer surveys; loyalty card data.	

Retailer perceptions	Retail staff personal satisfaction level	Impact on the retail staff or their friends or family's wellbeing, e.g. improved nutrition knowledge.	Qualitative interviews with store managers/ owners.
	Feedback from community and external organisations	Informal or formal recognition (such as accreditation program or award).	
	Retailer level of satisfaction with strategy	Level of general satisfaction and/or intention to continue with the strategy; Level of satisfaction with other outcomes including customer perceptions and commercial viability.	
	Community stewardship	Perception of business impact on customer health behaviours and outcomes.	
Customer perceptions	Customer level of satisfaction with strategy	Customer feedback relating to the overall strategy, or characteristics of the strategy, e.g. tastiness of new offerings.	Customer surveys (e.g. exit surveys)
	Customer level of satisfaction with store	Level of customer satisfaction with range, healthiness, price etc., or store overall.z	
	Customer demand for healthy items	Demand for new or existing healthy food and beverage items at intervention outlet. A measure other than sales of strategy target foods.	
	Customer demand for healthy food at other retail sites	Sales of target foods at nearby food outlets.	Electronic sales data or receipts, customer surveys
	Consumer welfare	"Individual [consumer] benefits derived from the consumption of goods and services" (1). Often quantified via willingness-to-pay.	
Community outcomes ^c	Community perceptions of strategy or similar	Level of community acceptability of strategy.	N/A
	Broader social impact	Level of retailer or customer reported retailer-customer rapport.	N/A
	Societal shift towards healthier food	Community sales of target foods; number of retailers implementing the strategy.	Electronic sales data, customer surveys
	Level of barriers for other retailers to implement similar policies	Range of healthy food or beverage alternatives offered by local supplier.	N/A

982 N/A, no relevant tools found in scoping review ^a Due to the scoping nature of this review, these were not the only possible ways of measuring

983 these outcomes. Additional outcomes were assessed on a case by case basis. ^b Data collection methods as identified in scoping review.

984 ^c Community outcomes related to the strategy under study, not general community trends.

985

Table 2: Final review inclusion and exclusion criteria

Criteria	Inclusion	Exclusion
Language	English.	All other languages.
Publication year	January 1997 to July 2017.	Prior to January 1997.
Country	OECD member countries.	Non-OECD member countries.
Retail environment	‘Food and beverage store’, for example, grocery, convenience stores, supermarkets, fresh food markets, bakeries and specialty food stores; ‘Restaurants and Other Eating Places’, including cafeterias and cafes; ‘Vending machine merchandisers, sale of products’ related to food and beverages.*; Customer transaction should either involve the exchange of money or otherwise have the potential to impact commercial viability.	Retail stores in schools; opening of new stores.
Strategy type	Real-world strategies improving the healthiness of the non-alcoholic in-store food and beverage environment. May include merchandising strategies focusing on product (availability and reformulation), price (including price promotions), place, and promotion (including advertising and labelling), or any combination of these.	Strategies targeting the behaviour of individuals or households outside the store environment; external changes that are not retailer-led, e.g. mass media campaign; not able to be feasibly implemented in the real-world; hypothetical strategies.
Healthiness of change	In line with national dietary guidelines: (i) increase purchases of core foods (dairy and alternatives; cereals, meat and alternatives; fruit; vegetables and legumes; unsaturated fats and oils) ¹⁵⁸ ; (ii) reduce purchases of discretionary foods “high in kilojoules, saturated fat, added sugars and/or salt or alcohol” ¹⁵⁸ ; or (iii) substitute a healthier version of a discretionary item (e.g. switching regular to diet soft drink).	Introduction of a new ‘healthier’ discretionary food in the absence of a ‘swap’; specialty diets, e.g. gluten-free or breastmilk substitutes.
Outcomes of interest	Identified outcomes that have the potential to affect the successful implementation and sustainability of healthy food retail strategies including outcomes in Table 1 . Outcomes described at the level of store or chain.	No reporting of outcomes of interest.
Timing of study	Strategy had been implemented at time of study (and may be ongoing).	Formative evaluations; protocols; descriptions of strategies; preliminary or planning studies.
Publication type	Full text of primary research in peer reviewed or grey literature.	Opinion pieces (e.g. commentaries, editorials); conference abstracts.

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OECD, Organization for Economic Co-operation and Development. *Definitions according to the North American Industry Classification System (NAICS)¹⁵⁹. Categories 445, 7225, 4542.

988 **Table 3: Recommendations for design and reporting of business outcomes in healthy food**
 989 **retail strategy evaluations**

Stage of research	Recommendation
Evaluation design	<ul style="list-style-type: none"> • Select business outcomes in consultation with the retailer, considering feasibility, and the marginal cost and value of adjusting nutrition data collection methods. • Ensure that study is powered for key business outcomes.
Data collection	<ul style="list-style-type: none"> • Use relevant and validated tools for business outcome measurement. In the absence of validated tools, select measurement tools that are theoretically based and report to allow replication.
Publishing	<ul style="list-style-type: none"> • Publish null and unfavourable results alongside process evaluations to facilitate researcher and practitioner learning.
Reporting	
Abstract	<ul style="list-style-type: none"> • Include description of measured business outcomes.
Introduction	<ul style="list-style-type: none"> • Provide rationale for inclusion of specific business outcomes.
Aims	<ul style="list-style-type: none"> • Specify business outcomes of interest.
Methods	<ul style="list-style-type: none"> • Describe retail strategy context including whether retailer-led, relevant policy context and retail outlet governance.
Results	<ul style="list-style-type: none"> • Report statistical significance of business outcomes.
Discussion	<ul style="list-style-type: none"> • Reflect on relationship between business outcomes and other measured outcomes. • Consider how context may have influenced business outcomes.

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992 **Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow**

993 **diagram of included studies.** OECD, Organisation for Economic Co-operation and

994 Development

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996 **Figure 2. Summary of business outcome domains used and direction of effect in included**
997 **studies, reported by marketing mix strategy type per study sub-group**

998

999 **Figure 3. Clustering of reporting of business outcomes.** n, number of included study

1000 subgroups reporting each outcome

1001

Blake, MR, Backholer K, Lancsar E, Boelsen-Robinson T, Mah C, Brimblecombe J, Zorbas C, Billich N, Peeters A.

Investigating business outcomes of healthy food retail strategies: a systematic scoping review.

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Appendix I: Review logic pathway of effect

Traditional (direct) pathway of strategy
effect to nutrition outcomes

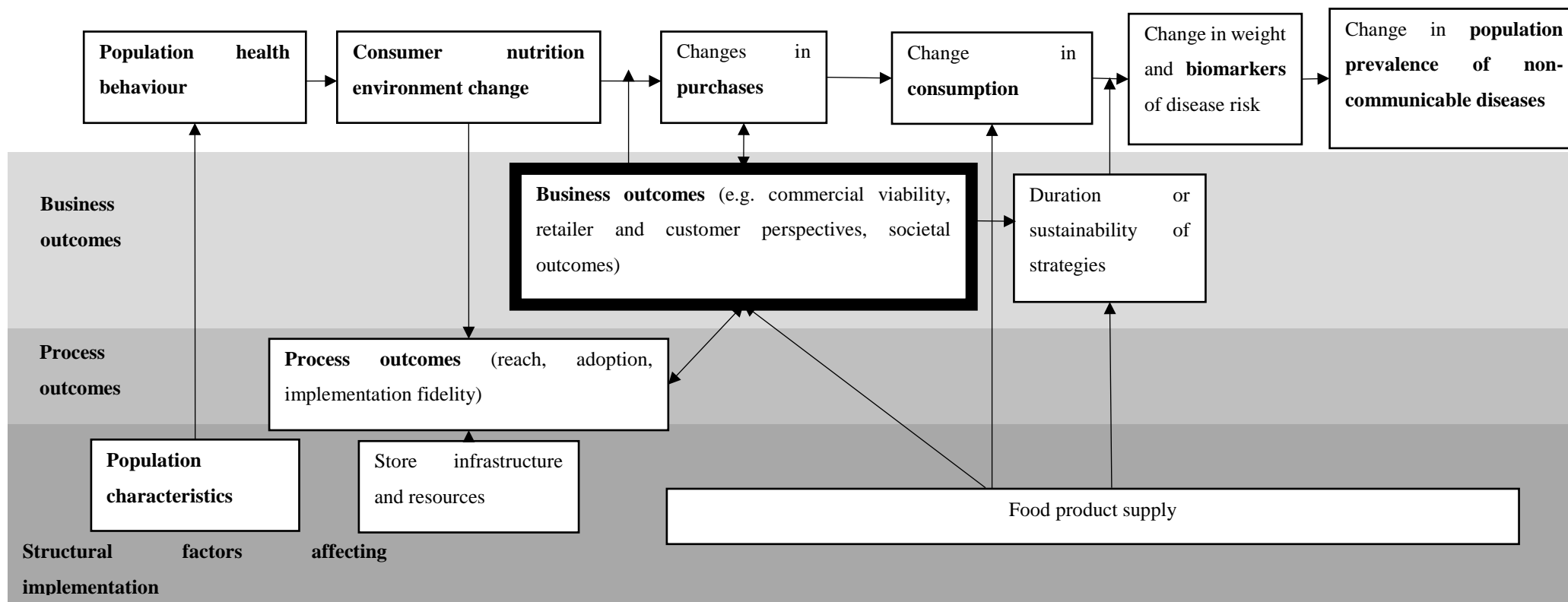


Figure S1: Review logic of traditional and novel factors for evaluation in explaining effect of healthy food retail strategies on health outcomes. The nutrition-focused pathway is in white and the contextual factors in grey. The business outcomes in the emphasised box are the focus of this review. We acknowledge that there may be other feedback loops between factors in this pathway that are not captured in this conceptual model, and are not the focus of this review.

Appendix II: Detailed search strategy

Table S1: Subject hedges for each academic database

Hedge	Proquest Dissertations	Medline and Cochrane	Embase	Business Source Complete	PsychInfo	Academic Source Complete	Econlit
Food retail	Restaurants; Food industry; Vending machine; Fast Food Industry; Beverages.	Restaurants; Food Industry; Food Dispensers, Automatic; Fast Foods; Beverages;	Food Industry; Catering Service; Fast Food; Beverage	Food Service; Food Industry; Vending Machine Industry; Restaurants -- Customer Services.	Food; Fast Food; Energy Drink	Beverages; Food Industry; Vending Machine Industry; Food Service; Fast Food Restaurant Customer Services	L66 Food, Beverages, Cosmetics, Tobacco, Wine and Spirits; Retail Food
Healthy food or beverage strategy	Social Marketing; Food Packaging; Obesity; Overweight; Advertising; Health Promotion; Health Education; Nutrition Policy; Preventive medicine; Healthy Diet; Portion size	Social Marketing; Food Packaging; Obesity/Pc; Overweight/ Prevention & Control; Advertising As Topic; Direct-To-Consumer Advertising; Health Promotion; Health Education; Nutrition Policy; Preventive Medicine; Healthy Diet; Portion Size; Health Knowledge, Attitudes, Practice	Social Marketing; Food Packaging; Experimental Obesity; Advertising; Direct-To-Consumer Advertising; Health Education; Nutrition Policy; Preventive Medicine; Healthy Diet; Feeding Behavior; Public-Private Partnership	Social Marketing; Food Labeling; Advertising; Low-Fat Foods Industry; Public-Private Sector Cooperation	Social Marketing; Overweight; Advertising; Health Promotion; Health Education; Nutrition; Preventive Medicine; Dietary Restraint	Social Marketing; Food Labeling; Prevention Of Obesity; Advertising; Health Promotion; Health Education; Nutrition; Preventive Medicine; Low-Fat Foods Industry; Food Portions; Public-Private Sector Cooperation	M3 Marketing and Advertising Food subsidies
Business outcome		Program Evaluation; Health Behavior; Attitude To Health; Food Preferences; Drinking Behavior; Costs And Cost Analysis	Program Evaluation; Health Behavior; Feeding Behavior; Economic Evaluation; Purchasing; Feasibility Study	Health Promotion -- Cost Effectiveness; Break-Even Analysis; Cost Effectiveness; Customer Feedback; Consumers – Attitudes; Consumers' Preferences; DE "Consumers-- Attitudes"; DE "Customer Satisfaction"; DE "Problem Customers"; DE "Product Acceptance"; DE "Willingness To Pay"	Program Evaluation; Health Behavior; Food Preferences; Drinking behaviour; Costs and Cost Analysis; Budgets; Health Attitudes; Health Knowledge	Evaluation Of Retail Stores; Health Behavior; Food Preferences; Drinking Behavior; DE "Cost Analysis"; DE "Break-Even Analysis"; DE "Cost Effectiveness"; Customer Feedback; Consumer Complaints; DE "Consumer Attitudes"; DE "Customer Satisfaction"; DE "Problem Customers"; DE "Product Acceptance"; DE "Willingness To Pay"; Consumers' Preferences; DE "Consumer Behavior"; DE "Customer Loyalty" Feasibility Studies	D4 Market Structure, Pricing, and Design; D6 Welfare Economics; I12 Health Behavior; M2 Business Economics

Note that Scopus database does not have subject headings. Database-relevant subject headings were combined with key words (see Table S2).

Table S2: Key words for academic databases

Hedge	Key words
Food retail	("food industry" OR bodega* OR "corner store" OR "convenience store" OR "grocery store" OR diner* OR supermarket* OR grocer* OR vending machine* OR "automatic food dispenser*" OR "fast food*" OR "take away" OR restaurant* OR "dining room*" OR cafeteria* OR catering OR cafe* OR "ready to eat" OR ((food* OR beverage* OR drink*) NEAR/2 (shop* OR retail* OR store* OR environment OR outlet* OR dispenser*))
Healthy food or beverage strategy	((product OR place* OR profile OR portion* OR pric* OR promotion OR priming OR prompt* OR proximity OR availability OR discount* OR voucher* OR incentive* OR bonus* OR reward* OR coupon* OR token* OR rebate* OR refund* OR access* OR display OR remov* OR layout) NEAR/2 (food* OR beverage* OR drink* OR snack* OR fruit* OR vegetable*)) OR ((food* OR beverage* OR drink* OR snack* OR fruit* OR vegetable*) NEAR/2 (strateg* OR advertis* OR market* OR activit* OR initiative* OR program*)) OR "food quality" OR ((reformulat* OR modif* OR adapt*) NEAR/2 (recipe* OR product* OR food* OR meal* OR beverage* OR drink* OR snack*)) OR "choice architecture" OR nudge)
Business outcome	((margin OR profit* OR sale* OR revenue OR income OR turnover) adj2 (stock OR store OR food OR beverage OR retailer)) OR "brand loyalty" OR "store loyalty" OR "customer loyalty" OR sale* OR KPI OR "key performance indicator" OR "service quality" OR ((consumer OR customer* OR staff OR retailer OR storeowner OR owner OR manager OR community) adj2 (perception OR demand OR psychosocial OR attitude* OR aware* OR accept* OR knowledge OR welfare OR surplus OR utility OR engagement OR approv* OR satisfaction OR support OR recognition)) OR feasibil* OR "cost-benefit" OR purchas* OR ((business OR financial) NEAR/2 (viability OR loss*)) OR "process evaluation" OR "cost effective*" OR "cost benefit" OR sustainab* OR "opportunity cost*" OR "opportunity-cost*" OR adoption OR fidelity OR branding OR "value-proposition" OR "value proposition" OR reach)))

Key words were combined with database-relevant subject headings (see Table S1)

Table S3: Google scholar and grey-literature search terms

Hedge	Search terms
Food retail	food OR beverage OR snack OR fruit OR vegetables OR retail OR store OR outlet* OR supermarket
Healthy food or beverage strategy	product* OR place* OR pric* OR promot* OR availability OR access* OR display OR remov* OR strateg* OR advertis* OR market* OR activit* OR initiative* OR program* OR nudge
Business outcome	profit* OR sale* OR revenue OR customer* OR staff OR retailer OR cost OR business

Hedges were combined with “AND”. Terms were searched in Google scholar, OPEN grey and Domain names: gov.au; org.au; cdc.gov; gov.uk; gc.ca; usda.gov; hhs.gov; govt.nz.

Table S4: Ethos and Trove search terms

Hedge	Search terms
Food retail	Food or beverage or “food retail”
Healthy food or beverage strategy	Policy or health
Business outcome	Customer or evaluation or sales

Hedges were combined with “AND”.

Appendix III: Key of expert judgement classifications of business outcome favourability

Business outcome	✓ (favourable outcome)	X (unfavourable outcome)	- (neutral outcome)
Total sales	Increase	Decrease	No change
Revenue	Increase	Decrease	No change
Profit	Increase	Decrease	No change
Wastage	Decrease	Increase	No change
Return on investment	High	Low	Equivocal
Time and/or cost associated with implementation and maintenance	Increase*/High#	Decrease/Low#	No change
Competitiveness	Increase	Decrease	No change
Value creation	High	Low	Equivocal
Opportunity costs	Low	High	Equivocal
Attitudes of business stakeholders	Supportive of strategy	Unsupportive of strategy	No change
Store patronage	Increase	Decrease	No change
Spend per transaction	Increase	Decrease	No change
Retail staff personal satisfaction level	Increase*/High#	Decrease/Low#	No change
Feedback from community and external organisations	Yes, supportive of strategy	Yes, unsupportive of strategy	No recognition
Retailer level of satisfaction with strategy	Increase*/High#	Decrease/Low#	No change
Community stewardship	Increase*/High#	Decrease/Low#	No change
Customer level of satisfaction with strategy	Increase*/High#	Decrease/Low#	No change
Customer level of satisfaction with store	Increase*/High#	Decrease/Low#	No change
Customer demand for healthy items	Increase	Decrease	No change
Customer demand for healthy food at other retail sites	Increase	Decrease	No change
Consumer welfare	Increase	Decrease	No change
Community perceptions of intervention or similar	Increase	Decrease	No change
Broader social impact	Yes, supportive of strategy	Yes, unsupportive of strategy	No change
Societal shift towards healthier food	Increase	Decrease	No change
Level of barriers for other retailers to implement similar policies	Decrease	Increase	No change

*Compared to comparison group/ time point; # Post-only comparisons. Other classifications: Not applicable (N/A), unable to classify- no reference point or commentary, e.g. absolute cost of intervention; M (mixed), multiple measures were used for the same business mode outcome showing conflicting favourability of effects, we reported outcomes as “mixed”.

Appendix IV: Details of included studies

Table S5: Intervention descriptions of included studies

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
Adam AL, et al. Does shelf space management intervention have an effect on calorie turnover at supermarkets? J Retailing Consum Serv. 2017; 34: 311-18.; N/A	"to investigate the effect of [shelf-space management intervention] on total calorie sales"; N/A.	Supermarket; Multisite; No clear investment in health.	Denmark; Mix; Not described; N/A.	Researcher-led; N/A; No specific funding.	(G1) Dairy products were categorised using a traffic light system (not displayed to customers), based on energy density. 'green' (lowest energy density) products were placed at eye-level, "yellow" products further from eye-level and 'red' products (highest energy density), placed furthest from eye level (Placement) (n=5); (G2) Control- no intervention (n=5).
Albert SL, et al. A corner store intervention to improve access to fruits and vegetables in two Latino communities. Public Health Nutr. 2017; 20: 2249-59.; "Proyecto MercadoFRESCO"	"[to] examine perceptions about corner stores, store patronage, food purchasing patterns and F&V consumption pre- vs. post-intervention"; See primary aim.	Corner stores; Single site; No clear investment in health.	USA; Urban; Majority Latino, high rates adult obesity; N/A	Partnership (multiple-level including healthcare, research, business) ¹ ; N/A; Federal government funding.	(G1) (i) Renovations to stores including new fridges (Other) (ii) Healthy foods including F&V more prominently displayed (Placement); (iii) Social marketing campaign to increase consumption of F&V (Promotion); (iv) Storeowner training in business practices (Other) (n=3); (G2) Control - unconverted stores (n=5).
Andreyeva T, et al. Food retailer practices, attitudes and beliefs about the supply of healthy foods. Public Health Nutr. 2011; 14.; "US Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)"	"to understand the perceptions of demand for healthy foods, supply practices and barriers to stocking healthy foods, and the role of WIC revisions in the operation of convenience stores and non-chain grocery stores in the USA"; See primary aim.	Corner stores and grocery stores; Single site; WIC-authorized retailers.	USA; Urban; 60% population low-income, primarily South Asian and Latino; WIC recipients.	Federal government-mandated; new subsidies for healthy foods for WIC Program in October 2009; Federal government funding.	(G1) (i) Changes in list of subsidised WIC foods to include more healthy foods including F&V, whole grains- prompting stocking of more healthy foods (Product) (n=40); (G2) Control -non-WIC stores (n=51).

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
Anzman-Frasca S, et al. Orders of healthier children's items remain high more than two years after menu changes at a regional restaurant chain. Health Aff (Millwood). 2015; 34: 1885-92.; Health Affairs; "LiveWell Program"	"to assess orders of children's menu items more than 1 and two years after the implementation of the healthier menu, with the goal of highlighting the extent to which healthier ordering patterns were sustained over time."; N/A	Full-service restaurant; Multisite; No clear investment in health.	USA; Urban; Not described; Children.	Industry-led; National Restaurant Association's voluntary Kids LiveWell (KLW) program (restaurants must offer at least 1 children's meal and 1 other item meeting targets for calories, sodium, fat, sugar, and specific food groups ²); Philanthropic funding.	(i) Introduction of healthier menu options on kids menus (limits of energy, saturated fat, salt and sugar) (Product); (ii) Side dishes healthier options by default (Product); (iii) Removal of French fries and soda from the children's menu (Product); (iv) Healthier menu items identified using program logo on menu (Promotion).
Auchincloss AH, et al. Customer responses to mandatory menu labeling at full-service restaurants. Am J Prev Med. 2013; 45: 710-19.; N/A	"to determine whether purchase decisions at full-service restaurants varied depending on the presence of labelling"; See primary aim.	Full-service restaurant; Multisite; No clear investment in health.	USA; Urban; Customer survey (intervention restaurants): 27% aged 18 to 24 y, 40% age 25 to 39 y, 34% age ≥ 40y; 59% female; 28% income <\$35,000 p.a., 31% income \$35,000 to <60,000, 41% income ≥\$60,000; 41% Bachelor's degree; 31% White, 56% Black/ African-American; 31% overweight, 11% obese; N/A.	Local government-led; 2010 Philadelphia city ordinance mandating calorie, sodium, saturated fat, trans fat, carbohydrate labelling on menu in chain restaurants; Federal government funding, State government funding.	(G1) Calorie and nutrient (saturated fat, trans fat, carbohydrates, sodium) labelling on menus (Promotion) (n=2); (G2) Control- no menu labelling (n=5).
Ball K, et al. Influence of price discounts and skill-building strategies on purchase and consumption of healthy food and beverages: outcomes of the Supermarket Healthy Eating for Life randomized controlled trial. Am J Clin Nutr. 2015; 101.; SHELf	"[to assess] the effects on fruit, vegetable, and beverage purchasing and consumption of a 20% price-reduction intervention, a tailored skills-based behaviour-change intervention, and a combined intervention compared with a control condition"; N/A.	Supermarket; Multisite; No clear investment in health.	Australia; Urban; 1 advantaged and 1 disadvantaged neighbourhood; Women who are the main household shoppers.	Partnership between retailer (Coles supermarkets) and Health organisation (National Heart Foundation) and researchers ³ ; N/A; Philanthropic funding.	(G1) 20% price reduction on: F&V (fresh, canned, frozen), diet/low-calorie carbonated beverages, and water through coupons (Price) (n=161); (G2) Control (n=161) [skills based training excluded as not considered likely to be implemented by retailer].

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
Bedard K, et al. Micro-marketing healthier choices: effects of personalized ordering suggestions on restaurant purchases. J Health Econ. 2015; 39: 106-22.; "Nutricate"	Not clear. "this paper studies the effects of an intervention called the Nutricate receipt...While the Nutricate receipt is an early and simple example of the use of individual purchase history data to market healthier choices, it may provide some indication of this approach's potential"; N/A	Quick-service restaurant; Multisite; No clear investment in health.	USA; Mix; Median age 36 y, 35% have bachelor's degree or higher, 20% children live in poverty, 77% White; N/A.	Retailer-led; N/A; Federal government funding.	(G1) Nutricate receipt (given to customer at completion of order). Included nutrition information including calorie, fat, fibre and carbohydrate content of ordered meal (as % daily intake and absolute amounts) and customised message suggesting healthier swaps for subsequent purchases (Promotion) (n=1). (G2) Control- no intervention (n=38).
Bergen D, et al. Effects of energy-content labels and motivational posters on sales of sugar-sweetened beverages: stimulating sales of diet drinks among adults study. J Am Diet Assoc. 2006; 106: 1866-69.; "Stimulating Sales of Diet Drinks among Adults"	"to examine the effectiveness of an environmental intervention promoting more water and non-energy-containing soft drink consumption compared to sugar-sweetened soft drink consumption through vending machines in a college setting"; N/A.	Vending; Single site; University.	USA; Urban; Students, professors, and staff members; Young adults.	Researcher-led; N/A; Philanthropic funding.	(G1) "0 Calorie, 0 Carbs" labels placed next to water and non-energy drinks on vending machines (Promotion)(n=3); (G2) (G1-Promotion) + motivational posters promoting their purchase (reduced weight gain compared to full-sugar soft drink) (Promotion) (n=3); (G3) Control -status quo (n=2).
Berkowitz SE. Providing flexible food portions in a restaurant setting: Impact on business operations, food consumption and food waste. University of Minnesota [Thesis]: 2015; N/A [Patterson dental]	"to determine the impact of offering flexible portion-sized items in 2 food service environments on consumer acceptance, consumption, plate waste and business profitability"; See primary aim.	Cafeteria; Single site; Workplace.	USA; Urban; From customer survey: Most participants between 25 to 35y or 55 to 64y of age, approx. 50% female; N/A.	Researcher-led; N/A; Federal government funding.	Introduction of reduced size entrees dishes (Product).

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
Berkowitz SE. Providing flexible food portions in a restaurant setting: Impact on business operations, food consumption and food waste. University of Minnesota [Thesis]: 2015; N/A [Town and Country Club]	"to determine the impact of offering flexible portion-sized items in 2 food service environments on consumer acceptance, consumption, plate waste and business profitability"; See primary aim.	Full-service restaurant; Single site; No clear investment in health.	USA; Urban; Approx. 50% female; N/A.	Researcher-led; N/A; Federal government funding.	Introduction of reduced size entree dishes and appetizers (Product).
Biediger-Friedman L, et al. A voluntary approach to improve menu options in restaurants through a local collaborative partnership. Tex Public Health J. 2014; 66: 11-14.; !Por Vida!	"to explore the formation of [San Antonio's Healthy Restaurant Coalition (HRC)] community partnership initiative and review lessons learned"; N/A.	Full-service restaurant or café; Both multisite and single site restaurants; No clear investment in health.	USA; Urban; 65% obesity prevalence, 13% diabetes prevalence; Children.	Partnership (public health personnel, food professionals); Based on 2005 Dietary Guidelines for Americans; Federal and state government funding, philanthropic funding.	Modifications to children's menu: (i) Addition of lower fat menu options (Product); (ii) Reduction in availability of unhealthy menu items including sugar sweetened beverages (Product); (iii) Additional smaller portion size offered (Product); (iv) Healthy items identified with logo (Promotion); (v) Media coverage including in newspaper (Promotion).
Bleich SN, et al. Reducing sugar-sweetened beverage consumption by providing caloric information: how Black adolescents alter their purchases and whether the effects persist. Am J Public Health. 2014; 104: 2417-24.; N/A	"to identify the most effective modes of communicating SSB caloric information among Black adolescents to reduce the quantity, volume, and number of calories from SSB purchases"; N/A.	Corner store; Single site; No clear investment in health.	USA; Urban; Not described; Low-income African American adolescents.	Researcher-led; N/A; Philanthropic funding.	4 phases- each with 1 of 4 different posters giving exercise equivalents of SSB consumption, displayed at point of purchase (Promotion).
Block JP, et al. Point-of-purchase price and education intervention to reduce consumption of sugary soft drinks. Am J Public Health. 2010; 100: 1427-33.; N/A	"to determine whether point-of-purchase strategies can reduce the consumption of regular soft drinks, we employed price and educational interventions in a hospital cafeteria"; N/A.	Cafeteria; Single site; Healthcare setting.	USA; Urban; Not described; N/A.	Researcher-led; N/A; Philanthropic funding.	(G1) (P1 Pre-intervention): Prices posted next to refrigerated drinks (Price); (P2): 35% price increase on regular soft drinks (Price); (P3): Washout- return to pre-intervention prices; (P4): POP posters discouraging SSB consumption (Promotion); (P5): (P2) + (P4) (G2) Control- Comparison hospital (n=1) [not relevant to BMO].

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
Boelsen-Robinson T, et al. The effect of a change to healthy vending in a major Australian health service on sales of healthy and unhealthy food and beverages. <i>Appetite</i>. 2017; 114: 78-83.; "Healthy vending machine policy"	"to examine the change in consumer purchase of healthy and unhealthy foods and beverages from vending machines, following the introduction of a healthy vending machine policy, in a hospital setting..."; (in introduction) "[to assess] whether a change in overall revenue was experienced".	Vending machine; Multisite; Healthcare setting.	Australia; Urban; Not described; N/A.	Health-organisation (retailer) led; Healthy Choices: food and drink guidelines for Victorian public hospitals; State government funding.	Traffic light classification system based on nutrients including fat, salt and sugar and energy content. (i) $\leq 20\%$ displayed products in vending machines 'red' and $\geq 50\%$ 'green' (Product); (ii) Items labelled with classification, including basic POS explanations of "red", "amber", 'green' (Promotion).
Bollinger B, et al. Calorie posting in chain restaurants. <i>Am Econ J Econ Policy</i>. 2011; 3: 91-128.; "New York City mandatory calorie labelling laws"	"[to] study the impact of mandatory calorie posting on consumers' purchase decisions, using detailed data from Starbucks."; "The data in this study provide a unique opportunity to directly assess the impact of calorie posting on Starbucks revenue (which is highly correlated with their profit under plausible assumptions)."	Quick-service restaurant; Multisite; No clear investment in health.	USA; Urban; Not described; N/A.	Local government-led; New York City mandatory calorie labelling laws- introduced May 2008; No specific funding.	(G1) All chain restaurants and quick service restaurants in New York City with 15 or more units nationwide were required to display the number of calories for every item on menu boards and menus (Promotion) (n=222); (G2) Comparison stores without mandatory labelling (n=94).

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
Brimblecombe J, et al. Effect of a price discount and consumer education strategy on food and beverage purchases in remote Indigenous Australia: A stepped-wedge randomised controlled trial. Lancet Public Health. 2017; 2: e82-e95.; "Stores Healthy Options at Remote Indigenous Communities (SHOP@RIC)"	"to measure the effect of a price discount on food and drink purchases with and without an in-store consumer education strategy applied at the population level."; See primary aim.	Supermarket; Multisite; Other (community-run supermarket).	Australia; Rural (remote); Low SES, 95% Indigenous Australians, small remote communities; Indigenous Australians.	Retailer- researcher partnership; N/A; Federal government funding.	(G1) 20% price discount on F&V, water, and artificially sweetened soft drinks (Price) (n=10 stores); (G2) (G1-Price) + verbal and print in-store education to increase consumption of fruit, vegetables and water and decrease SSB consumption (Promotion) (n=10 stores).
Britt JW, et al. Feasibility of voluntary menu labeling among locally owned restaurants. Health Promot Pract. 2011; 12: 18-24.; "SmartMenu"	"Program objectives included determining (a) to what extent restaurants would participate, (b) the impact of the program on consumer purchasing behaviour, and (c) the costs, perceived benefits, and barriers involved"; See third objective.	Mixed: Full-service restaurants, quick-service restaurants, corner store; Single site; No clear investment in health.	USA; Urban; Not described; N/A.	Local health department-led; US Affordable Care Act (requirement for calorie labelling in restaurants with more than 20 outlets); Local government funding.	(G1) (i) Menu labelling with calories, fat, carbohydrate, and sodium (Promotion); (ii) Promotion on community print news and on Health Department website (Promotion); (iii) In-store promotion of intervention including plaques and posters for windows (Promotion) (n=24); (G2) Control- Non-participating restaurants (n=3).
Budd N, et al. Store-directed price promotions and communications strategies improve healthier food supply and demand: impact results from a randomized controlled, Baltimore City store-intervention trial. Public Health Nutr. 2017; 20: 3349-59.; "B'More Healthy Retail Rewards (BHRR)"	"[to examine] the effects of performance-based monetary incentives (10–30% wholesale discount) and communications strategies, separately and combined, on small storeowners' self-reported stocking, self-reported sales and prices of promoted healthier foods, and on related storeowner psychosocial variables"; See primary aim.	Corner store; other (wholesale store) ⁴ ; Single site; No clear investment in health.	USA; Urban; Low-income census tract (>50% living below poverty level), >75% African-American; Low-income African-American customers of small retail stores. ⁴	Researcher-led; N/A; Federal government funding, philanthropic funding, university funding.	(G1) 10-30% price discount on selected healthier items (Price)(n=6); (G2) Communications strategies including posters, taste tests, and small produce refrigerators (Promotion)(n=6); (G3) (G1) + (G2) (Pricing + Promotion) (n=6); (G4) Control- status quo (n=6). Each strategy for G1 to G3 targeted different items for 8 to 10 weeks over the following phases: P1 - Better beverages (lower calorie/fat beverages including 1% milk, bottled water and selected reduced calorie

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
					colas); P2 - Healthy Essentials (staple foods - promoted nutrient-dense staple foods including 100% whole wheat bread, canned tuna in water and frozen vegetables + P1 drinks); P3 - Healthier Snacks (lower fat snack foods including fresh fruit, low fat granola bars, baked potato chips + P1 & P2 foods). ⁴
Buscher LA, et al. Point-of-purchase messages framed in terms of cost, convenience, taste, and energy improve healthful snack selection in a college foodservice setting. J Am Diet Assoc. 2001; 101: 909-13.; N/A [Study 1]	"to examine the effects of a point-of-purchase (POP) intervention emphasizing various properties of healthful food items on college students' snack purchases"; See primary aim.	Cafeteria; Not described; University.	Canada; Not described; College students; College students.	Researcher-led; N/A; No specific funding.	POP poster and card in front of item with text-based messages encouraging consumption of healthy snacks (specific for different products in each phase: (P1) pretzels; (P2) yoghurt; (P3) vegetable baskets; (P4) fruit baskets (Promotion)).
Buscher LA, et al. Point-of-purchase messages framed in terms of cost, convenience, taste, and energy improve healthful snack selection in a college foodservice setting. J Am Diet Assoc. 2001; 101: 909-13.; N/A [Study 2]	"to investigate the impact of a 2-week POP intervention that targeted a single snack food, yogurt, in order to examine the intervention's effects without bias from other preceding or antecedent POP promotions"; Secondary aim: "to determine the extent to which customers saw, read, and were influenced by the POP messages".	Cafeteria; Not described; University.	Canada; Not described; From customer survey: 53% female, college students; College students.	Researcher-led; N/A; No specific funding.	POP poster and card in front of item with text-based messages encouraging consumption of yoghurt (Promotion).

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
Cardello H, et al. Better-For-You Foods: an opportunity to improve public health and increase food industry profits. Hudson Institute: Washington, DC 2013.; N/A	"to determine whether companies that emphasized [Better For You]/ lower-calorie products achieved superior business performance"; See primary aim.	Full-service restaurant, quick-service restaurant; Multisite; No clear investment in health.	USA; Mix (national chains); Not described; N/A.	Retailer-led; Healthy Weight Commitment Foundation and the National Restaurant Association's "Kids LiveWell" program; Philanthropic funding.	(G1) Provision of "better for you/lower-calorie" products increased (Product)(n=10); (G2) Comparison stores -Number of "Better For You" options unchanged (n=11).
Chu YH, et al. Improving patrons' meal selections through the use of point-of-selection nutrition labels. Am J Public Health. 2009; 99: 2001-5.; N/A	"to determine whether the display of nutrition information at the point of selection for all entrees available in a food-service operation would alter patrons' meal selection."; Hypothesis 3: this change can occur without any negative impact on overall sales.	Cafeteria; Single site; University.	USA; Urban; Mainly university students, plus outside patrons; College students.	Researcher-led; Proposed US Menu Education and Labelling (MEAL) Act requiring nutrition information on restaurant menu boards; No specific funding.	POS posters displaying total energy (kCal), serving size, fat, protein, and carbohydrates content (Promotion).
Chu YH, et al. Investigating the impact of menu labeling on revenue and profit in a foodservice operation. J Foodservice Bus Res. 2014; 17: 215-27.; N/A	"[to investigate] the financial impact of a menu labelling experiment conducted in in a hospital cafeteria"; See primary aim.	Cafeteria; Single site; Healthcare setting.	USA; Urban; Patients, visitors, staff and students ⁵ ; N/A.	Researcher-led; US 2010 Health Care Reform Act including mandatory menu calorie labelling; No specific funding.	(P1-"Complex/Countertop"): Complex nutrition labels + TLL on countertops for all items (Promotion); (P2-"Simple/Floor Stand"): Simplified menu labelling (calorie content + TLL) on floor menu stand for 17/177 available items (Promotion); (P3-"Complex/Floor Stand"): Complex menu labelling on floor stand (Promotion); (P4-"Simple/Countertop"): simplified menu labelling on countertop for 17/177 items (Promotion).

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Cohen DA, et al. Can Latino food trucks (loncheras) serve healthy meals? A feasibility study. Public Health Nutr. 2017; 20: 1279-85.; "La Comida Perfecta"	"to assess whether any lonchera owners would be willing to redesign some meals on their menus and whether they would be able to comply with the predefined volume and weight measures for these meals"; Secondary objective: "to find out whether predominantly Latino customers would find such standardized meals appealing and whether the meals could potentially be profitable".	Food trucks; Single site; No clear investment in health.	USA; Urban; Customer surveys: mean age 38y, 65% male (35% female), 93% Latino; Latino customers.	Researcher-led; My Plate guidelines. Volume and weight measures recommended by the Child and Adult Care Food Program; Philanthropic funding.	(i) Introduction of healthier menu items including more F&V and less meat (Product); (ii) Posters to promote healthier meals (Promotion); (iii) Coupons for healthier meals (Price); (iv) Business promotion through local media and Yelp (Promotion)
Cranage DA, et al. Effect of nutrition information on perceptions of food quality, consumption behavior and purchase intentions. J Foodservice Bus Res. 2004; 7: 43-61.; N/A	"to evaluate the impact of displayed nutrition information on customers' selections and ratings of food in a restaurant setting. Specific objectives were to compare selection, quality ratings, and intention to purchase ratings with and without information on nutrients per serving associated with entrée selections."; See primary aim.	Cafeteria; Single site; University.	USA; Regional; Study sample: age 15% ≤25 y, 33% 26-45 y, 27% 46-55 y, 26% ≥ 56 y, 57% female, likely more highly educated; N/A.	Researcher-led; Proposed US Menu Education and Labelling (MEAL) Act requiring nutrition information on restaurant menu boards; No specific funding.	Nutrition information placed next to hot entrees at POP (Promotion).
Dannefer R, et al. Healthy bodegas: increasing and promoting healthy foods at corner stores in New York City. Am J Public Health. 2012; 102: e27-e31.; "Healthy Bodegas Initiative"	"[to assess] the effectiveness of an initiative to increase the stock and promotion of healthy foods in 55 corner stores in underserved neighbourhoods"; N/A.	Corner store; Not described; No clear investment in health.	USA; Urban; Low SES neighbourhoods, high rates diabetes and obesity; Not described.	Local government-led; N/A; Local government funding.	Implementation of a range of different interventions including: (i) Increased availability of fresh F&V, healthy alternatives of staples including low-fat milk and low-salt soup (Product); (ii) POP posters promoting healthy foods (Promotion); (iii) Rearrangement of store to increase healthy product visibility (Placement).

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Dawson J, et al. Eat Smart! Workplace cafeteria program evaluation of the nutrition component. Can J Diet Pract Res. 2006; 67: 85-90.; "Eat Smart! Workplace "Cafeteria Program (ESWCP)"	"to assess staff members' (1) frequency of visits to and purchases in the hospital cafeteria, (2) awareness of the ESWCP, promotional materials, and changes made to the cafeteria menu, (3) attitudes about the program, (4) short-term eating behaviour change to gauge progression toward longer-term behaviour change, (5) suggestions to improve the ESWCP"; See primary and tertiary objectives.	Cafeteria; Single site; Healthcare setting.	Canada; Urban; Not described; Hospital staff.	State government-led; Canada's Food Guide to Healthy Eating (CFGHE); State-government funding.	(i) Increased variety of healthy alternatives including side dishes (Product) (ii) Promotion including table tents with message, incl. encouraging increased consumption of F&V (Promotion); (iii) Condiments available on request only (Product); (iv) Multi-buys on healthy alternatives only (Price).
de Wijk RA, et al. An in-store experiment on the effect of accessibility on sales of wholegrain and white bread in supermarkets. PLoS One. 2016; 11: e0151915.; N/A	"to investigate the effects of accessibility on consumers' purchase of healthier whole grain and other types of bread."; See primary aim.	Supermarket; Multisite; No clear investment in health.	Netherlands; Urban; Not described; N/A.	Researcher-led; N/A; Federal government funding, food industry funding.	Crossover-design. Altered placement to promote brown over white bread (Placement). (P1) Healthier bread first (Supermarket B), Healthier bread last (Supermarket A); (P2) Reversed.

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DeFosset AR, et al. Early impacts of a healthy food distribution program on the availability and price of fresh fruits and vegetables in small retail venues in Los Angeles. J Community Health. 2017; 42: 878-86.; "Community Markets Purchasing Real and Affordable Foods (COMPRA)"	"to examine the impacts of a healthy food distribution program on fresh produce availability, in terms of volume, variety, and pricing over its first year of operation. The three primary evaluation questions were: (1) What are the characteristics, purchasing habits, and attitudes of member stores who enrol in the program?"; See primary aim.	Grocery store; Single site; No clear investment in health.	USA; Urban; Low-income, racially/ ethnically diverse; N/A.	Partnership (healthcare and local government); N/A; Local government funding.	Intervention at level of store: wholesale prices and delivery of F&V. Intervention at level of customer: (i) generally increased availability of F&V (Product); (ii) reduced prices of F&V (Price).
Deliens T, et al. Effectiveness of pricing strategies on French fries and fruit purchases among university students: results from an on-campus restaurant experiment. PLoS One. 2016; 11: e0165298.; N/A	"to examine the effect of a 10 and 20% meal price increase when choosing French fries (unhealthy food product) and a 10 and 20% meal price reduction when choosing fruit (healthy food product) on Belgian university students' purchasing behaviour"; See primary aim.	Cafeteria; Single site; University.	Belgium; Urban; Customer surveys (French-fries experiment sub-sample): age 20.5±1.9 y, 53.5% female; University students.	Researcher-led; None; No specific funding.	(P1) 10% price increase French fries; (P2) 20% price increase French fries; (P3) 10% price decrease fruit pieces; (P4) 20% price decrease fruit pieces (Price). During all phases interventions were communicated using posters, information boards, printed t-shirts and Facebook platform explaining prices had been changed to encourage healthier food choices (Promotion).
Department of Health. Change4Life convenience stores evaluation report. Department of Health: London, UK 2010.; "Change4Life" [Using Annex C data]	"This report sets out the history and development of the project, and the results of the evaluation of the pilot phase in the North East of England"; N/A.	Corner store; Mix; No clear investment in health.	UK; Mixed; Low-income areas (for G1); Underserved areas.	Partnership (Convenience store association and UK Department of Health); Convenience Stores Change4Life programme sits within the Government's Healthy Weight: Healthy Lives strategy; Federal government funding.	(G1- Development Stores) (i) New refrigerators for F&V display placed near front of store (Placement); (ii) Increased range of stocked F&V (Product) (n=9); (ii) Mailbox drop promoting new F&V range (Promotion); (G2- Roll-out stores) (i) POS promotion material with Change4Life branding (Promotion); (ii) Ambient stand for placing F&V in prominent position (Placement, Other); (iii) Mailbox drop promoting new F&V range (Promotion) (n=17).

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Drewnowski A, et al. The impact of Crunchy Wednesdays on Happy Meal fruit orders: analysis of sales data in France, 2009-2013. J Nutr Educ Behav. 2017; 49: 236-40 e1.; Crunchy "Wednesdays" (Mercredis à Croquer)	"to determine the impact of free fruit promotion on the proportion of regular Happy Meal fruit desserts sold"; Second research question: "was there evidence of a further impact on the rest of the Happy Meal, such as more orders for cherry tomatoes or plain water as a beverage?"	Quick-service restaurant; Multisite; No clear investment in health.	France; Mix (country-wide); Not described; Children.	Retailer-led; N/A; No specific funding.	Free fruit with children's meal 1 day per month (Price).
Ellison B, et al. The impact of restaurant calorie labels on food choice: results from a field experiment. Econ Inq. 2014; 52: 666-81.; N/A	"to determine how consumers respond to symbolic labels in a natural restaurant setting- without any additional marketing or educational campaigns."; No relevant aim.	Full-service restaurant; Single site; No clear investment in health.	USA; Regional; Not described; N/A.	Researcher-led; Upcoming healthcare bill requiring standardized menu labelling in chain restaurants; No specific funding.	(P1-menu labelling): (G1) Control group; (G2) calorie labelling on menu (Promotion); (G3) G2 + Traffic light calorie labelling on menu (>800 calories= red; 401 to 800 calories= amber; <400 green)(Promotion). [excluded modelled intervention (P2-pricing) P1 + Price increase from 10 to 13% on 4 high-calorie (red) items; price decrease of 10 to 13% on 3 'green' (low-calorie items) (Price)].

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Escaron AL, et al. Developing and Implementing “Waupaca Eating Smart” A Restaurant and Supermarket Intervention to Promote Healthy Eating Through Changes in the Food Environment. Health Promot Pract. 2016; 17: 265-77.; “Waupaca Eating Smart” (WES)	"to describe the formative research that informed the design of WES, the strategies implemented as part of this intervention, the activities conducted to evaluate WES, and results from the process evaluation"; N/A	Full-service restaurant; Supermarket; Mixed; No clear investment in health	USA; Rural; Not described; N/A	Partnership (community stakeholders and researchers); N/A; University funding	Restaurant: (i) POP labelling of healthier items (lower calorie, containing F&V)(Promotion); (ii) Increasing availability of healthy alternatives (Product); (iii) Community and in-restaurant promotion of healthier alternatives (Promotion). Supermarket: (i) Bundling of healthy foods together (Price); (ii) POP promotion of healthier alternatives (recipe cards, samples, F&V promotions, signage) (Promotion).
Ferguson M, et al. Food and beverage price discounts to improve health in remote Aboriginal communities: mixed method evaluation of a natural experiment. Aust N Z J Public Health. 2017; 41: 32-37.; N/A	"to describe the pricing strategies implemented, and examine impact on food and beverage sales, perceived level of success, key enablers and barriers to implementation, and perceived benefits associated with pricing strategies"; See primary aim.	Supermarket; Multisite; Community-owned stores.	Australia; Rural; Mainly Indigenous Australians; Remote Indigenous Australian community residents.	Retailer-led; N/A; Federal government funding.	A series of price discounts were applied (Price): (i) Reduced mark-up on a range of groceries including cereals, fresh milk and frozen vegetables (n=17); (ii) Introduction of scales so F&V could be purchased loose (n=5); (iii) F&V sold at "landed-cost" (wholesale price plus freight) (n=3); (iv) Diet soft drink mark-up reduced compared to mark-up on regular soft drink (n=16); (v) POS promotion (not specified) (Promotion) (n=unclear).

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Finkelstein EA, et al. The impact of mandatory menu labeling on one fast food chain in King County, Washington. Am J Prev Med. 2011; 40: 122-7.; N/A	"to test the impact of mandatory menu labelling on transactions and calories purchased from these locations"; "We hypothesize that as a result of the legislation: Total transactions at locations within King County will decrease after the legislation goes into effect compared with locations outside King County."	Quick-service restaurant; Multisite; No clear investment in health	USA; Mix; Not described; N/A	Local government-led and also influenced by state government policies; King County mandatory menu labelling for chain restaurants; University funding	(G1) (P1) (i) Mandatory calorie labelling on menus in quick-service restaurants (Promotion); (ii) Carbohydrate, sodium, saturated fat, and daily recommended caloric intake available at POP (e.g. in pamphlets) (Promotion). (P2) P1+ Calorie labelling required on drive-through menu boards (Promotion) (n=7); (G2) Control - restaurants without menu labelling requirements (n=7).
Fitzgerald CM, et al. Effect of a promotional campaign on heart-healthy menu choices in community restaurants. J Am Diet Assoc. 2004; 104: 429-32.; "Healthy Dining Program"	Research question: "Does a promotional campaign impact the sales of heart-healthy menu items at community restaurants?"; Not described.	Full-service restaurant; Single site; No clear investment in health.	USA; Urban; Not described; Customers of participating community restaurants, fitness centre, hospital clinics.	Partnership (community restaurants and university health care organisation); N/A; No specific funding.	Print advertising, posters and table tents in-store promoting heart-healthy menu items (previously implemented, including two core food groups and ≤ 12 g fat/serve) (Promotion).
Fitzpatrick MP, et al. Lower-fat menu items in restaurants satisfy customers. J Am Diet Assoc. 1997; 97: 510-14.; "Fresh Choice"	"to evaluate customer satisfaction with the "Fresh Choice" restaurant-based nutrition program"; See primary aim.	Full-service restaurant; Single site; No clear investment in health.	Canada; Urban; Survey sample: Majority 25-50 y, 59% women; N/A.	Partnership (city health department, restaurant industry groups); N/A; Local government funding, food industry funding.	(i) Increase healthier restaurant choices (low fat, healthy ingredients) (Product); (ii) Smaller portions of some items (Product); (iii) POP marketing of healthier options (Promotion).
French SA, et al. A pricing strategy to promote low-fat snack choices through vending machines. Am J Public Health. 1997; 87: 849-51.; N/A	"[to examine] the role of price on the purchase of low-fat snacks from vending machines"; N/A.	Vending machine; Not described; University.	USA; Urban; Not described; N/A.	Researcher-led; N/A; No specific funding.	50% reduction in price of low-fat snacks (≤ 3 g per serve) (Price).

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French SA, et al. Pricing and promotion effects on low-fat vending snack purchases: The CHIPS Study. Am J Public Health. 2001; 91: 112–17.; "Changing Individuals' Purchase of Snacks (CHIPS)"	"to examine the effect of environmental interventions on food choices among adolescents and adults in a naturalistic setting"; See primary aim.	Vending machine; Multisite; Workplace.	USA; Urban; Not described; N/A.	Researcher-led; N/A; Federal government funding.	Latin square design in which price reductions (Price) [(G1) no price change; (G2) 10% price reduction on low-fat snacks; (G3) 25% price reduction; (G4) 50% price reduction] were combined with labelling conditions [(G5) none; (G6) low-fat label (Promotion); (G7) low-fat label + promotional sign encouraging low-fat snack choice (Promotion)].
French SA, et al. Pricing and availability intervention in vending machines at four bus garages. J Occup Environ Med. 2010; 52: S29.; "Route H"	"to evaluate the effects of lowering prices and increasing availability on sales of healthy foods and beverages from 33 vending machines in four bus garages as part of a multi-component worksite obesity prevention intervention"; See primary aim.	Vending machine; Multisite; Workplace.	USA; Urban; Transportation workers. From customer surveys: mean age 47y, 21% female, 43% household income <\$US50,000; 49% completed high school/vocational school, 63% white; Bus garage staff.	Partnership (workplace; researcher); N/A; Federal government funding.	(G1) (i) 50% of the available vending offerings healthy (lower in calories, fat and sugar) (Product); (ii) 10% price reduction of healthy items (Price) (n=2); (G2) Control - no intervention (n=2).
Gardiner B, et al. Can small stores have a big impact? A qualitative evaluation of a store fruit and vegetable initiative. Health Promot J Austr. 2014; 24: 192-98.; 'improving retail access to fresh fruit and vegetables' initiative	"to explore the quality, barriers and enablers to involvement in the retail fresh F&V initiative and determine perceived outcomes."; See primary aim.	Grocery store; Single site (assumed); No clear investment in health.	Australia; Rural; Low socio-economic area; N/A.	Local government-led; N/A; State government funding.	(i) Increased availability of F&V (achieved in part through retailer incentives such as subsidised refrigeration) (Product); (ii) Improved display of F&V including new baskets and shelving and new refrigeration (Other); (iii) POP posters and banners promoting F&V (Promotion).

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Gittelsohn J, et al. Small retailer perspectives of the 2009 Women, Infants and Children Program food package changes. Am J Health Behav. 2012; 36: 655-65.; "US Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)"	"to understand vendor perspectives regarding changes made in 2009 to the Special Supplemental Nutrition Program for Women, Infant, and Children (WIC) food package"; See primary aim.	Corner stores, and grocery stores; Single site corner stores, and mix single site and multisite grocery stores; WIC-authorized retailers.	USA; Urban; Low SES areas; Low SES group.	Federal government-led; Updated WIC food packages; Philanthropic funding, Federal government funding.	Increased availability of fresh F&V, wholegrain products and low-fat dairy products to comply with changes to WIC packages (Product). WIC participants could only buy healthier products with WIC vouchers.
Gorton D, et al. Healthier vending machines in workplaces: both possible and effective. N Z Med J. 2010; 123: 43-52.; "Better Vending for Health"	"to assess the effect of implementation of healthier vending guidelines on the nutrient content of products sold, sales, and customer satisfaction"; See primary aim.	Vending machine; Multisite; Healthcare setting.	New Zealand; Urban; Customer pre-intervention surveys: mean age 43y, 85% female, 57% health professionals, 82% NZ European or other ethnicity; Hospital staff.	Health organisation-led; Better Vending for Health guidelines, based on New Zealand food and nutrition guidelines and classification systems including Food & Beverage Classification System for schools; Federal government funding.	Changes in products available: 50% products 'better' choices (\leq 800kJ per packet, \leq 1.5g saturated fat per 100g, \leq 450mg sodium per 100g, no confectionery), 50% 'other' choices (\leq 800kJ per packet) (Product).
Gudzune KA, et al. Increasing access to fresh produce by pairing urban farms with corner stores: a case study in a low-income urban setting. Public Health Nutr. 2015; 18: 2770-4.; N/A	No clear objective. "We hypothesized that the distribution of fresh produce from urban farms to corner stores would be feasible, in demand and acceptable to farmers and storeowners."; See hypothesis.	Corner store; Single site; No clear investment in health.	USA; Urban; Low-income; Low income consumers.	Researcher-led; N/A; Philanthropic funding, federal government funding.	(i) Increased availability of fresh produce (Product); (ii) Promotional materials/activities (signage, shelf labels, recipes, produce tasting, neighbourhood meetings and newsletters) (Promotion). (P1) Weeks 1-5. Costs of produce covered; (P2) Weeks 6-9. Decreased financial support (50% or 75% of costs covered).

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Hamburger AL. Healthy Cocina Initiative: understanding the successes and barriers of implementing a pilot project to promote healthy, affordable prepared meals in a low- income Latino market. San Diego State University [thesis]: 2016.; "Healthy Cocina Initiative"	"to outline the barriers and successes to implementing a program that supports low- cost healthy prepared meals in a Latino market in a low- income neighbourhood"; See primary aim.	Fresh food market and quick-service restaurant; Single site; No clear investment in health.	USA; Urban; 60% low- income households, 60% Latino; Latino customers.	Health organisation- led; "Healthy Retail Program" of San Diego County, the Health and Human Services Agency (HHSA) and UCSD Centre for Community Health; Federal government funding.	P1: (i) Healthier meal offerings featuring vegetables (Product); (ii) Lower priced compared to unhealthy alternatives (Price); (iii) POP promotion of healthy meals (Promotion). P2: Program relaunch. More intense version P1.
Hartigan P, et al. Rethink Your Drink. Health Promot Pract. 2017; 18: 238-44.; "Rethink Your Drink"	"to examine whether an intervention focused specifically on limiting access to SSBs and promoting consumption of more healthful drinks could reduce the sales of SSBs while maintaining overall beverage sales in a hospital setting"; See primary aim.	Hospital-wide: Cafeteria, Kiosk, Quick-service restaurant, Other (delicatessen); Mix; Healthcare setting	USA; Urban; Hospital employees, patients, and families; N/A.	Health organisation- led; "Healthy Beverage Toolkit" published by the Boston Public Health Commission; No specific funding (in-kind support from health organisation).	(i) POP education on 'red' (high sugar), 'amber' (low-in sugar or ASB), and 'green' (no sugar, no sweeteners) beverages (Promotion); (ii) Colour-coded labels identified 'red', 'amber' and 'green' beverages at the point of selection (Promotion); (iii) Placement of 'green' beverages at eye-level in refrigerator (Placement).

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Holdsworth M. An evaluation of the Heartbeat Award Scheme in Leicestershire. University of Leicester [Thesis]: 1998.; "Heartbeat Award Scheme"	"(1) To what extent have the original aims and objectives of the scheme been achieved? (2) What impact has the scheme had on participants? (3) What factors influence success? (4) How is the scheme implemented and how can this be improved?"; Study objectives: "iv) To assess the views of the caterer on the HBA scheme in public eating places and workplaces (process and impact measures), v) To gain an insight into the views of the customer into the HBA scheme in public eating places and workplaces (process and impact measures), vi) To examine the opinions of community dietitians on the efficacy of the HBA scheme (process measures)".	Cafeteria in workplaces; Single site; Healthcare setting, workplace.	UK; Not described; Sample data (employees) of included sites: 70.5% women, 62.4% higher social class (professional/ managerial), 62.2% <45yrs, 93% white.	Local government-led; Leicestershire Food and Nutrition Policy; Local government funding.	(G1) (i) $\geq 1/3$ dishes reduced fat, and sugar (Product); (ii) Compliant foods received HBA branded logo (Promotion); (ii) Other criteria included non-smoking area requirements and staff food safety handling training (Other) (n=23); (G2) Comparison workplaces (n=unclear).
Holmes AS, et al. Effect of a grocery store intervention on sales of nutritious foods to youth and their families. J Acad Nutr Diet. 2012; 112: 897-901.; "Healthy Kids" campaign	"to evaluate the effectiveness of a child-focused grocery store intervention on patrons' attitudes and behaviours as well as store sales of targeted items"; See primary aim.	Grocery store; Multisite; No clear investment in health.	USA; Urban; Median annual family income US\$47,358, 74% white; Parents and young children.	Researcher-led; N/A; No specific funding.	(i) Introduction of kiosk in highly visible location within grocery store with healthy foods including whole wheat grain products, fresh F&V and low-fat dairy products (foods also found elsewhere in store) (Placement); (ii) Kiosk displayed study logo and recipes (Promotion).

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Horgen KB, et al. Comparison of price change and health message interventions in promoting healthy food choices. Health Psychol. 2002; 21: 505.; N/A	"[to examine] the feasibility and effectiveness of an environmental intervention for improving diet by comparing the impact of health messages, lowered prices, and their combination on the purchase of healthy food items in a restaurant"; N/A.	Cafeteria; Single site; No clear investment in health.	USA; Urban; High SES area in city with population approx. 250,000 people, primarily Caucasian; N/A.	Researcher-led; N/A; No specific funding.	(P1) Pre-intervention; (P2) 20-30% price decrease on low-fat chicken sandwich, low-fat salad, low-fat soup (Price); (P3) Washout; (P4) (i) Prices returned to normal; (ii) POP posters displaying health messages promoting healthy eating for mental and physical wellbeing and specific target items (1 gain-framed, 1 loss-framed message) (Promotion); (P5) P2+ P4 (Price + Promotion).
Hua SV, et al. Health promotion and healthier products increase vending purchases: a randomized factorial trial. J Acad Nutr Diet. 2017; 117: 1057-65.; N/A	"to examine how healthier product availability, price reductions, and/or promotional signs affect sales and revenue of snack and beverage vending machines"; See primary aim.	Vending machine; Multisite; University.	USA; Not described; University students and staff; N/A.	Partnership (university, hospitality service); National Automatic Merchandising Association FitPick nutrition standards; New York City Agency Food Standards guidelines for vending machines; No specific funding.	Factorial design- combinations of (i) Stock only products meeting healthy guidelines (Product); (ii) 25% discount on foods meeting criteria; water \$1 (instead of \$1.50-\$2) (Price); (iii) Signage depending on condition (i.e. product/price) (Promotion). (G1) Product + Price + Promotion (n=8); (G2) Product + Promotion (n=6); (G3) Product + Price (n=8); (G4) Product (n=8); (G5) Price + Promotion (n=6); (G6) Promotion (n=6); (G7) Price (n=8); (G8) Control (n=6).
Jigsaw Research. Convenience stores Change4Life research - report of findings by Jigsaw Research. Department of Health: London, UK 2009.; "Change4Life"	"to evaluate the impact of [Change4Life] on in-store changes"; Objectives include "to identify changes in consumer perceptions of the pilot stores" and "to assess awareness and impact of the various in-store elements".	Corner store; Mix; No clear investment in health.	UK; Mixed; Low-income areas (for G1); Underserved areas.	Partnership (Convenience store association and UK Department of Health); Convenience Stores Change4Life programme sits within the Government's Healthy Weight: Healthy Lives strategy; Federal government funding.	(G1- Development Stores) (i) New refrigerators for F&V display placed near front of store (Placement); (ii) Increased range of stocked F&V (Product) (n=9); (ii) Mailbox drop promoting new F&V range (Promotion); (G2- Roll-out stores) (i) POS promotion material with Change4Life branding (Promotion); (ii) Ambient stand for placing F&V in prominent position (Placement, Other); (iii) Mailbox drop promoting new F&V range (Promotion) (n=17). ⁶

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<p>Jilcott Pitts SB, et al. Implementing healthier foodservice guidelines in hospital and federal worksite cafeterias: barriers, facilitators and keys to success. J Hum Nutr Diet. 2016; 29: 677-86.; N/A</p>	<p>"to examine: (i) barriers to and facilitators of implementation, (ii) behavioural design strategies used to promote healthier foods and beverages in cafeteria settings; and (iii) effects on costs and profits of implementation of the healthier foodservice Guidelines or Initiative"; See third aim.</p>	<p>Cafeteria; Some Multi-site, others not clear; Workplace and healthcare setting.</p>	<p>USA; Unclear; Not described; N/A.</p>	<p>Federal government-led (for worksites), health organisation-led (hospitals); Partnership for a Healthier America (PHA)'s "Hospital Healthier Food Initiative (HHFI)" or US Department of Health and Human Services "Health and Sustainability Guidelines for Federal Concessions and Vending Operations"; Federal government funding.</p>	<p>Variety of interventions depending on site of implementation. Components included: (i) Removal of less healthy foods items (Product); (ii) Reduced salt content of onsite prepared dishes (Product); (iii) Increased provision of fresh fruits, vegetables, lower sodium products and low-fat dairy (Product); (iv) Menu calorie labelling (Promotion); (v) Availability of reduced portion sizes (Product).</p>
<p>Kerins C, et al. Effects of an icon-based menu labelling initiative on consumer food choice. Perspect Public Health. 2017; 137: 45-52.; "Healthiest Heart Award"</p>	<p>"to examine the impact of the icon-based menu labelling initiative on consumer buying behaviour"; See primary aim.</p>	<p>Full-service restaurant, café, pub/restaurant; Single site; No clear investment in health.</p>	<p>Republic of Ireland; Urban; Not described; N/A.</p>	<p>Researcher-led; Criteria based on the 'traffic light' colour coding system and the British Dietetic Association's (BDA) guidelines on 'Improving Outcomes through Food and Beverage Services'; Philanthropic funding.</p>	<p>(i) Decrease in portion size of some items (Product); (ii) Minor reformulation of items to meet nutrient thresholds for claims (Product); (iii) Icon-based menu labelling "Cholesterol Friendly, Blood Pressure Friendly, Weight Friendly, Diabetes Friendly and Healthiest Heart Award" (Promotion).</p>

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Kottke TE, et al. The effect of price reduction on salad bar purchases at a corporate cafeteria. Prev Chronic Dis. 2013; 10: E25.; N/A	"to test whether, and the extent to which, the decision to eat a salad for lunch by employees who eat at the HealthPartners corporate headquarters cafeteria was influenced by salad price"; "We compared mean daily sales in total and by food category for March with sales for February, April, May, and June".	Cafeteria; Single site; Employee cafeteria (workplace) in healthcare setting.	USA; Urban; Not described; N/A.	Health-organisation (retailer)- led; Company "mission and vision statements include a focus on healthy lifestyles"; No specific funding.	(i) Price of salads reduced by 50%, so that salads cost approximately the same as other main dish options (Price); (ii) Employees informed via email and by poster in cafeteria (Promotion).
Lawman HG, et al. Changes in quantity, spending, and nutritional characteristics of adult, adolescent and child urban corner store purchases after an environmental intervention. Prev Med [cited 25 June 2015]. 2015; 74.; "Healthy Corner Store Initiative (HCSI)"	"to assess one-year changes in corner store purchases (nutritional characteristics, amount spent) of children, adolescents, and adults in a low-income urban environment before and after implementing an environmental intervention to increase the availability of healthier products"; See primary aim.	Corner store; Single site; No clear investment in health.	USA; Urban; Low income (high poverty zip codes where $\geq 20\%$ of the population has incomes below 100% of the Federal Poverty Line); Low income, urban communities.	Partnership (not-for-profit health organisation and local government); N/A; Federal government funding.	(G1- "Basic intervention"): (i) introduction of 4 new healthy products (Product); (ii) In-store "Healthy food Identification marketing" including posters, shelf-tags and recipe cards (Promotion); (iii) Retailers attended business training on healthy product procurement, promotion and pricing; (G2- "High-intensity intervention"): G1 + additional business training for store owner and changes to store refrigeration and display (Other) and availability of healthy products (Product).
Lee-Kwan SH, et al. Environmental intervention in carryout restaurants increases sales of healthy menu items in a low-income urban setting. Am J Health Promot. 2015; 29: 357-64.; "Baltimore Healthy Carryouts"	"to investigate how a pilot environmental intervention— Baltimore Healthy Carry outs (BHC)—impacted healthy food sales and total revenue at carryouts"; See primary aim.	Quick-service restaurant; Single site; No clear investment in health.	USA; Urban; One-third of the population of Baltimore has household income $< \$25,000$ p.a.; Low income residents.	Researcher-led; N/A; University funding.	(G1) (P1) Menu boards used to highlight healthier alternatives (lower in kcal and fat) (Promotion) (2 m); (P2) Provision of healthier side and beverage alternatives and promotion of existing healthier alternatives (Product) (3 m); P3: Promotion of healthier combo meals (Promotion), with price reductions as determined by retailer (Price). In all 3 phases, POP posters promoting changes (Promotion) (n=3). (G2) Control stores (n=4).

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Lessa K, et al. Study of consumer perception of healthy menus at restaurants. Food Qual Prefer. 2017; 55: 102-06.; N/A	"to evaluate whether offering a healthy menu based on nutritional claims would be an interesting option for restaurants as well as to check the impact of proposed nutritional improvements on consumer's acceptability of menus"; See primary aim.	Full-service restaurant; Single site; No clear investment in health	Spain; Urban; Not described; N/A.	Researcher-led; Dietary Guideline of Spanish population; No specific funding.	(i) Reduced fat, salt and/or meat content of 9/25 menu items (Product); (ii) Reduced portion sizes of some menu options (Product).
Leven T. Evaluation of the Impact of the Scottish Grocers Federation Healthy Living Programme (HLP) on Community Retailers. Traci Leven Research: 2013. "Scottish Grocers Federation Healthy Living Programme"	"to identify impacts, particularly any longer-term impacts of the HLP training and resources on the community retailers"; Research objectives "Identify if and how the training and/or resources have resulted in any overall financial benefits for the community retailers, in both the short and longer term... Identify any barriers faced by community retailers ... Gather the views about the appropriateness and effectiveness of the HLP for community retailers."	Community retailers including café (n=1), corner store (n=1), Others (F&V co-operative (n=4), fruit barra/stall (n=4); Other community food initiative (n=4); Single site; Community organisations.	UK; Mix; Not described; N/A.	Partnership (industry organisation and federal government); N/A; Federal government funding.	(i) Display stands to promote healthy food (Promotion); (ii) Brochures promoting intervention (Promotion); (iii) Training for retailers in promotion and display of fresh produce (Other).

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Lillehoj CJ, et al. Vending assessment and program implementation in four Iowa worksites. Health Promot Pract. 2015; 16: 814-25.; N/A	"to describe the real-world practice efforts of four worksites to influence worksite vending including successes, challenges, and lessons learned."; See primary aim (successes, challenges and lessons learned).	Vending machine; Not described; 1 County government, 2 manufacturing companies, 1 college workplace.	USA; Mix (2 rural; 2 urban); Pre-intervention surveys. Variable responses depending on site: Manufacturing #1 65.6% 20 to 40 y, 22.4% female. Manufacturing #2 81.8% 20 to 40 y, 18.2% female. County government 43.8% 51 to 60y, 64.7% female, College workplace 48.6% 51 to 60y, 58% female; N/A.	State government-led; Institute of Medicine standards, Iowa Healthy Kids Act, 2005 Dietary Guidelines for Americans; Federal government funding.	TLL classification of beverages and snacks. (i) Non-specific targets for improving the proportion of 'green' and reducing proportion of 'red' snacks and beverages available (Product); (ii) POP promotion of healthier products including TLL stickers (Promotion) and posters (Promotion); (iii) Limited social marketing e.g. newsletter articles about healthy vending (Promotion).
Macaskill LA, et al. Eat Smart! Ontario's Healthy Restaurant Program: a survey of participating restaurant operators. Can J Diet Pract Res. 2003; 64: 202-07.; "Eat Smart! Ontario's Healthy Restaurant Program"	"to assess whether program objectives for participating restaurant operators were achieved during the first year of program implementation, and to obtain operators' recommendations for improving the program"; See primary aim.	Full-service restaurants and quick-service restaurants; Single site; No clear investment in health.	Canada; Not described; Not described; N/A.	State government-led; N/A; Philanthropic funding.	(i) Increased variety of healthy alternatives including side dishes (Product); (ii) Promotion including table tents with message, particularly encouraging increased consumption of F&V (Promotion); (iii) Condiments available on request only (Product); (iv) Multi-buys on healthy alternatives (Price).
Martinez-Donate AP, et al. Evaluation of a pilot healthy eating intervention in restaurants and food stores of a rural community: a randomized community trial. BMC Public Health. 2015; 15: 136.; "Waupaca Eating Smart (WES)"	"to pilot test a community-level intervention to improve the nutrition environment and promote healthy eating in restaurants and food stores of a rural community"; N/A.	Full-service restaurant or café, quick-service restaurant, grocery store; Mixed; No clear investment in health.	USA; Rural; Customer survey data (average over pre/post, intervention and control, restaurant/store): 54.9 y, 68% female, 41% completed college; N/A.	Partnership (researchers and community health group); N/A; University funding.	(G1) Each store or restaurant implemented a range of strategies including (i) POP promotional materials (Promotion); (ii) Menu stickers to identify healthier items (Promotion); (iii) Offering at least 1 healthier option (lower calorie, more F&V) (Product); (iv) Social media promotion including newspaper (Promotion) (n=9); (G2) Control- no intervention (n=9).

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Mason M, et al. Working with community partners to implement and evaluate the Chicago Park District's 100% Healthier Snack Vending Initiative. Prev Chronic Dis. 2014; 11: E135.; "100% Healthier Snack Vending Initiative"	"to evaluate the acceptability, sales impact, and implementation barriers for the Chicago Park District's 100% Healthier Snack Vending Initiative"; See primary aim.	Vending machine; Multisite; Community centre in local park.	USA; Mix (larger regional and smaller neighbourhood parks); Chicago: 2.7million residents, 40% white, 33% black, 29% Hispanic. Park district: 76% of program participants children and youth; Children and youth.	Partnership (community-based organisation, local council, local childhood obesity prevention group); Alliance for a Healthier Generation (AHG) and the American Heart Association (AHA); Philanthropic funding, university funding.	Change in availability from mainly unhealthy snack items (including cookies, candies, chips) to 100% healthy snacks (based on a range of nutrient criteria, including fruit snacks, granola bars and based chips) (Product).
Minaker LM, et al. An evaluation of the impact of a restrictive retail food environment intervention in a rural community pharmacy setting. BMC Public Health. 2016; 16: 1-7.; N/A	"to assess the effect of restricting availability of unhealthy beverage options in the pharmacy on sales of carbonated soft drinks (CSD) at the community level"; "[to examine] whether there was any evidence of "switching" behaviour among stores in the town".	Pharmacy; Single site; Healthcare setting.	Canada; Rural; Approx. 800 residents; N/A.	Retailer-led; N/A; Philanthropic funding.	(G1) Removal of carbonated soft drinks (sugar sweetened and artificially sweetened) from sale. Bottled water and milk remained (Product); (G2) Comparison stores (n=2).

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<p>Närhinen M, et al. Healthier choices in a supermarket. Br Food J. 1999; 101: 99-108.; N/A</p>	<p>"to encourage the supermarket to take health aspects, especially related to salt and saturated fat, into consideration in their marketing and to find out how the customers reacted to this project"; See primary aim.</p>	<p>Supermarket; Not described; No clear investment in health.</p>	<p>Finland; Regional; Customer surveys: 45% 30-49 y, 34% 50-69 y, 62% female, 35% high school education, 30% university; N/A.</p>	<p>Partnership (municipal food control authority and retailer); Healthier items had to be low in salt as per Finnish food legislation. Origin of other criteria not clear; Philanthropic funding.</p>	<p>Target items: Milk and sour milk ($\leq 5\%$ fat), fats & oils incl. spread ($\leq 1\%$ salt, $\leq 33\%$ of fat saturated), sausages ($\leq 1.2\%$ salt or light), rye bread ($\leq 0.7\%$ salt). (P1) Healthier items grouped together with promotional signs (Placement and Promotion); (P2) Promote sales of healthier food in local newspaper (Promotion); (P3) Local newspaper story about program (Promotion); (P4) 'Heart week' in store with local heart association - interactive activities, competitions, displays, cholesterol testing (Promotion).</p>
<p>Naylor P-J, et al. An intervention to enhance the food environment in public recreation and sport settings: a natural experiment in British Columbia, Canada. Child Obes. 2015; 11: 364-74.; "Healthy Food and Beverage Sales in Recreation and Local Government Buildings (HFBS) initiative"</p>	<p>"to evaluate the impact of the HFBS intervention on the food environment in recreation and sport facilities that received funding and support to implement the intervention during the second and third grant phases, compared to facilities that did not"; See primary aim.</p>	<p>Vending machines, Other not further specified in sports and recreation centres, likely kiosks and cafes; Likely multisite (for vending); Sports and recreation centres.</p>	<p>Canada; Mix; Not described; Children.</p>	<p>Partnership (provincial government, parks and recreation association, union of municipalities)⁷; Provencal guidelines for vending in public buildings⁷; Philanthropic funding.</p>	<p>(G1) Healthy food and beverage policies mainly focused on increasing availability of healthy products and decreasing availability of unhealthy products (Product) (n=71 facilities); (G2) Control-no intervention (n=35 facilities).⁷</p>

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Nevarez CR, et al. Salud Tiene Sabor: a model for healthier restaurants in a Latino community. Am J Prev Med. 2013; 44: S186-S92.; "Salud Tiene Sabor"	"to evaluate whether menu labelling and nutrition information at point of purchase have an influence on availability of healthy food options, patron awareness of calorie information, and restaurant owners' support of the program."; See primary aim.	Quick-service restaurant; Single site; No clear investment in health.	USA; Urban; 35% <18 y, 40% earn less than 100% of federal poverty level, 53% of single-mother households live below poverty level, 62.7% Latino, 33.4% African-American; N/A.	Partnership (advocates, small business owners, county public health department); The California Endowment's Healthy Eating Active Communities program. Menu categorisations based on Institute of Medicine (IOM) high school food and beverage standards and the Los Angeles Worksite food standards; Philanthropic funding.	(i) Menu calorie labelling (Promotion); (ii) Detailed nutritional analysis of menu in brochures at POP (fat, sodium, fibre, carbohydrate, sugar, vitamins & minerals) (Promotion); (iii) Modifications to some menu items to be healthier (main dish target ≤ 400kCal; side dish target ≤ 200kCal) (Product).
Ni Mhurchu C, et al. Effects of price discounts and tailored nutrition education on supermarket purchases: a randomized controlled trial. The Am J Clin Nutr. 2010; 91: 736–47.; "Supermarket Healthy Options Project (SHOP)"	"to evaluate the effect of price discounts and tailored nutrition education on supermarket food and nutrient purchases"; See primary aim.	Supermarket; Multisite; No clear investment in health.	New Zealand; Urban; Pre-intervention characteristics of participants: Age 44±13y; 86% female, 52% household income NZ\$60,000 p.a. before tax, 23% Maori, 68% New Zealand European or other; Main household shopper.	Researcher-led; Categorization of food and beverages as "healthier" and "less healthy" was undertaken by using the Heart Foundation's Tick program nutrient profiling criteria; Federal government funding.	(G1) 12.5% price decrease on core foods meeting "Tick" criteria through coupons (n=275) (Price); [Not included- targeted education (G2) targeted nutrition education suggesting healthy "swaps" (n=274); (G3) (G1) + (G3) (n=277)]; (G4) Control- no intervention (n=278).

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Nikolaou CK, et al. Calorie-labelling in catering outlets: acceptability and impacts on food sales. Prev Med. 2014; 67: 160-5.; N/A	"[to examine] the 'nudging' effect on sales of posting the calorie contents at the point of purchase within catering outlets, all commercially-run by the same in house caterer and located within a large urban university site"; See primary aim.	Cafeteria; Single site; University.	UK; Urban; Survey demographics: Staff- mean age 42.4 y, 68% female, Students- mean age 24.2 y, 75% female; University students and staff.	Researcher-led; UK traffic light guidelines; No specific funding.	(G1) POP calorie labelling on cold-foods including salads and sandwiches (Promotion) (n=2 stores); (G2) Control- no calorie labelling (n=1 store).
Nikolaou CK, et al. Supersize the label: The effect of prominent calorie labeling on sales. Nutrition. 2017; 35: 112-13.; N/A	"to test the effects of prominent calorie labelling on sales of the labelled items"; See primary aim.	Café; Single site; University.	UK; Urban; Not described; University students and staff.	Researcher-led; N/A; No specific funding.	(i) POP calorie labelling on muffins and scones (Promotion); (ii) Unlabelled items placed at back of café (Placement).
Oka S, et al. Boiled pumpkin as a nudge: evidence from a university cafeteria. Shikakeology: Designing Triggers for Behavior Change: Papers from the 2013 AAAI Spring Symposium. 2013:74-8.; N/A	"[to examine] the purchasing records in the school cafeteria to determine the influence of meal cards on students' dietary behaviour and suggest ways to improve students' dietary habits"; N/A.	Cafeteria; Single site; University.	Japan; Urban; Not described; University students.	Researcher-led; N/A; No specific funding.	Placement of pumpkin near extra rice bowls as alternative (Placement).

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Olstad DL, et al. Implementing the Alberta nutrition guidelines for children and youth in a recreational facility. Can J Diet Pract Res. 2011; 72: 177.; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	"[to explore] factors influencing the adoption and implementation of the Alberta Nutrition Guidelines for Children and Youth within recreational facilities, and assessed the impact of their implementation on the food environment"; See primary aim.	Kiosk and Vending machines; Multisite (kiosk), Single site (vending machine); Sports and recreation centre.	Canada; Not described; Not described; Children and adolescents.	State government-led; Alberta Nutrition Guidelines for Children and Youth (ANGCY); Federal government funding.	Detailed nutrient criteria used to classify foods into "choose most often" (CMO), "choose sometimes" (CS), and "choose least often" (CLO)". Variety of strategies including: (i) At least 25% vending items CMO (Product); (ii) No premiums on CMO items (Price); (iii) CMO items more prominently displayed (Placement).
Olstad DL, et al. Adopting and implementing nutrition guidelines in recreational facilities: public and private sector roles. A multiple case study. BMC Public Health. 2012;12:376.; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	"[to investigate] the factors that facilitated and acted as barriers to adopting and implementing the ANGCY in recreational facilities in an in-depth way"; See primary aim.	Kiosk; Vending machines; Mixed (1 Multisite, 2 Single site); Sports and recreation centre.	Canada; Not described; Not described; Children and adolescents.	State government-led; Alberta Nutrition Guidelines for Children and Youth (ANGCY); Federal government funding.	Detailed nutrient criteria used to classify foods into "choose most often" (CMO), "choose sometimes" (CS), and "choose least often" (CLO)". Variety of strategies including: (i) At least 25% vending items CMO (Product); (ii) No premiums on CMO items (Price); (iii) CMO items more prominently displayed (Placement). (G1) Full adopter- adopted and implemented ANGCY in concessions and vending machines) (n=1); (G2) Non-adopter (n=1); (G3) Semi-adopter- concessions or vending machines, not both (n=1).
Olstad DL, et al. Adopting and implementing nutrition guidelines in recreational facilities: tensions between public health and corporate profitability. Public Health Nutr. 2013;16(5):815-23.; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	"[to investigate] the food service industry's perspective of factors that influenced their adoption and implementation of the ANGCY in recreational facilities to inform the development of coherent, feasible obesity prevention policies that balance public health and corporate interests"; See primary aim.				

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Olstad DL, et al. Choosing healthier foods in recreational sports settings: a mixed methods investigation of the impact of nudging and an economic incentive. Int J Behav Nutr Phys Act. 2014; 11.; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	"[to assess] the comparative and additive efficacy of two nudges (1. signage with descriptive menu labels; 2. taste testing) and an economic incentive in supporting healthy food purchases by patrons in a naturalistic recreational sports setting"; See primary aim.	Kiosk (outdoor community pool); Single site; Sports and recreation centre.	Canada; Urban; Patrons in the subsample and association with food purchases; 41.1% purchased by adults alone (64.0% female, 38.7% overweight/obese), 15.9% by children alone (55.8% female, 14.3% overweight/obese), 43.0% by adults and children together, observed), primarily Caucasian; Children.	Researcher-led; Alberta Nutrition Guidelines for Children and Youth (ANGCY); Philanthropic funding.	(G1) Items classified as "choose most often" (CMO) (44% available items), "choose sometimes", and "choose least often". (P1) Colourful signage with descriptive menu labels for CMO (Promotion); (P2) P1 + taste testing of CMO items (Promotion); (P3) P1 + P2 + 30% price reduction on CMO items (Price); (P4) Washout (n=1); (G2) Control site (n=1).
Olstad DL, et al. Using traffic light labels to improve food selection in recreation and sport facility eating environments. Appetite. 2015;91:329-35.; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	"[to examine] the impact of [TLL] on purchase of healthy foods by patrons and on overall revenues in a [recreation and sport facility] concession"; See primary aim.	Kiosk; Single site; Sports and recreation centre.	Canada; Urban; Customer demographics (post-intervention): 5.1% 14-17 y 39.1% 18-34 y, 43.3% 35-54 y, 12.5% 55+ y, 46.3% female; Children.	State government-led; Alberta Nutrition Guidelines for Children and Youth (ANGCY); Federal government funding.	TLL on menu board or shelf labels (Promotion).
Olstad DL, et al. If we offer it, will children buy it? Sales of healthy foods mirrored their availability in a community sport, commercial setting in Alberta, Canada. Child Obes. 2015; 11: 156-64.; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	"to assess the independent contribution of increased availability of healthy foods to their sales in a real-world, community sport, commercial setting"; Secondary outcome: "change in sales and revenues per patron".	Kiosk; Single site; Sports and recreation centre.	Canada; Urban; Patrons to the pool: children- 58% female and 4% overweight/obese. Adults 76% female and 39% overweight/obese; Children/	State government led; Alberta Nutrition Guidelines for Children and Youth (ANGCY); Philanthropic funding.	Detailed nutrient criteria used to classify foods into "choose most often" (CMO), "choose sometimes" (CS), and "choose least often" (CLO)". (P1) Signage promoting CMO items (Promotion) (8 days); (P2) P1 + taste testing (Promotion) (8 days); (P3) P1 + P2 + 30% price reductions on CMO items (Price) (8 days).

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Olstad DL, et al. A process evaluation of the Supermarket Healthy Eating for Life (SHELF) randomized controlled trial. Int J Behav Nutr Phys Act. 2016; 13: 27.; "Supermarket Healthy Eating for Life (SHELF)"	"to conduct a process evaluation to investigate the reach, effectiveness, implementation, and maintenance of the SHELF interventions"; See primary aim.	Supermarket; Multisite; No clear investment in health.	Australia; Urban; Population of females in Greater Melbourne: 12% less than high school education, 24% household income <AU\$52,000 p.a., 63% born in Australia, 55% married; Women who are the main household shoppers.	Researcher-led; N/A; Food industry funding, philanthropic funding.	(G1) 20% price reduction applied at checkout on F&V, bottled water and diet and low-calorie carbonated beverages (Price) (n=161); [results excluded- not likely to be feasible for retailer to implement (G2) skill-building intervention (n=160); (G3) G1 + G2 (n=160);] (G4) Control (n=161).
Ortega AN, et al. Substantial improvements not seen in health behaviors following corner store conversions in two Latino food swamps. BMC Public Health. 2016;16:389.; "Proyecto MercadoFRESCO"	"[to] present findings from this community engaged, multi-level corner store intervention project. Baseline and follow-up findings from a survey of community residents are examined with regard to perceptions of the food environment and corner stores as well as patronage, food purchasing, and consumption behaviours."; See primary aim	Corner stores; Single site; No clear investment in health	USA; Urban; East Los Angeles: 97% Latino, 77% overweight or obese; Latino customers	Partnership (retailer organisations, community health organisations, schools); N/A; Philanthropic funding, federal government funding	(G1) (i) Increased availability of fresh F&V (Product); (ii) Social marketing on healthy eating and promoting stores (posters and flyers) (Promotion); (iii) Store renovations including repairs, new refrigeration units (Other); (iv) Removal of unhealthy promotional materials (Promotion); (v) Store layout changes - unhealthy items to back of store and healthy items at front (Placement) (n=3); (G2) Comparison stores- no intervention (n=5). ¹

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<p>Owen L, et al. Change4Life Convenience Stores project- comparing development stores with roll out stores. Department of Health: 2009.; Change4Life</p>	<p>"to assess and compare the impact of the Change4Life Convenience Stores project in pilot 'Development' and 'Roll-out' Stores in the North East of England, and to consider the implications for the wider rollout of the programme in future"; Objectives include "[to] identify and compare the impact of the Change4Life Convenience Stores project (over and above mass media Campaign and its fulfilment materials) in Development Stores, Roll-out Stores and Control Stores in terms of: encouraging people to buy and eat more fruit and vegetables (actual rather than claimed behaviour change), and changing customer perceptions of their convenience store".</p>	<p>Corner store; Mix; No clear investment in health.</p>	<p>UK; Mixed; Low-income areas (for G1); Underserved areas.</p>	<p>Partnership (Convenience store association and UK Department of Health); Convenience Stores Change4Life programme sits within the Government's Healthy Weight: Healthy Lives strategy; Federal government funding.</p>	<p>(G1- Development Stores) (i) New refrigerators for F&V display placed near front of store (Placement); (ii) increased range of stocked F&V (Product) (n=9); (ii) Mailbox drop promoting new F&V range (Promotion); (G2- Roll-out stores) (i) POS promotion material with Change4Life branding (Promotion); (ii) Ambient stand for placing F&V in prominent position (Placement, Other); (iii) Mailbox drop promoting new F&V range (Promotion) (n=17).</p>
<p>Patsch AJ, et al. Improving healthy eating and the bottom line impact of a price incentive program in 2 hospital cafeterias. Am J Health Promot. 2016;30(6):425-32.; "Better Bites"</p>	<p>"to assess the impact of "subsidizing" healthy foods while simultaneously "taxing" unhealthy foods on sales and financial indicators"; See primary aim.</p>	<p>Cafeteria; Single site; Healthcare setting.</p>	<p>USA; Urban; 81% to 86% female, 68% to 78% clinical staff; Hospital employees (primary target), all patrons (secondary target).</p>	<p>Health organisation-led; N/A; Philanthropic funding, local government funding.</p>	<p>(P1 Pre-intervention): Introduction of healthier alternatives (lower in energy, fat, sodium and higher in fibre) (Product). (P2 Main intervention): (i) 35% price differential on healthy vs. unhealthy foods (prices of healthy foods decreased and prices of unhealthy foods and beverages increased) (Price); (ii) POP marketing (logos and signage) on all foods meeting criteria (Promotion).</p>

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Pack MN. Evaluation of the effectiveness of the Fresh and Healthy Program: The University of Texas [Thesis]; 2007.; "The Fresh & Healthy Program"	"to conduct an outcome evaluation study on the effectiveness of The Fresh & Healthy Program, a health promotion project designed to promote healthy eating among The Methodist Hospital employees by labelling and promoting low calorie, low fat items in the hospital cafeteria"; Methods: "In order to capture the overall sales volume, the average number of items sold per day in the Market Place was calculated for baseline, post-intervention, and follow-up. "	Cafeteria; Multisite (Contract company which manages the hospital foodservice); Healthcare setting.	USA; Urban; Hospital Human Resources Department data: mean age 41.4 y, 77% female, profession - 27% nursing, 16% clerical, 7% management, 13% professional, 18% service and technical, 36.74% white, 32.09% black; Hospital employees who dine at cafeteria.	Health organisation-led; N/A; No specific funding.	(i) Menu labelling of Fresh & Healthy entrees (<500 kCal, <30% kCal from fat/<17g), or sides (<200 kCal, < 30% kCal from fat/<7g) (Promotion); (ii) Program participants receive coupons for purchasing Fresh & Healthy items which they can redeem for more Fresh & Healthy items (Price).
Payne CR, et al. Shopper marketing nutrition interventions: Social norms on grocery carts increase produce spending without increasing shopper budgets. Prev Med Rep. 2015;2:287-91.; N/A [Study 1]	"[to assess] the efficacy of an easy-to-implement shopper marketing nutrition intervention in a pilot and two additional studies to increase produce demand without decreasing store profitability or increasing shopper budgets"; See primary aim.	Grocery store; Multisite; No clear investment in health.	USA; Urban; Customer demographics (Store 1): 53% female, 6.7% unemployed, 25.3% finished high school, 94.5% Hispanic; N/A.	Researcher-led; N/A; Philanthropic funding.	(G1) Placard with text and pictorial promotion messages for fresh F&V purchasing placed on inside and outside of all grocery carts (Promotion). (G2) Control- no intervention (n=1).

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Payne CR, et al. Shopper marketing nutrition interventions: Social norms on grocery carts increase produce spending without increasing shopper budgets. Prev Med Rep. 2015;2:287-91.; N/A [Study 2]	"[to assess] the efficacy of an easy-to-implement shopper marketing nutrition intervention in a pilot and two additional studies to increase produce demand without decreasing store profitability or increasing shopper budgets"; See primary aim.	Grocery store; Multisite; No clear investment in health.	USA; Not described; Not described; N/A.	Researcher-led; N/A; Philanthropic funding.	Placard with text and pictorial promotion messages for fresh F&V purchasing placed on inside and outside of all grocery carts (Promotion).
Rahkovsky I, et al. Effects of the Guiding Stars Program on purchases of ready-to-eat cereals with different nutritional attributes. Food Policy. 2013;43:100-7.; "Guiding Stars Program"	"to determine if the GSP increased sales at Hannaford stores of ready-to-eat (RTE) cereals that the GSP considers more nutritious at the expense of RTE cereals that the GSP considers less nutritious"; See primary aim.	Supermarket; Multisite; No clear investment in health.	USA; Mix; Not described; N/A.	Retailer-led; Dietary Guidelines for Americans; No specific funding.	(G1) (i) Shelf labelling of 0,1,2, or 3 stars based (more star= more nutritious) based on macro and micronutrient content. Products with 0 stars have no shelf tag (Promotion) (n=134); (G2) Control- no intervention (n=134).
Reinders MJ, et al. Menu-engineering in restaurants - adapting portion sizes on plates to enhance vegetable consumption: a real-life experiment. Int J Behav Nutr Phys Act. 2017;14(1):41.; "Meer groente & fruit voor iedereen" (More vegetables and fruit for everyone)	"to investigate whether increased portion sizes of vegetables and decreased portion sizes of meat in a main dish increase the amount of vegetables consumed in a real-life restaurant setting without affecting customer's satisfaction."; See primary aim.	Full-service restaurant; Multisite; No clear investment in health.	Netherlands; Urban; Customer survey: mean age 48.6 ±17.5y, 54% women, 37% university educated, 28% vocational education, 35% high school education; N/A.	Public-private partnership (Economics department and fresh produce industry group); N/A; Federal government funding, food industry funding.	Crossover-design. (i) Vegetable portion sizes increased by 100% (Product); (ii) Meat portions reduced by 12.5% (Product).

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
Resnick MP, et al. Marketing can change consumers' perceptions of healthfulness of items served in a worksite cafeteria. J Am Diet Assoc. 1999;1265-7.; N/A	"to determine the degree to which promotion of healthful meals influences consumers' perceptions of the quality of a medical centre cafeteria"; See primary aim.	Cafeteria; Single site; Healthcare setting (employee cafeteria).	USA; Urban (Medical Centres); Not described; Medical centre employees and students.	Researcher-led; N/A; No specific funding.	Nutrition information including energy content, fat content, and percentage energy from fat used to identify "Healthy Alternative" meal (500kcal and less than 30% of energy from fat). (i) Table tents promoted the intervention (Promotion); (ii) Poster display of healthy meal of the day (Promotion); (iii) Handouts of weekly meal specials (Promotion).
Rosi A, et al. How to improve food choices through vending machines: the importance of healthy food availability and consumers' awareness. Food Qual Prefer. 2017;62:262-9.; N/A	"[to raise] purchases and intakes of healthy foods/ beverages in [vending machines] by applying two different strategies focused on: (i) the increase of healthy product availability, achieved by improving the nutritional quality of [vending machine] products, and (ii) the promotion of healthier food options through nutrition communication."; [evaluation aim not given]; N/A.	Vending machine; Single site; University.	Italy; Urban; University staff and students; N/A.	Researcher-led; None; No specific funding.	(G1) Comparison- 25% of products (snacks, ready-to-eat meals and beverages) in each of the following categories "healthy +", "healthy -", "unhealthy -", and "unhealthy +" (Product); (G2) Nutritional claims per product e.g. ("high fibre") (Promotion); (G3) Items labelled next to product used star rating system according to classification "healthy +" (3 stars), "healthy -" (2 stars), "unhealthy -" (1 star), and "unhealthy +" (0 star) categories were branded with three, two, one, and zero stars, respectively (Promotion).

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
Roy R, et al. The effect of energy labelling on menus and a social marketing campaign on food-purchasing behaviours of university students. BMC Public Health. 2016;16:727.; N/A	"to evaluate the feasibility and effectiveness of the implementation of kJ labelling in an on-campus food outlet as a prelude to a proposed university-wide roll out. The study examined the impact of POP energy information on the sales of different foods and measured customers' awareness and knowledge about the kJ labels and usage without and with a social marketing campaign."; See primary aim.	Quick-service restaurant; Single site; University.	Australia; Urban; Study demographics: approx. 50 to 64% female; N/A.	Retailer (University)-led) "New South Wales Food Authority in Australia instituted a mandatory kJ menu labelling program"; No specific funding.	(P1) Energy (kJ) menu labelling (Promotion); (P2) P1 + social marketing campaign including website and infographics (Promotion).
Sacks G, et al. Impact of 'traffic-light' nutrition information on online food purchases in Australia. Aust N Z J Public Health. 2011;35(2):122-6.; Health Promotion International; N/A	"to examine the impact that the introduction of the [UK Food Standard Agency] recommended front-of-pack traffic-light labelling scheme has had on food sales in a major UK supermarket chain"; See primary aim.	Supermarket; Multisite; No clear investment in health.	UK; Mix; Not described-sample approximately representative of UK population; N/A.	Federal-government-led; In 2006, UK Food Standards Agency recommended front-of pack traffic-light labelling; No specific funding.	Introduction of FOP TLLs on 23 own-brand ready meals (15% of total Ready Meals) and 49 sandwiches (14% of total sandwiches) (Promotion).
Sato JN, et al. J Foodserv Bus Res. 2013;16(2):155-68.; "Healthy Picks campaign"	"to determine if nutrition education in the form of nutrient food labels is a cost-effective way to increase customer purchases of healthier entrées in a hospital worksite cafeteria"; See primary aim.	Cafeteria; Single site; Healthcare setting and workplace.	USA; Urban; Customer survey: 37% 31-49 y, 45% 50+ y, 72% college graduate, 29% Asian, 52% white, 70% of customers hospital employees; N/A.	Health-organisation led; N/A; No specific funding.	Unclear description: (P1- Pre-intervention) (4 w); (P2- Intervention 1): Healthier menu items introduced (\leq 35% energy from fat, <10% energy from saturated fat, <1000mg sodium per main dish serve) (Product)(4w). (P3- Intervention 2): Healthy menu items + Nutrient food labels of sodium, fat and calorie displayed, as well as modified menu items (Promotion) (4 w).

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Seo S, et al. What makes restaurateurs adopt healthy restaurant initiatives? Br Food J. 2017;119(12):2583-96.; N/A	"to uncover what affected restaurateurs in their intention to participate in the healthy restaurant initiative"; See primary aim.	Full-service restaurant; Mix; No clear investment in health.	South Korea; Urban; Not described; N/A.	Partnership (Federal-government, health organisation and local government led); Korean nutrition standards; Local government funding.	(i) Improving healthiness of menu through reformulation and identification of healthy meals (<700 calories, 20 g fat, 1,400 mg of sodium per serve) (Product); (ii) POP and media promotion including written education materials (Promotion); (iii) Logo used to identify healthy menu items (Promotion).
Song H-J, et al. A corner store intervention in a low-income urban community is associated with increased availability and sales of some healthy foods. Public Health Nutr. 2009;12.; "Baltimore Healthy Stores (BHS)"	"to present the results of the feasibility trial of a corner store intervention in a low-income urban community"; First research question "How acceptable was the programme to storeowners? What was the impact of the programme on storeowners' psychosocial factors?"	Supermarkets, corner stores; Multisite supermarkets; No clear investment in health.	USA; Urban; East and West Baltimore: median household income US\$17,000–18,000 compared to US\$30,000 in Baltimore City, 85–90% African-American; N/A.	Researcher-led; N/A; University funding, federal government funding.	Promotion of 10 healthy foods. (G1) (i) In-store posters, flyers, shelf labels (Promotion); (ii) Guidelines & training for storeowners to improve stocking of healthy foods (Product); (iii) Promotional activities (taste tests, incentives, giveaways) (Promotion) (n=9); (G2) Comparison stores - no intervention (n=6).
Stastny SN, et al. Effect of nutrition facts panel and ingredient declaration on customer satisfaction and nutrition perceptions in a table-service restaurant at midday meal. J Foodserv Bus Res. 2011;14(4):310-33.; N/A	"to (1) investigate the association of customer responses to nutrition and satisfaction ratings given either an experimental (nutrition facts panel) or control environment and (2) explore the effect of availability of nutritional information on the association of customer responses to nutrition and satisfaction rating"; See primary aim.	Full-service restaurant; Single site; University.	USA; Urban; University staff and students; N/A.	Researcher-led; Nutritional Labelling and Education Act nutrition facts requirements and formats; No specific funding.	New healthy menu with each item < 800kCal, < 1000mg Na, < 30%kCal from fat, ≥ 9g fibre per serve meals (Product). (G1) Healthy menu + POP nutrition information on table tents (Promotion); (G2) Control- Healthy menu + fun facts panels presented instead of nutrition information.

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
<p>Steenhuis I, et al. Process evaluation of two environmental nutrition programmes and an educational nutrition programme conducted at supermarkets and worksite cafeterias in the Netherlands. J Hum Nutr Diet. 2004;17:107–15.; N/A</p>	<p>"to describe the process evaluation which was undertaken with the managers of the supermarkets and worksite cafeterias where the interventions were implemented in order to identify other possible reasons for the ineffectiveness of the nutrition education programme and the environmental components"; See primary aim.</p>	<p>Cafeteria (Workplace), supermarket; Multisite (supermarket); Supermarkets (No clear investment in health), cafeterias (Workplace).</p>	<p>Netherlands; Not described; Not described; N/A.</p>	<p>Researcher-led; N/A; No specific funding.</p>	<p>Supermarkets: (G1) (i) POP nutrition education including recipe cards and posters promoting lower fat intake (Promotion); (ii) Shelf label with program logo on low-fat products (Promotion) (n=4); (G2) (G1-i) only (n=5); (G3) Control- no intervention (n=4).⁸ Workplaces: (G1) (i) POP nutrition education including table tents (Promotion); (ii) Article in worksite newsletter (Promotion); (iii) Low-fat products and F&V labelled with logo in front of products (Promotion) (n=4); (G2) (G1-i) + (G1-ii) + increased range of low-fat products and F&V (at least 4 new products) (Product) (n=4); (G3) (G1-i) and (G1-ii) (n=5); (G4) Control- no intervention (n=4).⁹</p>
<p>Teisl MF. Nutrition labeling: Information effects on consumer behavior and welfare. Department of Agriculture and Resource Economics. University of Maine: Orono, Maine 1998.; N/A</p>	<p>"to measure the effects of providing simplified nutrient information on consumer purchase behaviour and welfare"; See primary aim.</p>	<p>Supermarkets; Multisite; No clear investment in health.</p>	<p>USA; Not described; Range of average store customer data for included neighbourhoods: household incomes range US\$17,000 to \$42,000 pa; aged 28 to 40 y; 9.1 to 14.2 y of schooling; 76% to 99% white; N/A.</p>	<p>Public-private partnership (US food and Drug Administration and Stop & Shop Supermarkets); N/A; No specific funding.</p>	<p>(G1) P1 (1986): (i) Shelf tags highlighted whether product was low or reduced in fat, cholesterol, sodium, calories (Promotion); (ii) information material (booklets, posters with nutrition info and explanation of program) (Promotion); (iii) Media campaign (Promotion). P2 (1987-88): Nutrition labelling only. P3 (1989): same as P1. (G2) Control stores- no nutrition labels (n=12).</p>

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Thorndike AN, et al. A 2-phase labeling and choice architecture intervention to improve healthy food and beverage choices. Am J Public Health. 2012; 102: 527-33.; "Choose Well, Eat Well"	"[to assess] whether a 2-phase labelling and choice architecture intervention would increase sales of healthy food and beverages in a large hospital cafeteria"; See primary aim.	Cafeteria; Single site; Healthcare setting.	USA; Urban; From regular customer surveys: mean age 43 y, 58% management/clinicians, 73% female, 75% White; N/A (Thorndike, 2014).	Health organisation-led; Labelling based on United States Department of Agriculture's 2005 My Pyramid healthy eating recommendations; University funding, federal government funding, philanthropic funding.	(P1) TLL on menu boards and permanent signage (based on fruit/vegetables, wholegrain and lean protein or dairy as primary ingredients) (Promotion); (P2) P1 + product display rearranged to make 'green' items more visible and 'red' items less visible (Placement).
Thorndike AN, et al. Traffic-light labels and choice architecture: promoting healthy food choices. Am J Prev Med. 2014; 46: 143-9.; "Choose Well, Eat Well"	"to evaluate whether the increase in sales of healthier items was maintained over the 24 months following implementation of the intervention by comparing sales at 12 and 24 months to a baseline period prior to the labelling"; N/A.				
Turconi G, et al. Helping consumers make a more conscious nutritional choice: acceptability of nutrition information at a cafeteria. Public Health Nutr. 2012; 15: 792-801.; N/A	"to carry out an investigation on the nutritional value of the meals offered by a university cafeteria in Pavia, northern Italy, in order to develop a tool for an informed nutritional choice"; N/A.	Cafeteria; Single site; University.	Italy; Urban; Participant demographics: mean age 29 y, 48.7% female, 66.8% university students, 53.2% secondary school degree; 29.1% graduates; N/A.	Researcher-led; N/A; No specific funding.	POP posters (pyramids) displaying calorie content of dishes and classifying menu options into red, amber, 'green' based on energy and nutrient content (Promotion).

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van Assema P, et al. Evaluation of a Dutch public-private partnership to promote healthier diet. Am J Health Promot. 2006; 20: 309-12.; "Hartslag Limburg" (Dutch for "Heartbeat Limburg")	"to assess customers' exposure to and acceptability of the public-private campaign and to determine effects on buying lean meat and using liquid margarine, as well as on behavioural intentions and perceived encouragement"; See primary aim.	Butcher's shops; Multisite; No clear investment in health.	Netherlands; Not described; Customer surveys: mean age 50.1±13.8y, 78% female, 46% secondary vocational or high school degree; N/A.	Public-private partnership (Public Health Institute and owner of chain of butcher's shops); N/A; Local government funding, food industry funding.	(G1) (i) Labelling of lean meat products and liquid margarines at POP to identify healthier alternatives with campaign logo (Promotion); (ii) POP recipes (Promotion); (iii) Liquid margarine lower price than supermarkets (Price); (iv) Price reductions of 20% on 3 labelled products per week (Price); (v) Broader publicity including TV and print media campaigns (Promotion) (n=12). (G2) Control- no intervention (n=6).
van der Feen de Lille J, et al. Fat Watch: a nationwide campaign in The Netherlands to reduce fat intake—process evaluations. Nutr Health. 1998; 12: 107-17.; "Fat Watch"	"[to provide] an overview...of the Fat Watch campaign and the design of its evaluation studies. For the first three years, data on the participation of the intermediaries and the awareness of the target group with the campaign will be presented and discussed"; See primary aim.	Supermarket; Mix; No clear investment in health.	Netherlands; Mix; Year 1 study demographics: 41% 35-54y, 32% 55+y, 80% female, education - 41% low, 41% middle, 18% high; Consumers responsible for household food purchases.	Partnership (Steering Group Healthy Diet - food industry, retailers, nutrition education, consumer affairs, government); Dutch Dietary Guidelines; Partnership funding including federal government.	(i) POP posters and brochures on reducing fat intake (Promotion); (ii) Mass media campaign on reducing fat intake (Promotion); (iii) Food industry promotion (Promotion) and price reduction of low-fat products (Price).
van Hulst A, et al. Can J Diet Pract Res. 2013; 74: 28-34.; "Health promoting vending machines (HPVM)" project	"to use a pre- and post-intervention evaluation design to measure the impact of health promoting vending machines (HPVMs) on consumers' attitudes toward and practices with vending machines"; See primary aim	Vending machine; Single site; Healthcare setting	Canada; Urban; Pre-intervention customer survey: 61% 25 to 39 y, 68% female, 41% university educated; Parents of paediatric patients	Health organisation-led; Eating Well with Canada's Food Guide; Institute of Medicine Nutrition Standards for Foods in Schools; American Heart Association Guidelines.; Philanthropic funding	(i) Replacement of vending machines with healthier options including low-fat milk and yoghurt, fruit juices up to 250mL, wholegrain muesli bars and fresh sandwiches and fruit (Product); (ii) Interactive touch screens displaying nutritional information and games encouraging healthier food purchases (Promotion).

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
van Kleef E, et al. Healthy snacks at the checkout counter: a lab and field study on the impact of shelf arrangement and assortment structure on consumer choices. BMC Public Health. 2012; 12: 1072.; "Healthy Snacks at the Checkout Counter"	"to examine the effects and interplay between shelf arrangement and assortment structure on consumer choices for healthy and unhealthy snack products"; Secondary aim "[to examine] participants' perception of their freedom in making choices and choice satisfaction".	Canteen; Single site; Healthcare setting.	Netherlands; Not described; Customer survey: Mean age 41.3±11.3y; N/A.	Researcher-led; Guidelines from the Netherlands Nutrition Centre; No specific funding.	4 phases of intervention (order not clear) (Product, Placement): (P1) 25% healthy snack items displayed on top shelves; (P2) 25% healthy snack items on bottom shelves; (P3) 75% healthy snack items on bottom shelves; (P4) 75% healthy snack items on top shelves.
Vermeer WM, et al. The process evaluation of two interventions aimed at portion size in worksite cafeterias. J Hum Nutr Diet. 2012; 25: 180-88.; Cafeteria portion size intervention	"to assess whether offering a smaller hot meal, in addition to the existing size, stimulates people to replace their large meal with a smaller meal"; Secondary aim "[to assess] ...what attitudes consumers have toward the availability of smaller meals".	Cafeteria (15 hospitals, 5 private companies, three universities, 2 police departments); Single site; Mix including workplaces (including 15 hospitals, 5 companies, 3 universities, 2 police departments).	Netherlands; Not described; Customer survey data: mean age 39.2±11.3y, 50% female, 70.5% tertiary educated, 34.1% overweight or obese; Cafeteria visitors.	Researcher-led; N/A; Philanthropic funding.	(G1) (i) Smaller portion sizes introduced in addition to existing larger portions (Product); (ii) smaller portions offered at same price per gram (Price)(n=9); (G2) (i) Smaller portion sizes introduced (Product); (ii) "Value-pricing" for smaller portions i.e. smaller portions cost more than equivalent price per gram of larger portions (Price) (n=8); (G3) Control- status quo (n=8).
Vermeer; 2012; The process evaluation of two interventions aimed at portion size in worksite cafeterias; Journal of Human Nutrition & Dietetics; Cafeteria portion size intervention	"to describe the process evaluation of offering smaller meals in addition to the existing size and proportional pricing in worksite cafeterias"; See primary aim.				

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Waterlander WE, et al. Price discounts significantly enhance fruit and vegetable purchases when combined with nutrition education: a randomized controlled supermarket trial. Am J Clin Nutr. 2013; 97: 886-95.; N/A	"to examine the effects of a 50% discount on F&V or nutrition education or a combination of both on supermarket purchases."; See primary aim.	Supermarket; Multisite; No clear investment in health.	Netherlands; Rural; Village populations from 3300 to 6100 people. Participants mean age 51.7±12.4y, 96% female, 48.8% intermediate vocational education level, 96.5% Dutch ethnicity, 52.6% Body Mass Index >25kg/m ² ; Low SES.	Partnership (researcher and supermarket owners); N/A; Philanthropic funding.	(G1) 50% price discount on F&V through coupons (Price)(n=55); [Excluded from analysis (G2) recipe books, telephone counselling (n=49); (G3) G1 + G2 (n=50)]; (G4) Control (n=45).
Webb KL, et al. Menu labeling responsive to consumer concerns and shows promise for changing patron purchases. J Hunger Environ Nutr. 2011; 6: 166-78.; N/A	"[to examine] patron views regarding a worksite calorie labelling program and examines rigorous information on change in patron purchases in control and intervention cafeteria settings"; See primary aim.	Cafeteria; Multisite; Healthcare setting, workplace.	USA; Mix; Customer surveys (range of intervention sites): 46.1 to 51.0% aged 30 to 49 y, 63.8-67.0% female, 44.4 to 47.8% college graduate, 71.8-70.8% target healthcare service employee; N/A.	Health organisation-led; Current initiative implemented addition to "Healthy Picks" program already in place (logo identifying healthiest choices); Healthcare organisation funding.	(G1) (i) Calorie and nutrient labelling on posters (Promotion); (ii) POP menu energy labelling (Promotion) (n=2); (G2) Calorie and nutrient labelling on posters only (Promotion) (n=2); (G3) Control - status quo (n=2).

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
Winkler LL, et al. Substituting sugar confectionery with fruit and healthy snacks at checkout - a win-win strategy for consumers and food stores? a study on consumer attitudes and sales effects of a healthy supermarket intervention. BMC Public Health. 2016; 16: 1184.; Project Sundhed & Lokalsamfund ("Project SoL")	"to examine consumer attitudes regarding roles and responsibilities of supermarkets in health promotion and to evaluate sales effects of a healthy checkout supermarket intervention"; See original aim.	Supermarket; Multisite; No clear investment in health.	Denmark; Rural; Customer surveys: 67% female; mean age 45.5y; Parents shopping with children.	Partnership (retailer and researcher); N/A; Philanthropic funding.	(G1) Confectionary replaced with healthy snacks including fresh and dried fruit and unsalted nuts at 1 checkout per store (Placement) (n=4 stores); (G2) Control- no intervention (n=24).
Wolfenden L, et al. Improving availability, promotion and purchase of fruit and vegetable and non sugar-sweetened drink products at community sporting clubs: a randomised trial. Int J Behav Nutr Phys Act. 2015; 12: 35.; N/A	"to assess the effect of a multi-component intervention on i) the availability of F&V and non sugar-sweetened drink products at community sporting club canteens, ii) the promotion of F&V and non sugar-sweetened drink products at community sporting club canteens and iii) sporting club member purchasing of F&V and non sugar-sweetened drink products from community sporting club canteens"; Secondary aim "[to assess] the impact of the intervention on club income from the sale of foods and non-alcoholic beverages from the club canteen".	Kiosk; Single site; Sporting club.	Australia; Mix of urban and rural; Participant demographics: Intervention: mean age 36y, 22.6% female, 21% university education, Income > AU\$52,000: 49.3%. Control: mean age 33y, 13% female, 23.2% university education, 48% Income > \$52,000; N/A.	Researcher-led (collaboration with clubs); N/A; Federal government funding.	(G1) (i) Increased availability and of F&V (≥ 6 F&V items e.g. fruit salads, salad sandwiches) (Product); (ii) 75% non-alcoholic beverages in fridge were non-SSBs (Product); (iii) Non-SSBs positioned in the top portion of fridge and F&V products displayed prominently (Placement); (iv) Healthy and unhealthy products price competitively (e.g. non-SSBs lower price than SSBs) (Price); (v) Meal deals included healthy combinations (e.g. water and fruit) (Product); (vi) Coaches asked to recommend water and fruit consumption during games (Promotion); (vii) Resources on non-nutrition interventions, e.g. illicit drugs (n=42); (G2) Control- clubs provided with resources on non-nutrition interventions, e.g. illicit drugs (n=43).

Full reference; Intervention "name"	Stated primary aim of evaluation; Stated aim/ objective relating to business outcome	Retailer type; Multisite or single site organisation; Retailer investment in health	Country; Urban, regional or rural; Population demographics; Target population	Motivation for intervention; Policy; Source of evaluation funding	Summary of intervention- change to retail environment
Zick A, et al. Nutrition labelling in restaurants: a UK-based case study. Nutr Food Sci. 2010; 40: 557-65.; N/A	"to investigate the process involved in the implementation of a menu with nutritional labelling, in order to assess the feasibility of such a scheme, using a UK hotel restaurant as a case study"; See primary aim.	Full-service restaurant; Multisite; No clear investment in health.	Italy; Urban; University staff and students; N/A.	Researcher-led; References to UK Food Standards scheme to encourage calorie labelling at POP; No specific funding.	(i) Creation of 'healthy' menu- targets not clear (Product); (ii) Menu labelling with kcal, fat, saturated fat, poly-unsaturated fat, fibre and sodium content per serve (Promotion).

ASB, artificially sweetened beverages; FOP, Front-of-pack; F&V, Fruit and vegetables; m, months; N/A, Not applicable; p.a., per annum; POP, point-of-purchase; TLL, Traffic light labelling;

USA, United States of America; w, weeks; WIC, US Special Supplemental Nutrition Program for Women, Infants, and Children; y, years

Table S6: Study design of included studies

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Adam; 2017; N/A	Quantitative non-randomized; Pre-post with control; 5w; 5w; N/A.	Convenience; 10 supermarkets [5 intervention, 5 control]; N/A.	N/A.	Revenue: Electronic sales data- Not further specified.	Supermarkets from same chain in similar geographic areas that did not undergo intervention (n=5); Difference in difference analysis using fixed effect models. Outcome variable as kroner sales (revenue); Price, promotions, time after intervention.
Albert; 2017; "Proyecto MercadoFRESCO"	Quantitative non-randomized; Pre-post with control; Cross-sectional; Up to 4y. Not described but controlled for time since opening; 5m.	Not described; Pre: 8 stores (3 that became intervention and 5 that became comparison), interviews at 3 intervention and 3 comparison stores; Not described.	Convenience sample of exiting customers; 1124 customers [642 pre, 482 post]; 65% (pre and post).	Store patronage: Customer surveys- In person intercept surveys with 15 items incl. "How often do you shop for food at this convenience store?" ('more than once a day', 'once a day', 'a few times a week', 'a few times a month', 'every once in a while'). Customer expenditure on food: Customer surveys- Participants asked to report total dollars spent on food per week and how much spent on F&V.	Stores that were not converted (n=5); For comparison between intervention and control groups: Chi-squared tests for dichotomous variables, F tests on interaction term (intervention vs. control) within linear regressions for continuous variables; Number of days from store re-opening to post-intervention interview.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Andreyeva; 2011; "US Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)"	Mixed methods; Pre-post with control; Cross- sectional (3-6m pre); 6-8m prior to follow-up survey, ongoing; 6-8m, cross- sectional.	Purposive sampling; Pre-intervention: 68 retailers [40 intervention, 28 control], Post- intervention: 58 retailers; 100%.	Convenience; Pre- intervention: 68 retailers [40 intervention, 28 control], Post- intervention: 58 retailers; Mean pre and post= 64%, 85% completed follow-up.	Community stewardship, Customer demand for healthy items, Profitability, Retailer level of satisfaction with strategy: Retailer interviews- Structured interview including questions to assess (i) perceived demand of 18 food categories, "[Product] sells well in my store" on a 6-point scale (strongly disagree, to strongly agree); (ii) Perceived profitability for each product category, "Generally speaking, how much profit do you make from selling [product]?" 5- point scale (very little to best of all foods); (iii) "[should retailers] play a role in increasing the availability of healthy food in the store neighbourhood?" Customer demand, Community stewardship: Retailer interviews- assessed by ratings on 6-point scales "(i) the food they sold was healthy; (ii) they should play a role in increasing the availability of healthy food in the store neighbourhood; and (iii) if they stocked healthy food, their customers would have a better diet; (iv) whether their sales would go down if they stocked healthier foods; and (v) whether their customers looked for healthier food in stores."	Non-WIC stores- matched on store- type and proximity to WIC retailers (n=51); Differences in means summary measure for perceived profitability of healthy foods, means of perceived profitability for included foods. Pre/post and intervention/ control compared with t-test; Products excluded if high hypothetical demand or significant differences between actual and hypothetical.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Anzman-Frasca; 2015; "LiveWell Program"	Quantitative non-randomised; Pre-post without control; 7m; 3y; N/A.	Representative sample of geographic locations of chain's restaurants; 13 restaurants; 100%.	N/A.	Revenue: Sales data from restaurant's central sales database- Annual revenue.	Pre-intervention period; Trends analysis compared percentage pre- and post-intervention changes in sales (no statistical comparison); Not described.
Auchincloss; 2013; N/A	Quantitative non-randomised; Cross-sectional (post-only with control); N/A; Cross-sectional at 1 y, Ongoing; N/A.	Convenience; 7 full service restaurants [2 intervention, 5 control]; Not described.	Purposive; 721 customer surveys; 50%.	Spend per transaction: Anonymous customer survey developed from previous surveys with sales receipt collection- Used to calculate total sales and dollars spent per person.	Stores located in neighbouring states without calorie-labelling requirements from same chain (n =5); Purchase of non-alcoholic beverages: t-test or chi-squared. Cost of food purchased and number of items ordered: linear regression; Customer demographic characteristics.
Ball; 2015; "Supermarket Healthy Eating for Life (SHELf)"	Quantitative RCT; Pre-post with control; 3m; 3m; 6m.	Any supermarket in chain; 2 supermarkets used to identify customer sample, but the discount could be received in any store in the chain; 100%.	Computer-generated block-randomization sequence; 642 women [161 for price intervention only; 161 control]; 23%.	Time and/or cost associated with implementation and maintenance: Project records- Hourly rate + oncost (for staff time); Market price (for material costs); 30% of total program cost (for overheads). Return on investment: Electronic sales data from customer loyalty cards- purchasing outcome (costs as above).	Control group (n=161); Absolute cost estimates; N/A.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Bedard; 2015; "Nutricate"	Quantitative non-randomized; Pre-post with control; 75w; 50w; N/A.	Purposive; 39 quick service restaurants [1 intervention, 38 control]; N/A.	N/A.	Total sales, Revenue: Electronic sales data- Weekly data recording number of transactions and total revenue per store.	A number of different control group methods, including a synthetic control group using weighted measures from non-intervention stores (n=37); Multiple analysis approaches tested. Preferred method was difference in difference analysis using fixed-effects regression using synthetic control store constructed using weighted average of measures from the 37 control stores; Newey-West standard errors used to control for autocorrelation effects.
Bergen; 2006; "Stimulating Sales of Diet Drinks among Adults"	Quantitative RCT; Pre-post with control; 2w; 5w; 2w.	All vending machines within same campus centre; 8 machines; 100%.	N/A.	Revenue and Total sales: Electronic vending machine sales data- Total numbers of each beverage sold and revenue for each machine.	Machines within same building with no signage (n=2); One-way ANOVA and Tukey's post hoc test; Not described.
Berkowitz (Patterson dental); 2015; N/A	Mixed methods; Pre-post without control; 5w; 7w; N/A.	Convenience; 1 cafeteria; Post-intervention survey: 33-50%.	Retailer interviews - Purposive (assumed); 2 interviewees (management team); Not described. Customer surveys - Purposive (assumed); 91 surveys [50 pre, 41 post]; Customer post-intervention survey: 33-50%.	Time and/or cost associated with implementation and maintenance, Customer demand for healthy items: Retailer (interviews), in-person post-only structured interview with manager- Questions about implementation challenges, customer feedback and perceived business impact. Customer level of satisfaction with store, Customer level of satisfaction with strategy: Customer surveys- Pre-post emailed membership surveys including questions on number of days of café use in previous 2 weeks; Satisfaction questions- Scale from 1	Pre-intervention period; T-tests used to compare plate waste pre- and post-intervention. Chi-squared tests compared pre- and post-survey data, analysis method for interview not given; Entrée with significantly greater proportion of purchases post than pre was excluded (determined by test of equal proportions).

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
				(not at all satisfied) to 5 (completely satisfied). Wastage: Plate waste- Measured using digital scales and calculations based on pre-determined standard plate weight, recorded on data collection sheet.	
Berkowitz (Town and Country Club); 2015; N/A	Mixed methods; Pre-post without control; 3w; 4w; N/A.	Convenience; 1 club; Not described.	Purposive (assumed); 2 staff interviews; Not described.	Customer demand for healthy items, Profitability: Staff interviews with chef and assistant manager- Included questions about implementation challenges, customer feedback and perceived business impact. Wastage: Plate waste- Measured using digital scales and calculations based on full plate weight and finished plate weight.	Pre-intervention period; T-tests used to compare plate waste pre- and post-test. Chi-squared tests compared pre- and post-survey data; N/A.
Biediger-Friedman; 2014; !Por Vida!	Quantitative descriptive; Post-only without control; Cross-sectional; Not described; Ongoing.	Not described; 4 restaurants (pilot-customer survey data for BMOs); Not described.	Not described; 95 customer surveys; Not described.	Customer level of satisfaction with strategy: Post-intervention customer surveys- Questions included whether customers "liked the look of the new menu" and "liked the portion size", whether their "children liked the food". For those who selected a healthy item, asked whether "the logo helped them choose the item".	None; Descriptive statistics; None.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Bleich; 2014; N/A	Quantitative non-randomized; Case-crossover; 4w; 11w (2w per intervention with 1w washout in between); 6w.	Purposive recruitment of store close to high-schools in areas with >70% Black areas; 6 stores; Not described.	Random sample of back adolescents between approx. 12 to 18y; Total 4516 purchases [35 adolescent purchases per store per week of data collection]; 100% (involuntary observation).	Total sales: Hand-recording of sales data by research assistants- Proportion of customers who purchased a beverage item.	Case-crossover; Multivariate regression using pre-post design; Store type, customer gender, time of day, average monthly temperature.
Block; 2010; NA	Quantitative non-randomized; Pre-post with control; 2w; 16w. Each intervention phase (P2, 4 and 5) and washout phase (P3) lasted 4w; N/A.	Convenience; 2 hospitals [1 intervention; 1 control]; Not described.	N/A	Total sales, Revenue: Manual entry of items at cash register- Number of items sold and net revenue collected using daily sales sheets from cafeteria.	Sales from nearby hospital without pricing intervention- 2 cafeteria and a beverage stand [not relevant for BMOs]; Interrupted time series compared total item sales/revenue for each intervention phase (pre-intervention reference phase); Day of the week, public holidays, total sales of beverages assumed not be affected by intervention (e.g. milk and tea), autocorrelation.
Boelsen-Robinson; 2017; Healthy vending machine policy	Mixed methods; Retrospective longitudinal; 30m; 12m; Ongoing.	All vending machines at convenience sample healthcare service; 37 vending machines at 3 sites (33 machines at largest site); 100%.	Purposive; 4 interviews; 100%.	Community stewardship: Post-only retailer interviews- Semi-structured stakeholder interviews using discussion guide developed based on previous interviews. Questions varied depending on stakeholder. Included "Can you tell us about any impact the HC had on sales of food and drinks? Can you tell us what have the customer reactions been to the changes that have been made? Have the HC guidelines affected any working/business relationships you have?" Revenue: Electronic sales data-	Sales data: Pre-intervention; Single-group interrupted time series analysis; Seasonal effects, auto-correlation up to 12m. Interviews: None; Block and segment approach using open-coding; N/A.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
				Measuring monthly changes in item, volume and revenue sales.	
Bollinger; 2011; "NYC mandatory calorie labelling laws"	Quantitative non- randomized; Pre-post with control; 3m; 11m; Ongoing.	All restaurants; 316 quick service restaurants [222 intervention, 94 control]; N/A.	N/A.	Revenue: Electronic sales data- Detailed transaction data including price per item.	Stores from same chain (Starbucks) in cities without mandatory calorie labelling (Boston and Philadelphia) (n=94); Mixed difference in difference regression using revenue as outcome, and independent variables of store, calorie posting; week of the year and day-of-week fixed effects, daily temperature and rain.
Brimblecombe; 2017; "Stores Healthy Options at Remote Indigenous Communities (SHOP@RIC)"	Quantitative RCT; Step- wise RCT; 49w; 24w; 24 w.	All stores in 2 chains in remote areas; 20 stores; Not described.	N/A.	Total sales, Revenue: Electronic sales data- Number of all food and drink products sold.	Stepwise RCT (pre-intervention and control stores later included); Log transformed data for each outcome for mixed models analysis. Random effects for stores, fixed effects for store association; 8-week steps, phase, difference that consumer education strategy had on sales during and after intervention.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Britt; 2011; "SmartMenu"	Mixed methods; N/A; Not described; Not described.	Purposive; 27 restaurants [24 intervention, 3 control]; 4%.	Not described; 9 restaurant managers [6 intervention, 3 control]; Not described.	Community stewardship, Competitiveness, Customer level of satisfaction with strategy: Post-only interviews with restaurant managers- Single interview conducted post implementation including questions on costs, barriers and benefits. Time and/or cost associated with implementation and maintenance: Contract documents, billing receipts, work plan allocations- Program costing based on records of outgoing expenses for advertising, mailing etc. Hours calculated from work plans.	Key informant interviews from nonparticipating restaurants (n=3); Not described; N/A.
Budd; 2017; "B'More Healthy Retail Rewards (BHRR)"	Quantitative RCT; Pre-post with control; Cross-sectional; 6m; 3m.	All wholesale businesses in city and purposive store recruitment; 24 convenience stores and 2 wholesale stores; 57%.	Convenience; 24 retailers; 92% (post-intervention surveys).	Retailer level of satisfaction with strategy: Retailer surveys- Store Impact Questionnaire (pre-tested, standardised instrument), Questions including "outcome expectations for sales" and "outcome expectations for overall programme impact" (5-point Likert scale from strongly disagree (-2) to strongly agree (+2)).	Control group (n=6 stores); Differences in difference linear regressions; Not described.
Buscher 2001- Study 1; 2001; N/A	Quantitative non-randomised; Pre-post without control; 13d; 28d [7d each intervention]; 13d.	Convenience; 1 cafeteria; N/A.	N/A.	Store patronage: Cash register data- Pretzel sales determined by hand-counts at start and end of each day, total number of daily transactions.	Pre-intervention period; One-way ANOVAs compared sales between study periods, followed by Tukey's post hoc tests; N/A.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Buscher 2001- Study 2; 2001; N/A	Quantitative non-randomised; Pre-post without control; 14d; 15d; 14d.	Not described; 1 cafeteria; N/A.	N/A.	Store patronage: Cash register data- Total transactions per day.	Pre-intervention period; One-way ANOVAs compared sales between study periods, followed by Tukey's post hoc tests; N/A.
Cardello; 2013; N/A [Extracted Study 2 only]	Quantitative non-randomized; Retrospective case-control; 1y; Variable, ongoing; N/A.	All high market share companies included; 21 chains (9 quick service, 12 full service); N/A.	N/A.	Total sales: Corporate annual reports, industry data and market research information, financial performance- corporate annual reports or purchased from trusted industry data sources including Nation's Restaurant News and Trinity Capital. Store patronage: NPD group (provides market research information, full name not given)- Food & beverage volume, and store traffic.	Stores where they did not introduce "Better For You" options; Change in servings from 2006-2011, statistical methods not detailed; Not detailed.
Chu; 2009; N/A	Quantitative non-randomized; Longitudinal without control; 14d; 14d; 13d.	Convenience; 1 cafeteria; Not described.	N/A.	Total sales, Revenue: Electronic sales data- Number of entrees sold and revenue.	Pre-intervention period; Relationships between energy content of entrees and the differences in overall sales from 1 period to next tested with linear regression. Paired t-tests compared total sales between treatment periods; Sales data for 4d break excluded.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Chu; 2014; N/A	Quantitative non-randomized; Longitudinal without control; 3w; 2wper intervention (3wwashout between interventions); N/A.	Convenience; 1 cafeteria; Not described.	N/A.	Total sales, Revenue: Sales data-Electronic sales data (per day and per 15-minute increments). Profitability: Sales data- Food cost report (identification code, item description, retail price and food cost).	(P1-Complex/Countertop); Interrupted time series analysis. One-way ANOVA compared item sales/ revenue/ profit between intervention time periods; Excluded weekends.
Cohen; 2017; "La Comida Perfecta"	Quantitative descriptive; Post only without control; N/A; 6m; Ongoing.	Convenience; 23 food trucks; Unclear- initial recruitment strategy 0%.	Retailer interviews - Convenience; 22 truck owners/staff; 50% (11/22). Customer surveys - Convenience; 488 customer surveys (mean 41 per truck); Not described.	Time and/or cost associated with implementation and maintenance, Profitability: Manually collected sales of all orders by field staff-profitability= cost of ingredients-cost to customer. Customer level of satisfaction with strategy, Store patronage: Self-administered and intercept customer surveys- Questions unclear, included demographic questions, reasons for visiting food truck. Value creation: Retailer interviews- No description in methods.	N/A; Descriptive; N/A

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Cranage; 2004; N/A	Quantitative non-randomized; Pre-post without control; 2w; 8w; N/A.	Convenience sample; 1 cafeteria; Not described.	Convenience; 150 customers [71 intervention, 79 control]; Not described.	Customer level of satisfaction with store: Post-only intervention customer survey- Questions included "satisfaction with the quality of the food on this occasion and in general" - Likert scale of "very dissatisfied" (1) to "very satisfied" (7), "intentions to buy lunch again at the café" - "very unlikely" (1) to "very likely" (7), "the quality of the food on this occasion was what I would have expected" and "I was disappointed with the quality of the food on this occasion" - "strongly disagree" (1) to "strongly agree" (7)	Pre-intervention period (no nutrition information displayed); ANOVA; N/A.
Dannefer; 2012; "Healthy Bodegas Initiative"	Quantitative non-randomised; Pre-post without control; Cross-sectional; Cross-sectional (6 to 7m after pre-intervention period), Ongoing; N/A.	All stores approached; 55 convenience stores; Not described.	Customer surveys - Convenience; 617 customer surveys [294 pre-intervention, intervention 323] from 8 stores; Pre 53%, intervention 63%. Store owner surveys - Voluntary response; 46 stores owners; 84% followed-up.	Time and/or cost associated with implementation and maintenance: Pre-post store owners and manager survey- Quantitative and qualitative questions including barriers to carrying healthy foods. Customer demand for healthy items: Customer exit surveys- Questions on changes in food and beverage purchases and shopping behaviour.	Pre-intervention period; Not described; N/A.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Dawson; 2006; "Eat Smart! Workplace Cafeteria Program (ESWCP)"	Mixed methods; Post-only without control; Cross-sectional; 4m, ongoing; N/A.	Convenience; 1 cafeteria; Not described.	Voluntary response; 258 customers; 51%.	Customer level of satisfaction with strategy: Customer questionnaire- 3 closed ended questions and (Frequency of visits to cafeteria; Purchase since program launch and change in habits; trying a new menu item and reaction (like/dislike)). 2 open-ended questions about intervention (not listed). Developed using Dillman's Tailored Design Method.	N/A; Themes generated from open-ended questions; None.
de Wijk; 2016; N/A	Quantitative non-randomized; Pre-post cross-over design; N/A; P1: 7w, P2: 5w (due to holiday period); N/A.	Not described; 2 supermarkets; Not described.	N/A.	Total sales: Electronic sales data- Absolute number of bread loaves sold.	"Healthier first" vs. "healthier last"; ANOVA (weekly sales of different types of bread between different time periods), differences in absolute sales between supermarkets; Time period, weekly bread promotions.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
DeFosset; 2017; "Community Markets Purchasing Real and Affordable Foods (COMPRA)"	Quantitative non- randomised: Longitudinal no control; N/A; 1 y, ongoing; N/A.	All stores part of initiative; 12 stores; 100%.	Retailers from all participating stores; 12 retailer surveys (1 per store); 100%.	Community stewardship: Post-only retailer surveys- Semi-structured questionnaire developed by DPH (full name not given), questions included "relative importance of variety, healthfulness, and affordability when making stocking decisions" (rated on a scale including "not important", "somewhat important", "very important"). Time and/or cost associated with implementation and maintenance: COMPRA sales data and Regional Wholesale Price Data- Used to calculate median weekly price-per- pound (US Department Agriculture marketing service database).	N/A; Descriptive analysis of survey items; N/A.
Deliens; 2016; N/A	Mixed methods; Pre-post without control; 1w pre- intervention data collection prior to each phase; 4w [1w per phase]; N/A.	Convenience sampling; 1 cafeteria; Not described.	Convenience; 457 students interviewed; Not described.	Profitability: Electronic sales data- Not described. Customer level of satisfaction with strategy: Post-only customer exit survey- semi-structured questionnaire asked "whether or not they believed this was a good initiative to help students make healthier food choices."	Pre-intervention data (Control weeks); Chi squared tests used to compare responses between each intervention week in each phase; N/A.
Department of Health [Using Annex C data]; 2010; Change4Life Convenience Stores programme	Mixed methods; Pre-post no control; Pre- and post- intervention [G1: 6 to 9m, G2: 5w to 9w]; N/A.	Voluntary; 91 stores participated in Change4Life. 26 convenience stores included in this study [G1: 9, G2: 17]; Not described.	N/A.	Revenue: Sales data- Method unclear. Used to calculate revenue over unspecified time period.	Pre-intervention period; Descriptive statistics; N/A.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Drewnowski; 2017; Crunchy "Wednesdays" (Mercredis à Croquer)	Quantitative non-randomized; Longitudinal with control; 1 y 8m; 3y 4m, ongoing; N/A.	All stores; 1296 stores; 100%.	N/A.	Total sales: Electronic sales data- Total number of Happy Meals sold.	Pre-intervention period; One-way ANOVA used to compare item sales (fruit and other categories) between "Crunchy Wednesdays" and other Wednesdays for each year; N/A.
Ellison; 2014; N/A	Quantitative RCT; Post-only with control; N/A; 19w [P1: 12w, P2: 7w]; N/A.	Not described; 1 restaurant; Not described.	N/A (1532 observations).	Consumer welfare: Receipts collected daily from restaurant (average 20 receipts/day)- Indicated which items purchased and price.	Control treatment (i.e. usual menu); Multinomial logit model-utility from option j at time t depending on the attributes: price and calorie content and food type. Calculations of marginal utility of calories for each menu intervention. Alternative-specific random effects. Marginal willingness to pay between items (or calories) is the price difference which would generate the same utility; Repeat customers being influenced by previous menu recall.
Escaron; 2016; "Waupaca Eating Smart" (WES)	Quantitative descriptive; Post-only without control; 2m; 10m; 2 m.	Purposive; 7 restaurants, 2 supermarkets; Not described.	Voluntary response; 9 retailers (1 per site); 100%.	Retailer level of satisfaction with strategy, Customer level of satisfaction with strategy, Time and/or cost associated with implementation and maintenance, Wastage: Post-intervention face-to-face retailer-surveys- Quantitative surveys of measures of attitude, satisfaction, and overall program satisfaction using 5-point Likert scales (higher score= greater satisfaction).	N/A; Descriptive statistics; N/A.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Ferguson; 2017; N/A	Mixed methods; Retrospective longitudinal without control; 6m to 13m (depending on strategy); 5 to 12m (depending on strategy), ongoing; N/A.	All stores invited to participate; 18 communities; 85.7%.	Purposive; 54 interview participants; Not described.	Retailer level of satisfaction with strategy, Value creation, Customer level of satisfaction with strategy: Post-only customer and retailer interviews (15m after first strategy introduced)- Single and group semi-structured interviews explored perceptions of success, and enablers and barriers.	N/A; Qualitative analysis: Ground-up coding; Not detailed.
Finkelstein; 2011; N/A	Quantitative non-randomized; Pre-post with control; 12m; 13m; Ongoing	Voluntary; 14 quick service restaurants [7 intervention, 7 control]; Not described	N/A	Total sales: Electronic sales data- Monthly number of transactions overall per store	Control stores- restaurants from the same chain in neighbouring counties without menu labelling requirements (n=7); Linear regression compared the number of transactions per month in P1 and P2 to pre-intervention period for intervention and control stores; Seasonal effects.
Fitzgerald; 2004; "Healthy Dining Program"	Quantitative non-randomized; Pre-post without control; 4w; 8w; 4w.	Not described; 4 full service restaurants, 5 quick service restaurants; Not described.	N/A.	Total sales: Electronic sales data- Total number of items sold.	Pre-intervention period; Sales summed and compared with total sales. Statistical test not described; N/A.
Fitzpatrick; 1997; "Fresh Choice"	Mixed methods; Post only without control; N/A; 1m; 1 to 4 m.	Voluntary response; 9 restaurants (n=8 for customer survey); Not described.	Customer surveys: Convenience sample; 686 surveys; 77%. Customer interviews: Simple random sampling; 9 interviews; Not described.	Customer level of satisfaction with strategy: Customer survey- Included 9 questions (presentation, taste, "doneness", freshness, portion size, temperature, low fat content, price/value, overall satisfaction) (Likert scale, 1= extremely dissatisfied, 5= extremely satisfied). Customer level of satisfaction with strategy: Semi-structured customer interviews- Included questions about perceptions of intervention.	N/A; Independent t-tests compared satisfaction for FreshChoice and regular menu items. Two-way ANOVA. Interviews- cross-case analysis deductive and then with inductive coding; Customer classifications of menu item as "Fresh Choice" by the customer.
French; 1997; N/A	Quantitative non-randomized; Pre-post	Not described; 9 vending machines in 4 locations; Not described.	N/A.	Total sales, Profitability: Sales data (collection not described)- Total	Pre-intervention period; Mixed linear model; Location, machine, time trend.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
	without control; 4w; 3w; 3w.			weekly snack sales and profit per machine.	
French; 2001; "Changing Individuals' Purchase of Snacks (CHIPS)" [workplace outcomes only extracted]	Quantitative RCT; Latin square design; N/A; 12m (1m per treatment); N/A.	Convenience (selection of workplaces); 12 workplaces (1- 5 machines per site, total n machines not given); Not described.	N/A.	Profitability: Sales data- Manual inventory counts entered into a database, calculated net profits (revenue - wholesale cost).	Control- no price change or labelling; 3-way ANOVA (settings, price treatment, promotion treatment); Two-way interactions between setting and promotion and price reduction found to be NS, hence dropped from the model. Imputation for missing data.
French; 2010; "Route H"	Quantitative RCT; Pre-post with control; Not described; 18m; 6m.	Garage allocation to intervention: simple random sampling. Survey: voluntary response; 33 vending machines from 4 bus garages [2 intervention, 2 control]; Surveys: pre: 78%, post: 74%.	Voluntary response; 1067 Intervention [554 pre-, 513 follow-up], 1092 control [540 pre-, 552 follow-up]; Pre: 78%, follow-up: 74%.	Store patronage: Employee surveys- Questions including self-reported frequency of use of each cold beverage, cold food and snack food vending machines ("once a month or less, 2-3 times a month, 1-2 times a week or three or more times a week"). Total sales: Sales data manually collected and entered into computer- Monthly counts of number of items sold and dollar sales.	Control sites (n=2); Pre-intervention period-adjusted mixed model of drivers nested in garages; Age, gender, education, income, marital status, race, smoking status.
Gardiner; 2013; The 'improving retail access to fresh fruit and vegetables' initiative	Qualitative; Post-only no control; N/A; 8 m, ongoing; N/A.	Convenience sampling; 13 stores; 72%.	Convenience; 7 store owners from 6 stores; 46%.	Customer demand for healthy items, Community stewardship, Retail staff personal satisfaction level, Time and/or cost associated with implementation and maintenance, Customer level of satisfaction with strategy: Retailer interviews- Semi-structured interviews. Questions addressed quality of the initiative, barriers and enablers to participation, motivations for participation, perceptions of outcomes.	N/A; Thematic approach. Inductive coding; N/A.

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Gittelsohn; 2012; "US Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)"	Qualitative; Post-only no control; N/A; 6-12 m, ongoing; N/A.	Purposive; 52 stores; 45%.	Purposive; 52 store owners or managers; 45%.	Store patronage, Profitability, Time and/or cost associated with implementation and maintenance: Post-only retailer interviews with store owners and managers- Open-ended questions about effects of WIC on store operations. Relevant research questions included: "What benefits are experienced by small store owners with the new WIC packages?" and "What challenges were faced by small store owners in implementing the new WIC packages?"	N/A; Coding scheme developed from 2 initial transcriptions. Research consensus reached. Coding scheme used for remaining interviews; N/A.
Gorton; 2010; "Better Vending for Health"	Quantitative non-randomised; Pre-post without control; 3m; 3 m, ongoing; N/A.	Convenience sample; 2 hospitals, 14 machines; 100%.	Convenience; 1447 surveys [835 pre-, 611 post-]; Pre: 18%, post: 13%.	Total sales, Revenue: Sales data- Total sales value based on product price and number of items sold (number of items re-stocked). Customer level of satisfaction with store, Store patronage: Online customer surveys- Questions included "frequency of snack vending machine use, reasons for non-use of vending machines, food usually purchased from vending machines, number of items purchased, whether staff tried to choose healthier items, satisfaction with vending machine".	Pre-intervention period; Descriptive statistics; Adjusted for number of full-time equivalent staff members employed.

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Gudzune; 2014; N/A	Mixed methods; Pre-post without control (interviews and profit -post data only); N/A; 9w; N/A.	Convenience; 2 stores/urban farm pairs; Not described.	Convenience; 4 interviews (2 storeowners and 2 farmers); 100%.	Retailer level of satisfaction with strategy, Customer demand for healthy items: Post-only interviews with retailer and supplier: Semi-structured interviews. Questions included satisfaction with the intervention and intention to continue with the intervention Wastage, Profitability: Post-only sales data by manually counting available, ordered and wasted items- Weekly and overall produce sales	Two store-farm pairs compared; Interviews: "editing style analysis technique". Sales data: descriptive statistics; N/A.
Hamburger; 2016; "Healthy Cocina Initiative"	Mixed methods; Post-only no control; N/A; 8m (4m P1, 4m P2), ongoing; N/A.	Purposive; 1 marketplace; Not described.	Customer surveys - Simple random; 26 customers; 100% (only 31% responded to Likert scale questions RE perceptions about store healthy foods) Key informant interviews - Simple random; 4 staff; Not described.	Time and/or cost associated with implementation and maintenance, Community stewardship, Profitability: Semi-structured staff interview (after P1 and after P2)- Questions about feasibility, barriers, satisfaction. Customer level of satisfaction with strategy: Consumer surveys- Based on Network for a Healthy California's All-Star Snacks Project survey tool - not validated, Likert scale questions (1=strongly disagree, 5=strongly agree). e.g. "the kitchen offers enough healthy foods."	Compared relaunched intervention (P2) to initial P1; Consumer surveys- Descriptive statistics. Interviews- constant comparative method, framed by Model of Community Food Environments, some methods associated with grounded theory. Field notes - analysed for themes and cross-compared to interviews; N/A.
Hartigan; 2017; "Rethink Your Drink"	Quantitative non-randomized; Longitudinal without control; 3m; 12m; 4 m.	Convenience; 1 hospital including: 1 cafeteria, 1 kiosk, 1 delicatessen, 1 quick-service restaurant; Not described.	N/A.	Revenue: Electronic sales data- Revenue for all beverages sold.	Pre-intervention period; Linear regression; "Other beverages" excluded as mostly hot beverages.
Holdsworth; 1997; "Heartbeat Award Scheme (HBA)"	Mixed methods; Pre-post without control (interviews post only no control); Cross-sectional (before changes to meals);	All eligible sites invited; 23 cafeterias [12 workplaces, 11 public eating places (4 cafes, 2 leisure centres, 1 hotel, 2	Employee survey - Convenience; 1945 employee surveys [1418 intervention, 527 comparison];	Customer level of satisfaction with strategy: Pre-post self-administered customer and employee survey- Questions incl. attitudes towards strategies, satisfaction with food	Workplaces not receiving funding for the award (n=unclear); Interviews and focus groups- Thematic coding using emergent codes. Surveys- Chi-squared tests to test between pre- and

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	Unclear. ≥ 6m depending on site; Varied depending on group (part 2 questionnaire 6m after receiving HBA).	pubs, 2 restaurants); Not described.	62.6% to 73.2% (intervention), 50.3% to 62.6% (comparison). Customer Survey (public eating places) - Convenience; 271 surveys; 72.3%. Dietitian interviews - Convenience; 5 dietitians; Not described. Caterer interviews - Convenience; 12 caterer interviews; 100%.	options (5 point Likert scale) frequency of use of cafeteria ('never/rarely', '1-2 days/week', '3-4 days/week', '5 or more days/week'), "if they found the highlighting of healthy food choices to be 'very useful', 'useful' or 'not useful'". Time and/or cost associated with implementation and maintenance, Competitiveness, Community stewardship, Retail staff personal satisfaction level, Feedback from community and external organisations, Customer demand, Store patronage: Post-only semi-structured interviews with caterers-questions incl. "In your view is it your responsibility to promote healthy choices to your customers?"; "Has the HBA increased your costs at all?"; "Do you feel the HBA is valuable and why (to yes and no)"; "as the HBA affected the number of clients you have or the type of clients?" Piloted extensively. Attitudes of business stakeholders: Focus groups and subsequent individual interviews with dietitians- Questions on barriers and enablers of implementation.	post-intervention and intervention and control groups; N/A.

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Holmes 2012;; 2012; "Healthy Kids" campaign	Quantitative non- randomised; Pre-post without control; 5w; 12w; 5w.	Not described; 1 grocery store; Not described.	Convenience; 82 customers; 45%.	Customer level of satisfaction with strategy: Post-only customer written exit survey- Included questions on attitudes toward initiative. Store patronage, Total sales: Electronic sales data- Customer count, total food and beverage item sales.	Pre-intervention period; Questionnaires- Descriptive statistics. Sales data- pre-post ANOVA; N/A.
Horgen; 2002; N/A	Quantitative non- randomised; Pre-post without control; 3w; 43d total [P1: 3w; Washout: 2w; P2: 8d; P3: 2w; Washout: 3 w]; 3w.	Convenience sample; 1 cafeteria; Not described.	N/A.	Total sales: Electronic sales data- Items sold per food/beverage category.	Comparison to control items (unhealthy item substitutes) and to pre-intervention sales; One-way ANOVA compared mean daily sales of all items between pre-and post- intervention; Seasonality.
Hua; 2016; N/A	Quantitative RCT; Pre- post with control; 5m; 5m; N/A.	Convenience; 56 vending machines in 28 locations (co-located snack and beverage machines); Retention 27/28 locations.	N/A.	Revenue and Total sales; Aggregate sales data (collection method unclear)- Change in number of items sold and revenue.	Pre-intervention period and control machines (n=6); Paired t-tests to compare sales and revenue pre-post. Linear regression for change in units sold and revenue. Using same time period as year before for sales data; Stratified by vending machine type (beverages or snacks).

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Jigsaw Research; 2010; Change4Life Convenience Stores programme	Mixed methods; Pre-post no control; Cross-sectional over 1-2 weeks; Cross-sectional outcomes at 3 time points, immediately post change [3 stores only], 4m and 7m; N/A.	Not described; 4 convenience stores; Not described.	Random selection of customers; 1143 [288 pre-intervention, 285 intervention T1, 288 intervention T2, 282 intervention T3]; Not described.	Customer level of satisfaction with strategy, Customer level of satisfaction with store: Customer exit surveys- Questions included "Using the scale on this card, from excellent to poor, how would you rate this store on each of the following ...?" ("Displaying fresh F&V in appealing way", "Displaying fresh F&V in hard to miss location" "Offering good selection of fresh F&V", "As a place to shop for food", "A good place to buy fresh F&V" (5 point Likert scale from excellent to poor).	Pre-intervention surveys; Not described; N/A.

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Jilcott; 2016; N/A	Mixed methods; Post-only no control; N/A; Cross-sectional 1 to 4 y post intervention start, Ongoing; N/A.	Purposive; 4 workplace cafeterias, 5 hospitals; Not described.	Purposive; 9 foodservice managers and operators [4 Federal government worksites, 5 hospitals]; Not described.	Time and/or cost associated with implementation and maintenance, Profitability: Retailer (food service manager) surveys- Online quantitative survey including "costs required to implement the Guidelines or Initiative, overall profitability, tracking sales of healthy vs. less healthy options and the main challenges faced regarding implementation of the Guidelines or Initiative." Profitability, Store patronage, Community stewardship, Customer level of satisfaction with strategy, Attitudes of business stakeholders: Retailer interviews conducted over the telephone after the survey with all survey respondents- In-depth interview questions included facilitators of and barriers to implementation, financial impact.	N/A; Surveys- descriptive statistics. Interviews- deductive coding to draft codebooks, then inductive approach to refine codebook; N/A.
Kerins; 2016; "Healthiest Heart Award"	Quantitative non-randomized; Pre-post without control; 4w; 4w; N/A.	Convenience; 8 restaurants [4 full-service restaurants, 3 cafes, 1 pub/restaurant]; 73%.	N/A.	Total sales: Electronic sales data- Total food and beverage sales.	Pre-intervention data; Wilcoxon signed-rank test pre-post; N/A.

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Kottke; 2013; N/A	Quantitative non-randomized; Longitudinal no control; 1m; 3m; 2m.	Convenience; 1 cafeteria; Not described.	All employees invited; 677 respondents; 26%.	Revenue: Longitudinal electronic sales data- Mean daily food and beverage revenue measured monthly. Customer level of satisfaction with strategy: Emailed anonymous employee surveys at end of intervention- Questions including "What are your thoughts about having a company subsidized salad bar at the cafeteria? Responses: (i) I'm not in favour of it. I would not like to see a subsidized salad bar in the future.; (ii) I'm unsure or neutral; (iii) I'm in favour of it. I would like to see a subsidized salad bar as a regular feature of Be Well."	Pre-intervention sales data; Sales data- T-tests compared sales during the first month of the intervention to pre-intervention and follow-up sales during each of the subsequent 3m of intervention. Surveys- Descriptive statistics; Not detailed.
Lawman; 2015; "Healthy Corner Store Initiative (HCSI)"	Quantitative non-randomized; Pre-post without control; Cross-sectional, >6m; 1 y, ongoing; N/A.	Simple random sampling of stores participating in intervention; 192 stores [G1: 121, G2: 71]; 32%.	Simple random; 14,620 customer surveys [8,671 pre-, 5,949 post-intervention]; <10% (anecdotally estimated).	Spend per transaction: Anonymous customer exit surveys- Including direct observation of purchases by research staff including which products were purchased and total cost of transaction.	Basic vs. High intensity interventions; Multilevel linear regression modelling with store-level clustering compared purchases between pre- and post-intervention for all stores, and for high and low-intensity intervention stores separately; Sensitivity analyses checked for seasonal variation.
Lee-Kwan; 2015; "Baltimore Healthy Carryouts"	Quantitative non-randomized; Pre-post with control; 4w; 28w; N/A.	Purposive; 7 stores [3 intervention, 4 control]; 66%.	N/A.	Total sales, Revenue: Paper-based sales receipts- Total number items sold and price.	Comparison stores (n=4) matched to intervention stores based on internal and external store food environment and neighbourhood characteristics; Poisson models estimated the relative ratio (RR) of total items sold and RR of total revenue comparing each phase to pre-intervention for intervention and control stores; N/A.

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Lessa; 2016; N/A	Quantitative non-randomised; Pre-post without control; 4m; 6m; N/A.	Convenience; 1 restaurant; Not described.	Simple random (for customers responding to survey); 300 customers [105 pre, 195 post]; Not described.	Customer level of satisfaction with store: Customer Survey- ‘Q’ touristic quality certification questionnaire. Developed by Spanish Institute for Quality Tourism. Questions included product quality, presentation, portion size, menu variety, value for money (rated 1 to 10).	Pre-intervention; ANOVA compared pre-post questionnaire responses; N/A.

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Leven; 2013; "Scottish Grocers Federation Healthy Living Programme" (HLP)	Mixed methods; Post-only no control; N/A; <5 years; N/A.	Voluntary; 14 outlets; 54%.	Retailer surveys - Purposive; 14 respondents; 54%. Case studies - Voluntary response; 3 case studies (6 interviewees); 21.4%.	Profitability, Total sales, Wastage, Attitudes of business stakeholders: Retailer survey- Online survey for those who had attended initiative training. "Did the training give you any of the following? (answers included "new skills", "new ideas"),"Has your involvement in the [Healthy Living Program] led to any of the following". including "Changes to relationships with suppliers", "Changes to relationships with customers", "...changes to (income and/or profit)", "Changes to the amount of wastage" (Yes/No/Don't know/ Doesn't apply). Profitability, Revenue, Wastage, Retail staff personal satisfaction level, Retailer level of satisfaction with strategy, Community stewardship: Case study- observation of retail outlet and interviews with staff and volunteers. Questions included "Has the training and/or resources made any impact on how your organisation operates?" and "Have there been any other benefits to you or your organisation of being involved in the Healthy Living Programme?"	N/A; Descriptive statistics; Not described.

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Lillehoj; 2015; N/A	Quantitative non-randomized; Pre-post without control (case study series); Cross-sectional; 1y; N/A.	Convenience; 58 vending machines at 4 worksites [1 county government, 2 manufacturing worksites, 1 college workplace]; Not described.	Convenience; 1528 customer surveys [333 pre-, 198 post-intervention]; 19% (mean pre- and post-intervention).	Store patronage, Customer level of satisfaction with strategy, Consumer welfare: Customer surveys- Standardised survey tool: The Employee Worksite Vending Behaviour survey. 15-item Pre-post anonymous survey questions including demographics, vending-related behaviours and beliefs, e.g. "I am satisfied with the selection of snacks offered in the vending machines at my worksite." 4- or 5-point Likert-type scale (e.g. 1 = strongly disagree to 4 = strongly agree).	Pre-intervention results; Pre- and post-intervention survey responses compared using independents t-tests for each site; N/A.
Macaskill; 2003; "Eat Smart! Ontario's Healthy Restaurant Program"	Mixed methods; Post-only without control; N/A; Approx. 1y, ongoing; N/A.	All participating restaurants invited; 319 restaurants; 74%.	All possible participants invited (1 per restaurant); 319 surveys; 74%.	Retailer level of satisfaction with strategy, Value creation, Feedback from community and external organisations, Community stewardship: Retailer (survey)- Open and closed-ended questions in mail-out survey, including whether intend to continue with program. Developed using Dillman's Tailored Design Method.	N/A; Closed-ended questions- descriptive statistics. Open-ended questions coded (no further detail); None.

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Martínez-Donate; 2015; "Waupaca Eating Smart (WES)"	Quantitative RCT; Pre-post with control; Cross-sectional; 5m; 10m; N/A.	Purposive selection of communities and voluntary response of stores; 1 intervention community [7 restaurants, 2 grocery stores], 1 control community [7 restaurants, 2 grocery stores]; 78% restaurants and 66% supermarkets.	Customer surveys - Convenience; 654 pre [264 intervention, 390 control], 744 post [354 intervention, 390 control]; 50.3% in restaurants, 38.5% in stores. Manager surveys - Convenience [intervention outlets only]; 9 retailer surveys; 100%.	Customer level of satisfaction with store: Pre-post customer surveys [at 1m and 10 m]- Self-administered, paper-based anonymous intercept surveys including questions on "satisfaction with healthy options available, perceived healthiness of the foods purchased, and whether they purchased any foods promoted as healthy in the outlet". Retailer level of satisfaction with strategy, Value creation: Pre-post manager survey- Interviewer-administered with owners, operators, or managers regarding "intentions to continue implementing WES" (0=not likely to 4=very likely), "perceived impact on their business" (0=very negative to 4 very positive), and "overall satisfaction with WES" (0=not at all to 4=a great deal) (intervention sites only).	Control (n=7 restaurants, 2 grocery stores in comparison community); Customer satisfaction- linear and logistic regression models. Retailer satisfaction- Descriptive statistics; Customer surveys adjusted for age, gender, education, local vs. visitor, weekday vs. weekend, time of day, special event/holiday.
Mason; 2014; "100% Healthier Snack Vending Initiative"	Mixed methods; Post-only longitudinal; N/A; 15m, ongoing; N/A.	All parks with vending machines; 98 parks (with 1 vending machine each); Not described.	Staff surveys - Voluntary response; 9 staff (from 9 parks); 90%. Customer surveys - Convenience; 130 customer surveys (from 10 parks); Not described.	Retailer level of satisfaction with strategy: Staff interviews; Semi-structured interviews including attitudes towards healthy vending and their own experiences with the new snacks products. Customer level of satisfaction with strategy: Face to face customer surveys- 16-item survey including perceptions of new snacks, and attitudes towards healthy vending. Revenue: Sales data (provided by vending company)- Monthly revenue.	Longitudinal data; Surveys and sales data- descriptive statistics. Interviews- inductive coding; N/A.

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Minaker; 2016; N/A	Quantitative non-randomized; Longitudinal with control; 88w; Cross-sectional at 35w, ongoing; N/A.	Convenience; 3 stores [1 intervention, 2 comparison]; Not described.	N/A.	Societal shift towards healthier food: Sales data from non-intervention stores in the community- Weekly carbonated beverage sales.	Pre-intervention period and sales at non-intervention community grocery stores (n=2); Descriptive statistics for mean weekly sales. T-tests for sales period and intervention presence. Autoregressive integrated moving average (ARIMA) models for interrupted time series data; Seasonality.
Närhinen; 1999; N/A	Quantitative non-randomised; Repeat cross-sectional; N/A; 8w (Each phase 1 to 3w); N/A.	Convenience; 1 supermarket; Not described.	Convenience; 600 customers; 64%.	Customer level of satisfaction with strategy: Customer exit surveys conducted throughout intervention- Questions included "Do you think that it is a good idea that the supermarket takes health as a marketing argument?" (scale not described).	N/A; Descriptive statistics; N/A.
Naylor; 2015; "Healthy Food and Beverage Sales in Recreation and Local Government Buildings (HFBS)" initiative	Mixed methods; Pre-post with control; Cross-sectional (≤ 1 m of intervention starting); 8 m, ongoing; N/A.	Voluntary response; 44 communities [21 intervention communities (35 facilities), 23 comparison communities (35 facilities)]; Not described.	Convenience; Unclear (max 1 per site); Not described.	Revenue, Attitudes of business stakeholders, Competitiveness, Time and/or cost associated with implementation and maintenance, Customer demand for healthy items: Post-only telephone interviews with facility managers- Semi-structured interviews on barriers and facilitators including asking "What was the impact of the HFBS?"	Facilities (n=35) in comparable communities without intervention (n=23); (i) Open coding, (ii) axial coding, (iii) constant comparison; N/A.

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Nevarez; 2013; "Salud Tiene Sabor"	Mixed methods; Post-only no control; N/A; Running for 12m at time of interviews and 10m at time of surveys, ongoing; N/A.	Convenience; 7 restaurants; 100%.	Customer surveys - convenience (assumed); 60 customers; Refusals not recorded. Retailer interviews- purposive (assumed); 7 retailers; 100%. Stakeholder interviews - purposive (assumed); 10 stakeholders; Not described.	Retailer level of satisfaction with strategy, Retail staff personal satisfaction level, Profitability: Semi-structured interviews- Explored barriers and opportunities to implementation Customer level of satisfaction with strategy: Face to face customer surveys- 21 items including attitude towards menu labelling (scales variable)	N/A; Surveys- descriptive statistics. Interviews- grounded theory approach; N/A.
Ni Mhurchu; 2010; "Supermarket Healthy Options Project (SHOP)"	Quantitative RCT; 2 * 2 factorial RCT; 12w; 24w; 24w.	Not described; 8 supermarkets; Not described	Voluntary and purposive; 1104 customers; 93%	Revenue and Total sales: Electronic sales data from customer loyalty cards- Overall food expenditure.	Control (n=278); Repeated-measures mixed-model regression analysis; Pre-intervention measures of food and nutrients, ethnicity, household income, age, and sex.
Nikolaou; 2014; N/A	Quantitative non-randomised; Pre-post with control; 4w; 4w (actual intervention only applied for 2w); N/A.	Convenience; 3 outlets; Not described.	Voluntary response (all staff and students invited); 1812 customers [1166 students, 646 staff]; Not described.	Total sales: Sales data- Monthly item sales.	No calorie labelling control (n=1 store), comparator month; Chi-squared tests (pre-post total sales); N/A.
Nikolaou; 2017; N/A	Quantitative non-randomised; Pre-post without control; 1m; 1m; N/A.	Convenience; 1 cafe; Not described.	N/A.	Total sales: Electronic sales data- Total sweet food sales.	Pre-intervention period; Chi-squared tests (pre-post total sales); N/A.
Oka; 2013; N/A	Quantitative non-randomized; Pre-post without control; 2w; 1w; 1w.	Convenience; 1 cafeteria; Not described.	N/A.	Spend per transaction: Sales data- Purchase records including spend of pre-loaded funds on meal cards.	Pre-intervention period; Pre-post sales compared with t-test; N/A.

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Olstad; 2011; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	Mixed methods; Post-only no control; N/A; > 1y; Ongoing.	Purposive; 1 store; Not described.	Purposive; 5 interviews; Not described.	Competitiveness, Time and/or cost associated with implementation and maintenance, Customer level of satisfaction with strategy, Attitudes of business stakeholders: Semi-structured interviews (stakeholder interviews - study facility manager, local manager, district manager, vending manager, other facility manager)- In person or telephone semi-structured interviews using theoretically informed observation guide, questions included importance of adoption of healthy guidelines, barriers and enablers to intervention, internal and external support; Other (observations). Profitability: Limited sales data- Detail unclear.	N/A; Directed content analysis for qualitative data; N/A.
Olstad; 2012; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	Mixed methods; Post-only no control; 1y (sales data only); 1y; Ongoing.	Purposive; 3 cases [2 intervention cases - adopter and semi-adopter of guidelines were single sites, non-adopter collection of 4 small sites]; Not described.	Purposive; 12 managers; Not described.	Total sales: Semi-structured interviews with facility managers, industry managers from each facility)- theoretically informed observation guide including reporting on changes to annual sales data (for G2 concessions only).	Non-adopter (n=1); Directed content analysis based on Greenhalgh's adaptation of diffusion of innovations theory; N/A.

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Olstad; 2013; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	Qualitative; Post-only no control; N/A; 1y; Ongoing.		Purposive; 7 managers; Not described.	Time and/or cost associated with implementation and maintenance, Revenue, Customer demand for healthy items, Competitiveness, Opportunity costs: Interviews with managers in person or via phone- Semi-structured interviews developed based on Greenhalgh's adaptation of diffusion of innovations theory including questions on relative advantage of intervention. Revenue: Reported sales data- method unclear.	Non-adopter (n=1); Directed content analysis- theory driven initial coding, and then data categorised according to coding scheme; N/A.
Olstad; 2014; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	Mixed methods; Pre-post with control; 8d; 24d [8d per phase]; 8 d..	Convenience; 2 kiosks [1 intervention site, 1 control site]; Not described.	N/A.	Revenue, Profitability, Total sales, Time and/or cost associated with implementation and maintenance: Electronic sales data- Itemised sales data from intervention and control sites. Revenue was calculated from number of items sold x price per item. Profits calculated from costs of raw ingredients and other preparation costs, excluding staffing costs, in order to calculate cost per item, then costs subtracted from revenue.	Pre-intervention period and follow-up washout period. Control site; Analysis of covariance assessed change in number of items sold, revenue, and gross profits for each intervention; Daily temperature, hours of operation, number of patrons.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Olstad; 2015; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	Quantitative non-randomized; Pre-post without control; 1w; 1w (2d run-in); N/A.	Convenience; 1 kiosk; Not described.	Convenience; 635 surveys [322 pre-intervention, 313 intervention]; Pre-intervention - 32.4%, post-intervention - 31.5%.	Revenue, Spend per transaction: Sales data from cashier receipts- Total items sales and revenue. Store patronage: Self-administered customer survey- Questions including "How often do you purchase food from the concession when you visit recreational facilities? (always/ usually/never/rarely)".	Pre-intervention period; Sales data- Analysis of covariance compared revenues, number of transactions and revenue per transaction between pre- to post-intervention. Chi-squared tests compared survey responses between pre-intervention and follow-up; Weekends vs. weekdays.
Olstad; 2015; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	Quantitative non-randomized; Pre-post without control; 35d; 40d; 6d.	Convenience; 2 kiosks; Not described.	N/A.	Total sales, Spend per transaction: Electronic sales data- Total food and beverage revenues per customer per site. All 3 intervention phases analysed together.	Pre-intervention period; Chi-squared test used to test for differences in revenue per customer for both concessions combined and for 1 site (where pre-intervention data was available) alone; Number of patrons per day.
Olstad; 2016; "Supermarket Healthy Eating for Life (SHELF)"	Mixed methods; RCT [no control for BMOs]; Cross-sectional; 3m; 6m.	Any supermarket in chain; 2 supermarkets used to identify customer sample, but the discount could be received in any store in the chain (total number unclear); 100%.	Computer-generated block-randomization sequence; 642 women [161 for price intervention only; 161 control]; 23%.	Customer level of satisfaction with strategy, Store loyalty: Customer surveys at pre-intervention, post-intervention (3 m) and follow-up (6 m)- Post-survey questions included "Please indicate how much you liked or disliked the discounts you were offered " (answers on Likert scale from 1 ="I did not like the discounts" to 5="I liked the discounts very much"), qualitative questions asked participants to describe how much they liked discounts.	Control group (n=161) (not relevant for BMOs); Quantitative survey questions- Fisher's exact tests and chi-squared tests tested for differences between intervention and control groups, multinomial logistic regression then used. Qualitative questions analysed using thematic analysis; Pre-intervention values of the outcome and intervention group, and for the following a priori-determined covariates: age, country of birth, catchment area, marital status, household income, and the number of children living at home.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Ortega; 2016; "Proyecto MercadoFRESCO"	Quantitative non-randomized; Repeated cross-sectional with control; Cross-sectional; Cross-sectional, 12 to 24m post intervention start, ongoing; N/A.	Purposive; 8 stores [3 intervention, 5 control] ¹ ; Not described.	Stratified random; 2087 surveys [1035 pre-intervention, 1052 post-intervention]; 80% pre-intervention surveys, 75% post-intervention surveys (63% followed up from pre-intervention).	Customer level of satisfaction with store, Store patronage: Household survey of community residents (face-to-face interview using computer-assisted personal interviewing)- 15 true/ false questions on perceptions of convenience store including price and quality; Store patronage= at least 1 purchase at the convenience store.	Comparison stores (n=5)- no intervention, at least 1 mile from intervention stores; Chi-squared tests (store patronage pre-post for intervention and comparison groups). Independent sample t-tests (store perceptions including summary perception score); regression modelling tests differences pre-post intervention between intervention and comparison stores for continuous perception questions; Controlled for sex, age, nativity status, language spoken at home, education, food assistance.
Owen; 2009; Change4Life Convenience Stores programme	Mixed methods; Pre-post with control; Cross-sectional over 10 days; Cross-sectional immediately post change, Ongoing; N/A.	Convenience; 18 stores [G1: 6 stores, G2: 6 stores, Control: 6 stores].	Customer surveys - Random at pre-stage, quotas set based on demographics at post-stage; 2298 customers in 18 stores [1,128 pre, 1,057 post]. Customer interviews - Customers recruited for interviews from voluntary response from customers who completed survey; 26 customer interviews in 9 stores [including G1: n=2, G2: n=3, Control: n=3].	Customer level of satisfaction with strategy, Customer level of satisfaction with store, Spend per transaction: Post-only customer interviews- Interviews included face-to-face interview on "Participant's lifestyle and the role of food in this", accompanied shopping trip, followed by interview to debrief and discuss awareness and attitudes towards Change4Life and F&V. Supervised shop questions included: "How do you find shopping in this store? "What do you like about shopping here? And what do you dislike?" (Post-shop questions)"What seems to you to be the point of Change4Life? And what does it mean to you?";"What do you like about Change4Life? And what, if anything, do you dislike about it?";"How does/ would the fact that your convenience store sells increased amounts of fruit	Control Stores (n=6); Not described; Weighting of G1, G2, control stores for demographic characteristics including gender, age, and store revenue.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
				and veg affect your opinion of that store?" Customer level of satisfaction with strategy, Customer level of satisfaction with store: Customer exit surveys- Survey questions included quantitative question (rated from 1=poor to 5= excellent" Including "stocking the fruit and vegetables that I want to buy"; "Displaying fresh F&V in appealing way", "Stocking a good range of F&V", "As a place to shop for food in general"; "The store has the interest of consumers at heart", "I trust the store to sell good quality food".	
Patsch; 2016; "Better Bites"	Quantitative non-randomized; Pre-post without control; 3m; 9m; N/A.	Convenience; 2 cafeterias; Not described.	N/A.	Revenue, Profitability: Electronic sales data and financial data- Monthly average sales used to calculate revenue and profit.	Pre-intervention period; 2-way ANOVAs for item sales. Independent t-tests for profit changes in beverage sales. Descriptive statistics in overall monthly sales; Tested for seasonal effects. Excluded n=1 paired item as they differed between the 2 facilities.
Pack; 2007; "The Fresh & Healthy Program"	Quantitative non-randomized; Pre-post without control; 4w; 4w (3m post implementation start), ongoing; 12m; N/A.	Convenience; 1 cafeteria; Not described.	N/A.	Store patronage, Total sales: Software-generated daily sales reports- Total number of items sold and number of transactions.	Pre-intervention period; T-test compared total number of items sold per study time period (each pair of pre-intervention, 4w post-intervention, 1 y post-intervention); Separate analyses for weekdays vs. weekends and holidays.
Payne (Study 1); 2015; N/A	Quantitative non-randomised; Pre-post with control; 57d; 14d; N/A.	Purposive; 2 grocery stores [1 intervention, 1 control]; Not described.	N/A.	Spend per transaction: Electronic sales data- Percentage change in dollar spend per person.	Store in same chain located near intervention store (n=1), pre-intervention period; ANOVA compared sales in intervention/control stores for pre-post intervention time periods; N/A.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Payne (Study 2); 2015; N/A	Quantitative non-randomised; Pre-post without control; Store 1: 77d, Store 2: 106d; 28d [both stores]; N/A.	Not described; 2 grocery stores [both intervention]; Not described.	N/A.	Spend per transaction: Electronic sales data- Percentage change in dollar spend per person.	Pre-intervention period; Paired t-test compared sales pre- and post-intervention for each store; N/A.
Rahkovsky; 2013; "Guiding Stars Program"	Quantitative non-randomised; Pre-post with control; 12m; 20m; N/A.	All stores; 268 stores [134 intervention, 134 control]; 100% (for intervention stores).	N/A.	Total sales: Nielsen sales data- Weekly store-level data on dollar sales, number of items sold.	Control supermarkets with similar demographic characteristics; Rotterdam demand system; Demographic characteristics.
Reinders; 2017; "Meer groente & fruit voor iedereen" (More vegetables and fruit for everyone)	Quantitative RCT; Cross-over RCT; 6w (Saturday evenings); 6w (Saturday evenings); N/A.	Convenience; 3 stores; Not described.	Convenience; 1006 surveys [470 intervention, 536 control]; 69%.	Customer level of satisfaction with strategy, Customer level of satisfaction with store: Written customer surveys post meal- Questions included satisfaction with restaurant and satisfaction with dish (both on 5-point Likert scale, very dissatisfied to very satisfied).	Cross-over design (pre-intervention and control group); Multivariate ANOVAs compared mean responses between intervention and control groups; Restaurant location.
Resnick; 1999; N/A	Quantitative non-randomized; Pre-post without control; Cross-sectional; 1y; Cross-sectional.	Convenience; 1 cafeteria; Not described.	Random; 917 customer surveys [540 pre-, 377 post-intervention]; 57% (pre- and post-intervention).	Customer level of satisfaction with store, Customer level of satisfaction with strategy: Postal questionnaire to worksite staff and students pre- and post- intervention- Not validated. Respondents rated satisfaction from 1= "very dissatisfied" to 5= "very satisfied" for 9 attributes including food quality, price, food presentation, healthfulness of entrees, food choices available, availability of healthy choices, entree portion size, length of line, overall quality of cafeteria.	Pre-intervention survey (cohort followed-up).; Pre- and post-intervention satisfaction compared using Wilcoxon signed rank test; N/A.
Rosi; 2017; N/A	Quantitative RCT; Pre-post with control; 24w; 24w; N/A.	Convenience; 3 vending machines [1 intervention, 2 control]; Not described.	N/A.	Total sales: Sales data recorded electronically by staff restocking machines- All food and beverage items sold per week.	Control machine (G1) and pre-intervention data; Paired-sample Student's t-tests compared pre-intervention and control weekly sales. One-way ANOVA with Tukey's post hoc test used to compare 3 experimental groups (G1, G2, G3); Excluded holiday periods.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Roy; 2016; N/A	Quantitative non-randomized; Pre-post without control; 10w; 10w [P1: 5w, P2, 5 w]; 5w.	Convenience; 1 outlet; Not described.	Convenience; 746 customers [P1: 351, P2: 395]; P1: 75%, P2: 64%.	Total sales: weekly itemised sales data- Overall sales. Customer level of satisfaction with strategy: Customer intercept survey- Based on New South Wales state government evaluation of menu labelling program. questions included "What do you think about the Kilojoule labelling?" (Like/ Dislike).	10 corresponding weeks of previous year before kJ labelling; ANOVA (differences in overall sales). Mann-Whitney U test (comparative periods). Themes synthesised in narrative form (open-ended questions); N/A.
Sacks; 2009; N/A	Quantitative non-randomised; Pre-post without control; 4w; 4w; Ongoing.	Convenience; >1000 stores (1 supermarket chain); 100%.	N/A.	Total sales: Electronic sales data- Weekly total sales of data 6 chilled ready meals products and 12 sandwiches lines.	Pre-intervention period; Linear mixed model; N/A.
Sato; 2012; "Healthy Picks campaign"	Quantitative non-randomised; Pre-post without control; 4w; 8w [P2: 4w, P3: 4w]; N/A.	Convenience; 1 cafeteria; Not described.	Convenience; 131 customers; Not described.	Total sales, Time and/or cost associated with implementation and maintenance: Anonymous sales receipt data- Number of items purchased. Customer level of satisfaction with strategy: Anonymous customer survey (P3 only)- Included a question on whether customers liked foods labels.	Pre-intervention period sales; Unclear; N/A.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Seo; 2017; N/A	Quantitative descriptive; Post-only without control; N/A; 5y, ongoing; Cross- sectional.	Voluntary response (all intervention restaurants invited); 53 restaurants; 67%.	Voluntary response (restauranteurs of all intervention restaurants invited); 53 restauranteurs; 67%.	Value creation, Community stewardship, Total sales, Store patronage: Retailer survey- Questionnaires developed based on literature review. Instrument reliability was assessed using Cronbach's α ; Self-administered mail questionnaires post-intervention- Included items based on restaurateur attitude towards initiative, subjective norm, and perceived behavioural control and perceived innovation characteristics (5-point Likert scales from 1= strongly disagree to 5= strongly agree).	N/A; Descriptive statistics; N/A.
Song; 2009; "Baltimore Healthy Stores (BHS)"	Quantitative non- randomized; Pre-post with control; Cross sectional; 10m; N/A.	Convenience; 17 stores [9 intervention: 7 convenience stores, 2 supermarkets; 8 comparison: 6 convenience stores, 2 supermarkets]; Not described.	Not described; 13 convenience store owners, 4 supermarket managers; Not described.	Customer demand for healthy items: Pre-post retailer questionnaire- Store Impact Questionnaire (pre-tested, standardised instrument), questions related to store sales, outcome expectations on 5-point Likert scale; weekly food sales records	Comparison convenience stores (n=6); Survey- Wilcoxon signed rank tests for pre-post comparisons. Wilcoxon rank sum tests compared intervention and comparisons stores. Interview analysis not described; N/A.
Stastny; 2011; N/A	Quantitative non- randomized; Post-only with control; N/A; 12w; N/A.	Convenience; 1 restaurant; Not described.	Convenience; 422 surveys [183 intervention; 205 control]; 79%.	Customer level of satisfaction with store: Self-administered customer surveys- Using the National Society of Healthcare Food Service Managers survey, 9 questions ordinal scales of satisfaction and trust in menu item information, from excellent to poor.	Sales on Thursdays (when no intervention and fun facts panels presented instead) where compared to sales on Tuesday (when there was intervention); Independent t-tests for relationship between customer satisfaction and availability of nutrition information. Multivariate analyses using customer satisfaction questions as dependent variables; N/A.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Steenhuis; 2004; N/A	Qualitative; Process evaluation of RCT. N/A; 2m (supermarkets); 1m (cafeterias); Ongoing.	Convenience; 13 workplace cafeterias; 9 supermarkets; Not described.	Managers of all intervention sites; 21 interviewees; 100%.	Customer level of satisfaction with store, Time and/or cost associated with implementation and maintenance, Community stewardship: Post-only face to face interviews with managers of supermarkets and cafeterias- Interview topics included "Perceived benefits of the intervention", "Reactions of customers (enthusiasm, customer satisfaction)", "Perceived effects on buying and eating habits".	Education programs only (Supermarket G2 and Workplace cafeteria G3); Block and segment analysis according to interview questions; N/A.
Teisl; 1997; N/A	Quantitative non-randomized; Longitudinal; 1y; 4y, ongoing; N/A.	Convenience; 25 stores [13 intervention, 12 control]; Not described.	N/A.	Consumer welfare: Electronic sales data- Weekly sales, price and promotional data; "Cost of ignorance" calculated- equivalent to the monetary value of not having access to nutrition information.	Control stores (n=12). Pre-intervention data from 25 stores, 11600 products, 100 food categories; Almost Ideal Demand System model (including utility of choice outcome, awareness, individual characteristics, product characteristics (e.g. taste or seasonality), household budget (adjusted for household size); Household size (budget adjusted), educational level, time, ages, seasonality, income, prices.
Thorndike; 2012; "Choose Well, Eat Well"	Quantitative non-randomised; Pre-post with control; 3m; 6m [P1: 3m, P2: 3m], ongoing; N/A.	Convenience; 3 cafeterias [1 intervention, 2 control]; Not described.	N/A.	Total sales: Electronic sales data- Mean daily beverage sales.	Pre-intervention period. 2 other on-site cafeterias without intervention; Pre-post absolute changes; N/A.
Thorndike; 2014; N/A	Quantitative non-randomized; Longitudinal no control; 3m; 24m [P1: 3m, P2: 21m] ; Ongoing.	Convenience; 1 cafeteria; Not described.	N/A.	Store patronage, Revenue, Spend per transaction: Electronic sales data- Measured overall cafeteria revenue, mean daily sales, mean daily transactions, and mean revenue per transaction.	Compared to pre-intervention sales; Unclear, probably linear regression, mean statistics reported; Not described.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Turconi; 2012; N/A	Quantitative descriptive; Cross-sectional (post-only no control); N/A; 2 w, ongoing; N/A.	Convenience; 1 cafeteria; Not described.	Random; 374 customers; 93.5%.	Customer level of satisfaction with strategy: Customer intercept surveys- 8 questions including: "Do you think it is useful to know the nutritional content of the meals you consume?" and "Do you consider the cafeteria nutritional proposal useful?" (answers: a lot, enough, not at all).	N/A; Descriptive statistics; N/A.
van Assema; 2006; "Hartslag Limburg" (Dutch for "Heartbeat Limburg")	Quantitative non-randomized; Pre-post with control; Cross-sectional; 2m; N/A.	Convenience; 18 stores [12 intervention, 6 control]; 100%.	Voluntary response; 756 customer surveys [382 intervention, 374 control]; Initial response not described, 64% followed-up.	Customer level of satisfaction with strategy: Self-administered customer surveys adapted from previous literature (unspecified). Tested in feasibility study. Post-intervention surveys included assessment of acceptability of: "Labelling of lean meat (products) (-2 bad to +2 good)", "Receiving advice on meat choice or preparation (-2 bad to +2 good)", Overall campaign evaluation score (from 1 to 10).	Customers (n=374) from control stores (n=6); Multilevel regression compared intervention and control groups responses; Demographic characteristics (not further specified), store, pre-intervention responses per store.
van der Feen de Lille; 1998; "Fat Watch"	Quantitative non-randomized; Longitudinal no control; Cross-sectional; Planned 4y (3y data); N/A.	Representative sample based on stores type size and region; Year 1 - 345, Year 2 - 341, Year 3 - 324; 95-100%.	Random sampling from telephone books; Range 250 to 601 customer surveys per 5 time points; 74-77%.	Customer level of satisfaction with strategy: Consumer surveys (1m prior, 1m post and 6m post introduction of changes)- Structured questionnaires with customers questioning appreciation of campaign (scale 1 to 10). Community stewardship, Value creation: Telephone interviews with store owners- Structured around opinions related to campaign including agreement with "the campaign is good for customers' health" and "the campaign improves the image of my store" (yes/no).	Longitudinal (each year of intervention); Chi squared tests compared responses across year; N/A.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Van Hulst; 2013; "Health promoting vending machines (HPVM)" project	Quantitative non-randomized; Repeat cross-sectional surveys without control; 6w (1 survey at beginning pre-intervention period, 1 survey at end); 6w(1 survey at beginning intervention, 1 survey at end), ongoing; N/A.	Convenience sample; 1 hospital, 4 vending machines replaced with 3 healthy ones; Not described.	Simple random; 519 surveys [293 pre-, 226 post-intervention]; Pre-intervention- 48% (40% follow-up), Post-intervention- 45% (43% followed-up).	Customer level of satisfaction with store: Face-to-face customer intercept surveys (initial survey), follow-up telephone survey- Likert scale questions on variety, healthiness, affordability of vending machine offerings.	Pre-intervention period; Pre- and post- intervention results compared using Chi-squared statistics; N/A
van Kleef; 2012; "Healthy Snacks at the Checkout Counter"	Quantitative non-randomised; post-only 2 factor experimental; 1w; 4w [1w per phase]; N/A.	Not described; 1 cafeteria; Not described.	Surveys (all cafeteria patrons invited, voluntary response); 92 surveys; 3%.	Customer level of satisfaction with strategy: Customer surveys post-intervention- Online questionnaire incl. open-ended questions about Shelf display attractiveness (i.e. 'this shelf display offers novel choice options', 'choosing from this shelf display is simple' and 'this is a shelf display packed with attractive snacks'); Preferred shelf display selected from photos of 4 options; Perceived freedom of choice assessed using bipolar questions (7-point scales) using 3 questions: "influenced by the situation-not influenced by the situation; not free in making a choice-free in making a choice; steered-unrestricted).	4 phases compared to each other; Repeated measures ANOVA; N/A.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Vermeer; 2011; N/A	Quantitative RCT; Pre-post with control; 1m; 3m; N/A.	Voluntary response; 25 cafeterias [17 intervention, 8 control]; 25%.	Voluntary; Overall 308 [75-135 per condition for each of 4 time points]; 53%.	Total sales: Electronic sales data- Recorded summary of sales data standardised by research team. Customer level of satisfaction with strategy: Customer email surveys- Questionnaire 1: assessed frequency of purchase of hot meals from cafeteria, Questionnaire 4: 7 questions on attitudes toward smaller portions (incl. pleasantness, need, good-bad) (5-point Likert scales).	8 control cafeterias; Linear mixed models including treatment and cafeteria effects. Customer surveys- multilevel logistic and multilevel linear mixed models or Fischer's exact tests. Sales- Number of customers between sites, number of days meals offered; Pre-intervention differences in sales.
Vermeer; 2012; N/A	Mixed methods; Process evaluation of RCT; N/A; 3m; 12 m.	Voluntary response; 25 cafeterias [17 intervention, 8 control]; 25%.	All managers approached; 17 managers (unclear); Not described.	Customer level of satisfaction with strategy, Time and/or cost associated with implementation and maintenance, Customer demand for healthy items, Profitability: Manager interviews (In-person interviews (2m after implementation at intervention sites) and telephone interviews 12m post intervention at intervention sites))- Semi-structured interview questions included relative advantages and disadvantages such as corporate image, profit, and customer satisfaction.	8 control cafeterias; Descriptive statistics (phone interview). Inductive coding in relation to pre-determined themes based on theoretical constructs from Baranowski & Stables (2000) and Rogers (2003); N/A.
Waterlander; 2013; N/A	Quantitative RCT; Pre-post with control; Cross sectional; 6m (data collection at 1, 3 and 6 m); 3m.	Voluntary response with quotas for educational level; 4 supermarkets; 36%.	Voluntary response; 199 customers; 85% (of those who registered initial interest).	Spend per transaction: Supermarket sales receipts- Household expenditure in euro.	Control participants (no intervention); Multilevel analyses random participant-level effects and supermarket fixed effects; Clustering of individuals within supermarkets, participant characteristics.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Webb; 2011; N/A	Quantitative RCT; Pre-post with control; 4w; 8w; N/A.	Convenience; 6 sites [4 intervention, 2 control]; Not described.	Convenience; 554 customers [G1: 334, G2: 220]; Not described.	Customer level of satisfaction with strategy: Post-only anonymous customer exit surveys- Questions including attitudes, awareness, and calorie information usage.	2 control sites (no customer surveys at control sites); 2-sample Wilcoxon test compared attitudes between intervention groups; N/A.
Winkler; 2016; "Project Sundhed & Lokalsamfund (Project SoL)"	Mixed methods; Pre-post with control; 4w; 4w; 7w.	Convenience; 28 stores [4 intervention, 24 control]; 100%.	Convenience sample targeting markets with smaller children; 48 customers (23 from store 1 and 25 from store 3); Not described.	Customer level of satisfaction with strategy, Customer level of satisfaction with store: Interviewer-administered customer exit surveys during intervention- Semi-structured questionnaires with 6 questions including "What do think of such an initiative?"; "does this initiative make healthy food shopping easier for you?" and "do you think this initiative makes healthy food shopping easier for other customers?".	Control supermarkets of similar size ranges (n=24, 12 in same geographic region and 12 in different region); Thematic analysis using interview questions as a priori categories; Not described.
Wolfenden; 2015; N/A	Quantitative RCT; Parallel group cluster RCT; 3m; 2y; Ongoing, 6m.	Stratified random sampling by geographic location; 85 clubs [42 intervention, 43 control]; 36%.	Voluntary response; 1394 customers at pre-intervention [689 intervention, 705 control]; 82%.	Revenue: Retailer-reported revenue-measurement tool not described.	Control sites (n=43); Wilcoxon Rank Sum test to compare revenue at club level, post-intervention from control and intervention clubs; Pre-intervention revenue levels.

First author surname; Year of publication; Intervention "name"	Overall study design; Study timing; Length of pre-intervention; intervention; follow-up	Retail outlet recruitment method; Sample size; Response rate	(if relevant) Individual recruitment method; n; Response rate	Business outcome: Data source/s used- Measurement instrument/ tool	Comparison group; Statistical methods used for business outcomes; Factors adjusted for
Zick; 2010; N/A	Qualitative case study; Pre-post without control; Cross-sectional; 3w; Cross-sectional.	Convenience; 1 restaurant; Not described.	Purposive; Unclear, n>4 interviewees; Not described.	Time and/or cost associated with implementation and maintenance: Pre, during and post retailer interviews with nutritionist, manager, the head chef- semi-structured interviews with open-ended questions. Questions included barriers to implementation and "Do you think nutrition labelling has a future in hotel restaurants?"	Pre-intervention interviews; Coding and theme development during pre- intervention interviews- comparative analysis with post-intervention interviews; N/A.

F&V, Fruit and vegetables; m, months; N/A, Not applicable; NS, Not significant; w, weeks; WIC, US Special Supplemental Nutrition Program for Women, Infants, and Children; y, years

Table S7: Outcomes of included studies

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
Adam; 2017; N/A	No change in calorie sales from dairy category, but reduced sales 'red' milk, cream, and some dairy desserts (all $p < 0.05$), and increased sales of 'green' butter and some 'green' desserts (both $p < 0.05$).	Effect of change in revenue varied across weeks of intervention. Overall, NS change in revenue of dairy products.	Revenue -
Albert; 2017; "Proyecto MercadoFRESCO"	NS change in number of serves of F&V consumed per day.	No change in store patronage; No change in dollars spent on food overall or on F&V each week.	Store patronage - Spend per transaction -
Andreyeva; 2011; "US Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)"	Not described.	Perceived demand lower for healthy vs. unhealthy foods; Improved for certain foods post-intervention. Perceived profitability - healthier foods rated less favourably than less healthy foods; No difference (except infant formula in WIC stores) by WIC status pre- & post-intervention. Increased positive attitudes to selling healthy food in WIC stores, decrease in non-WIC (NS) Most had a positive or neutral overall impression of the WIC program changes	Community stewardship ✓ Customer demand for healthy items ✓ Profitability - Retailer level of satisfaction with strategy ✓
Anzman-Frasca; 2015; "LiveWell Program"	Increase in orders of healthy entrees from 3% total entrees in pre- to 46% 1st year post-intervention and 43% 2nd year post-intervention; Increase in orders of healthy entrees from 38% total entrees in pre-intervention period to $\geq 74\%$ in 1st and 2nd years post-intervention	Restaurant chain revenue increased by 5.3%, a larger increase than comparable restaurant chains.	Revenue ✓
Auchincloss; 2013; N/A	Customers at intervention sites purchased fewer food calories (-151 kCal, 95% CI -270.0, -32.6), less saturated fat (-4g, 95% CI -7.4, -0.1); and fewer carbohydrates (-15g, 95% CI -25.8, -3.6).	At intervention sites, customers spent \$1 less on average ($p=0.04$) and or 0.3 fewer items ($p=0.01$). There was no difference in the proportion of customers who ordered a non-alcoholic beverage at intervention or control sites.	Spend per transaction X / -
Ball; 2015; "Supermarket Healthy Eating for Life (SHELF)"	NS changes in self-reported consumption of vegetables, fruit, tap water, bottled water, or diet beverage; Increase in self-reported consumption of sugar sweetened beverages ($p=0.048$).	Additional cost of AU\$4/AU\$5 per increased serving of vegetables/fruit purchased per week; Cost of providing intervention was AU\$158 per household.	Time and/or cost associated with implementation and maintenance N/A Return on investment N/A
Bedard; 2015; "Nutricate"	NS treatment effect on calories, total fat or saturated fat per transaction (using synthetic control stores analysis with Newey-West errors); 0.5% reduction in cholesterol per transaction ($p < 0.01$).	NS treatment effect of on total items sold, or total revenue.	Total sales - Revenue -

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
Bergen; 2006; "Stimulating Sales of Diet Drinks among Adults"	Decrease in sugary drink sales (p=0.04); No change in water and non-energy containing soft drinks (p=0.59) compared to controls.	Increase in total items sold; 25.1% increase in machine revenue (no statistical significance given).	Revenue ✓ Total sales ✓
Berkowitz (Patterson dental); 2015; N/A	Decreases in calories, total, fat, cholesterol, and sodium consumed per person in intervention period (p<0.0001); Increases in fibre, calcium, potassium, and iron consumed (p<0.0005) in intervention period.	Decrease in plate waste (15.8g, p<0.0001); Café manager reported financial and customer satisfaction and cost-reductions (reduced costs, reduced waste) and demand for reduced-size entrees; 92.9% customers who purchased small portion sizes were satisfied with the health/nutrition of the offerings vs. non-buyers (69.4%) (p=0.081).	Customer level of satisfaction with store ✓ Customer level of satisfaction with strategy ✓ Wastage ✓ Time and/or cost associated with implementation and maintenance ✓ Customer demand for healthy items ✓
Berkowitz (Town and Country Club); 2015; N/A	Decreases in calories, total, fat, cholesterol, and sodium per person in intervention period (p<0.0001); Increases in fibre, calcium, potassium, and iron (p<0.0001).	Decreased plate waste (p<0.0051); Manager perceived benefit to financial position (profits); Customer satisfaction and demand for reduced-portion sizes.	Customer demand for healthy items ✓ Wastage ✓ Profitability ✓
Biediger-Friedman; 2014; ¡Por Vida!	Not described.	Number of measures suggested high customer acceptability of the intervention; 98.9% liked the look of the new menu; 83.6% of those who chose a healthy item reported that the logo helped them choose the item; 96.8% liked the portion size; 98.4% reported their children liked the food.	Customer level of satisfaction with strategy ✓
Bleich; 2014; N/A	Decreases in calories purchased (p<0.01) and any SSB purchases from pre-intervention period in all intervention types and post-intervention.	Decrease in any beverage purchase compared to pre-intervention for all 4 signage conditions (all p<0.05), and post-intervention (p<0.01).	Total sales X
Block; 2010; NA	(P2 Price) Decrease of regular soft drinks sales by 26% (95%CI 39.0,14.0) compared with the pre-intervention period.	(P2 Price) No change in total beverage item sales or beverage revenue (significance not given).	(P2 Price) Total sales - Revenue -
	(P4 Promotion) No change in regular soft drink sales.	(P4 Promotion) No change in total beverage item sales or beverage revenue (significance not given).	(P4 Promotion) Total sales - Revenue -
	(P5 Price + Promotion) 36% (95%CI 49.0, 23.0) decrease in regular soft drink sales.	(P5 Price + Promotion) No change in total beverage item sales or beverage revenue (significance not given).	(P5 Price + Promotion) Total sales - Revenue -

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Boelsen-Robinson; 2017; Healthy vending machine policy	55.7% (95% CI -67.4, -44.0) reduction 'red' food and drink item sales.	Food and beverage revenue from vending machines fell by 20.7% (95%CI -29.4, -12.0) 12m post policy implementation. Key stakeholders within the healthcare organisation were strongly supportive of the healthy vending policy, including for its potential to influence community health.	Revenue X Community stewardship ✓
Bollinger; 2011; "NYC mandatory calorie labelling laws"	6% reduction in calories per transaction; Related to both reduced calories per item (approx. 25% of reduction) and fewer calories purchased per transaction (i.e. less likely to select food at all, approx. 75% of reduction) (p<0.001).	NS overall change in revenue. Small decreases in revenue per transaction, but overall number of transactions increased, cancelling out this effect. Revenues increased 3% at target chain (Starbucks) stores located within 100m of competitor Dunkin Donuts (p<0.001).	Revenue - Store patronage ✓ Spend per transaction X
Brimblecombe; 2017; SHOP@RIC	(G1 Price) 12.7% increase (95%CI 4.1, 22.1) in weight of F&V sold; 17.6% increase in bottled water purchases (95%CI 1.1, -36.8).	(G1 Price) vs. control condition: NS 3.5% (95%CI -2.9, 10.4) increase in total food and beverage revenue; Weight food (total) NS increase by 6.5% (95%CI 0.0, 13.4).	(G1 Price) Total sales - Revenue -
	(G2 Price + Promotion) No change in weight of F&V or bottled water sold.	(G2 Price + Promotion) vs. (G1): NS effect on revenue, weight food or beverage sold.	(G2 Price + Promotion) Total sales - Revenue -
Britt; 2011; "SmartMenu"	Not described.	Costs: Average US\$3,700 for menu analysis per restaurant (range \$1,500 to \$8,400). Overall cost for 24 restaurants was \$357,352 including nutrient analysis, promotion and staff costs, and evaluation. Mean 8m duration of implementation from initial commitment to participate to posting the new menu. Retailer interviews suggested participating retailers thought customers valued nutrition information, and that displaying nutrition information would give them a competitive advantage; response to nutritional analysis was generally positive with many retailers subsequently making changes to improve the healthiness of the menu. Reservations from nonparticipating restaurants included business risk, interference with the dining experience, the possibility of people spending less by ordering less food to lower calories), and time investment.	Time and/or cost associated with implementation and maintenance X Community stewardship ✓ Competitiveness ✓ Customer level of satisfaction with strategy ✓
Budd; 2017; "B'More Healthy Retail Rewards (BHRR)"	(G1) NS changes in sales of healthy items compared to control.	(G1 Price) Decrease in outcome expectations for sales of P1 drinks compared to G4 (control).	(G1 Price) Retailer level of satisfaction with strategy X
	(G2) NS changes in sales of healthy items compared to control.	(G2 Promotion) Decrease in outcome expectations for sales of P1 drinks compared to G4 (control)	(G2 Promotion) Retailer level of satisfaction with strategy X
	(G3) NS changes in sales of healthy items compared to control.	(G3) No change in outcome expectations.	(G3 Price + Promotion) Retailer level of satisfaction with strategy -

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
Buscher 2001- Study 1; 2001; N/A	Yoghurt, whole fruit sales and pretzel sales increased during intervention and follow-up ($p < 0.05$); NS change in fruit baskets or vegetable basket sales.	No change in mean number daily transactions between study periods ($p > 0.05$).	Store patronage -
Buscher 2001- Study 2; 2001; N/A	Yoghurt sales increased during intervention period to $4.84\% \pm 0.67$ transactions and follow-up $5.10\% \pm 0.70$ transactions.	No change in mean number daily transactions between study periods ($p > 0.05$).	Store patronage -
Cardello; 2013; N/A [Extracted Study 2 only]	Slight increase in proportion of servings that were "Better For You"/lower-calorie items; Servings of "Better For You"/lower-calorie foods increased and traditional foods decreased.	Chains with increased "Better For You"/lower-calorie servings increased total sales and traffic; Chains with decreased "Better For You"/lower-calorie servings saw decline in sales and store traffic.	Store patronage ✓ Total sales ✓
Chu; 2009; N/A	Decrease in average kcal content of meals sold (slope = -0.766 , $p = 0.007$); Average kcal content of meals sold increased again in follow-up period (slope = $+1.541$; $p = 0.005$).	NS change in total item sales or in revenue per meal sold between treatment periods.	Total sales - Revenue -
Chu; 2014; N/A	Less energy content purchased with Simple/Floor Stand labelling vs. Complex/Countertop. ¹⁰	No significant changes in number of items sold, revenue or profit between P2, P3, or P4 compared to P1 (complex nutrition labels + TLL on countertops) for all items.	Total sales - Revenue - Profitability -
Cohen; 2017; "La Comida Perfecta"	Post-intervention sales La Comida Perfecta (healthy) meals comprised 2% all orders.	Estimated profit (cost to customer) based on ingredients only: meals with chicken, beef, turkey or pork- La Comida Perfecta meal \$US4.22 (6.19); Standard meal \$4.26 (5.90); meals featuring fish or seafood- La Comida Perfecta: \$5.36 (7.67), standard meal \$4.93 (7.75). High customer satisfaction among those that tried La Comida Perfecta meals. 97% customers would recommend them to others; 97% customers would buy them again; Value creation. 75% retailers intended to continue intervention. Retailers felt that the new meals benefited their business through increased number of patrons and increased retention of customers.	Time and/or cost associated with implementation and maintenance - Profitability - Customer level of satisfaction with strategy ✓ Value creation ✓ Store patronage ✓
Cranage; 2004; N/A	Higher fat, higher calorie entree selections decreased from 67% of dishes sold in pre-intervention period to 47% sold in intervention period ($p < 0.001$); Lower fat and lower calorie dish selections increased from 33% of dishes sold in pre-intervention period to 53% sold in intervention period ($p < 0.001$).	Compared to pre-intervention, intervention groups rated satisfaction with food quality in general ($p < 0.001$) and on this occasion ($p < 0.01$) higher, and rated likelihood of repurchase higher ($p < 0.02$).	Customer level of satisfaction with store ✓
Dannefer; 2012; "Healthy Bodegas Initiative"	78% retailers reported intervention increased sales of healthier foods; Proportion of customers purchasing healthy alternatives (e.g. low-fat milk) increased from 5% pre-intervention to 16% post-intervention (significance not given).	Store-owner surveys: 78% store-owners reported intervention improved healthy food sales but 28% reported customer demand inhibited implementation, as well as lack of resources including space and refrigeration requirements (13%). Customer surveys: Similar proportion of customers	Time and/or cost associated with implementation and maintenance X Customer demand for healthy items ✓

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
		purchased a food or beverage pre- (74%) and post-intervention (71%) time points (statistical significance not reported).	
Dawson; 2006; "Eat Smart! Workplace Cafeteria Program (ESWCP)"	Customer reported that in the cafeteria they were consuming more whole-grain products (42%), lower-fat milk and milk products (24%), fruit (17%), and vegetables (29%), and more frequently requesting dressings on the side (30%).	Generally positive customer comments regarding program including improved knowledge, convenience, physical benefits and improved employee morale.	Customer level of satisfaction with strategy ✓
de Wijk; 2016; N/A	No effect of proximity on sales of healthy vs. less healthy breads.	No pattern for total sales by intervention vs. control periods.	Total sales -
DeFosset; 2017; "Community Markets Purchasing Real and Affordable Foods (COMPRA)"	Increase in volume orders of F&V over time, related to higher uptake of intervention (more stores recruited).	COMPRA market basket F&V prices (\$US40) were more expensive than from regional wholesalers (\$US36), but less expensive than from a full-service grocer (\$US55); Retailer considered offering affordable and varied options to customers as very important, and most rating providing healthy options to customers as "very" or "somewhat" important.	Time and/or cost associated with implementation and maintenance ✓ / X Community stewardship ✓
Deliens; 2016; N/A	(P1) 10 % price increase French fries was associated with 10.9% reduction in French fry purchases; (P2) 20 % price increase French fries was associated with 21.8% reduction in French fry purchases.	French fry interventions: P1 led to €490.5 and P2 €721 increase in profits. Overall 56.1% customers believed French fries price adjustment was "a good initiative to help students make healthier food choices" ((P1) 49.1% vs. (P2) 68.9%, chi2 = 6.3, p = 0.012)).	P1 and P2 (French fry intervention) Profitability ✓ Customer level of satisfaction with strategy ✓
	(P3) 10 % price reduction fruit was associated with 25.1% increase fruit purchases; (P4) 20 % price reduction fruit was associated with 42.4% increase fruit purchases.	Fruit intervention. P3 and P4 led to €1,178.5 and €2,958 losses, respectively. Overall 94.3% customers believed fruit price adjustment was "a good initiative to help students make healthier food choices" ((P3) 93.9% vs. (P4), 94.6%, chi2 = 0.1, p = 0.813)).	P3 and P4 (Fruit intervention) Profitability X Customer level of satisfaction with strategy ✓
Department of Health [Using Annex C data]; 2010; Change4Life Convenience Stores programme	(G1) All stores increased F&V sales between 6 to 480%.	(G1) Total monetary sales at 9 stores changed between -7% and +25% (6/9 increased, 3/9 decreased) (no statistical significance given).	(G1 Promotion + Placement + Product + Other) Revenue ✓
	(G2) F&V sales increased between 11 to 164% (13/17 increased).	(G2) Total monetary sales changed between -8.6 and +35% (14/17 increased, 3/17 decreased) (no statistical significance given).	(G2 Promotion + Placement + Product + Other) Revenue ✓
Drewnowski; 2017; Crunchy "Wednesdays" (Mercredis à Croquer)	Proportion of Happy Meals with fruit desserts increased by 13.5% during intervention period.	Overall Happy Meal sales increased by mean 6.4% on days when healthy intervention offered compared to non-intervention days. Largest increase in sales was in first year of intervention. Happy meal sales did not affect other menu item sales.	Total sales ✓

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
Ellison; 2014; N/A	(G2) 4.2% reduction in calories purchased per meal.	Under control conditions (G1), willingness-to-pay was found to increase as calorie content increased. This effect was reduced when numeric calorie labels used (G2).	(G2 Promotion) Consumer welfare ✓
	(G3) 8.6% reduction in calories purchased per meal.	(G3) Willingness to pay decreased as calories increases.	(G3 Promotion) Consumer welfare ✓
Escaron; 2016; "Waupaca Eating Smart" (WES)	Not described.	Retailers were satisfied with the intervention and intended to continue; perceived value to business (increased sales (2.83±0.75)) and customers (2.86±0.90); no apparent negative cost (2.71±0.49) or costs (2.71±0.76) associated; not wasteful (3.0±0.00).	Retailer level of satisfaction with strategy ✓ Time and/or cost associated with implementation and maintenance ✓ Wastage ✓ Customer level of satisfaction with strategy ✓
Ferguson; 2017; N/A	No changes in F&V, grocery or diet soft drink sales; Proportion of refrigerated groceries (e.g. fresh milk) declined by mean - 1.3% (p=0.01) as proportion of total food and beverage sales.	Support from retailers and customers for price discounts; Some perception that the discount was not valuable and therefore chose not to continue/promote it.	Retailer level of satisfaction with strategy ✓ Customer level of satisfaction with strategy ✓ Value creation X (Promotion intervention)
Finkelstein; 2011; N/A	NS changes in overall calories per transaction between intervention and controls stores following intervention, when adjusting for pre-intervention sales.	No change in number of transactions in intervention or control counties after intervention.	Total sales -
Fitzgerald; 2004; "Healthy Dining Program"	NS changes in proportion of healthy items sold in intervention compared to pre-intervention.	29,480 items in total sold pre-intervention; 24,212 sold post-intervention.	Total sales X
Fitzpatrick; 1997; "Fresh Choice"	Not described.	Higher overall satisfaction (including taste) for Fresh Choice options compared to regular (p≤0.001); Interviewees felt that the program is important and would be beneficial to themselves and/or others.	Customer level of satisfaction with strategy ✓
French; 1997; N/A	Proportion of low-fat snacks purchased increased by 80% (from 25.7% to 45.8% total sales) during intervention and returned to pre-intervention levels during follow-up (p<0.002).	No change in total number of snacks sold from pre-intervention to intervention or follow-up. Profit decreased from \$US116 per machine per week to \$US66 per week during the intervention.	Total sales - Profitability X
French; 2001; "Changing Individuals' Purchase of Snacks (CHIPS)" [workplace	(G2 Price) 9% increase in low-fat snack sales (for worksites and schools together).	(G2 Price) NS effects of intervention on profit.	(G2 Price) Profitability -
	(G3 Price) 39% increase in low-fat snack sales (for worksites and schools together).	(G3 Price) NS effects of intervention on profit.	(G3 Price) Profitability -

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
outcomes only extracted]	(G4 Price) 93% increase in low-fat snack sales (for worksites and schools together).	(G4 Price) NS effects of intervention on profit.	(G4 Price) Profitability -
	(G6 Promotion) No independent effect on low-fat item sales.	(G6 Promotion) NS effects of intervention on profit.	(G6 Promotion) Profitability -
	(G7 Promotion) Increase in sales with label plus sign conditions(p<.05) (for worksites and schools together).	(G7 Promotion) NS effects of intervention on profit.	(G7 Promotion) Profitability -
French; 2010; "Route H"	The healthy to unhealthy item sales ratio in the intervention compared to control groups was 5 for snacks, 0.5 for cold beverages, and 0.78 for frozen food.	Decrease in frequency of use of vending machines compared to pre-intervention but not compared to control. Sales data showed no change in total vending sales.	Store patronage ✓ / - Total sales -
Gardiner; 2013; The 'improving retail access to fresh fruit and vegetables' initiative	Not described.	Themes and topics included: increased customer demand for F&V at target store, high Customer level of satisfaction with strategy, positive retailer perceptions of their own influence on customers' health, positive staff behaviour changes, additional time and cost to implement.	Customer demand for healthy items ✓ Community stewardship ✓ Retail staff personal satisfaction level ✓ Time and/or cost associated with implementation and maintenance ✓ Customer level of satisfaction with strategy ✓
Gittelsohn; 2012; "US Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)"	Not described.	Most owners reported WIC changes increased new customers (WIC and non-WIC) and/or increased existing customer loyalty. Most reported increases in profits, but others reported no change. Increased profits were related to new customers, and losses were related to perishability of items.	Store patronage ✓ Profitability ✓ Time and/or cost associated with implementation and maintenance X
Gorton; 2010; "Better Vending for Health"	40% reduction in energy, 41% reduction in saturated fat, and 30% reduction in sugar content, 29% increase in sodium per item sold. 54% customers changed choice, 31% of these reported changes were health-motivated.	Comparing results pre- to 3m post-intervention introduction, there was no change in sales volume (pre-: 3.4 items per staff member, post-intervention 4.0 items per staff member), an increase in customer satisfaction with vending machine range (pre-: 27%, post-intervention 46%), no change in revenue per staff member (pre-: NZ\$5.70, post-intervention: NZ\$5.53). No change to overall vending machine use.	Total sales - Customer level of satisfaction with store ✓ Revenue - Store patronage -
Gudzune; 2014; N/A	Increased variety of fresh produce (significant in 1/2 stores); Store-farm pair #1 sold 86% of F&V delivered; Store-farm pair #2 sold 63% of F&V delivered.	During the 9w intervention period: Pair #1: Store profit \$US 446.40, net farm income \$US 473.94. Pair #2, store profit \$US 177.00, net farm income \$US 330.40. Wastage due to spoilage 9% in Pair #1 and 33% in Pair #2. Mixed satisfaction of intervention. Satisfaction in Pair #1 and willingness to continue initiative. Pair #2 not willing to	Profitability ✓ Wastage X / - Retailer level of satisfaction with strategy ✓ / X Customer demand for healthy items ✓ / X

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
		continue initiative mainly due to lack of perceived customer demand and spoilage.	
Hamburger; 2016; "Healthy Cocina Initiative"	284% increase in the number of healthy meals sold (P1 to P2 of the intervention).	Customer surveys: Customers were neutral/satisfied with availability of healthy foods. Interviews: Low time and cost investment; Low to mixed profitability depending on dish; Increased customer demand as intervention progressed; Positive attitude to being able to influence customer health.	Time and/or cost associated with implementation and maintenance ✓ Community stewardship ✓ Customer level of satisfaction with strategy ✓ / - Customer demand for healthy items ✓ Profitability X / -
Hartigan; 2017; "Rethink Your Drink"	Monthly 'red' beverage sales decreased from mean 56% sales during pre-intervention period to 32% at end of intervention (p<0.001); 'Green' beverages increased from 12% to 38%.	No change in mean total monthly beverage revenue (pre-intervention: \$US 35,390; intervention: \$35,390; follow-up \$34,955).	Revenue -
Holdsworth; 1997; "Heartbeat Award Scheme (HBA)"	NS changes in fat, salt or sugar intake overall or healthy diet index from employee surveys.	Caterers valued the scheme for the potential to influence healthiness of customer food choices; HBA accreditation itself was external recognition of caterer's effort; improved brand image (some caterers); 18/23 stated HBA had not changed costs, 5/23 stated it had (direction unclear); 5/23 stated award improved competitiveness as improves brand image; 15/23 noted no change in customer numbers; 7/23 reported customer numbers had increased. Caterers valued the initiative for improving their own nutrition knowledge; many caterers received recognition from the community. Some dietitians valued the award for promoting dietitians and health. Customer surveys (post): 76% reported highlighting of healthy food choices very useful/ useful.	Customer level of satisfaction with strategy ✓ Attitudes of business stakeholders ✓ / - Time and/or cost associated with implementation and maintenance - Competitiveness - Community stewardship ✓ Retail staff personal satisfaction level ✓ Feedback from community and external organisations ✓ Store patronage -

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
Holmes 2012; 2012; "Healthy Kids" campaign	23% of promoted healthy items increased sales during initiative (p<0.05); No promoted products had significantly lower sales during initiative.	Customer count decreased slightly from pre-intervention (9,392), intervention (9,339) to follow-up (8,891) (significance not given). Total store sales declined from pre-intervention to follow up (significance and magnitude not given). Customer level of satisfaction with strategy: 74% customers would recommend store to a friend with young children based on strategy, 45.5% stated kiosk encouraged increased store patronage frequency.	Store patronage ✓ / - Total sales X Customer level of satisfaction with strategy ✓
Horgen; 2002; N/A	(P2 Price): Sales of healthy target items increased during P2 compared to P4 for both the chicken sandwich (p<0.001) and the chicken salad (p<0.05).	(P2 Price) No change in total item sales compared to control or washout periods.	(P2 Price) Total sales -
	(P4 Promotion): No significant differences were found in healthy food sales.	(P4 Promotion) No change in total item sales compared to control or washout periods.	(P4 Promotion) Total sales -
	(P5 Price + Promotion): No significant differences were found in healthy food sales.	(P5 Price + Promotion) No change in total item sales compared to control or washout periods.	(P5 Price + Promotion) Total sales -
Hua; 2016; N/A	(for all interventions) Pre: None of the top 5 selling snacks during pre-intervention period met the healthier guidelines, top 5 selling beverages all regular or diet 12 or 20 oz. soft drink. Post: all top 5 selling snacks met guidelines, beverage: 4 regular and diet 12 oz. soft drinks, 1 20 oz. water.	Snack vending (G1 Product + Price + Promotion): Decreased revenue (\$-667.50, p<0.01) and total item sales (-282.2, p<0.05).	Snack machine (G1 Product + Price + Promotion): Revenue X Total sales X
		Snack vending (G2 Product + Promotion): Increased revenue (+\$1,039, p<0.05) and total sales (+460, p<0.08).	Snack machine (G2 Product + Promotion): Revenue ✓ Total sales ✓
		Snack machine (G3 Product + Price): Decrease in items sold (-448 items, p<0.05) and revenue (-\$1287.33, p<0.05).	Snack machine (G3 Product + Price): Revenue X Total sales X
		Snack machine (G4 Product): NS change in revenue or total sales.	Snack machine (G4 Product): Revenue - Total sales -
		Snack machine (G5 Price + Promotion): NS change in revenue or total sales.	Snack machine (G5 Price + Promotion): Revenue - Total sales -

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
		Snack machine (G6 Promotion): NS change in revenue or total sales.	Snack machine (G6 Promotion): Revenue - Total sales -
		Snack machine (G7 Price): NS change in revenue or total sales.	Snack machine (G7 Price): Revenue - Total sales -
		Beverage vending (G1 Product + Price + Promotion): Increased item sales by 66 items per machine (p<0.005). NS revenue changes.	Beverage machines (G1 Product + Price + Promotion) Revenue - Total sales ✓
		Beverage vending (G2 Product + Promotion): Increased item sales by 204 items (p<0.05). NS revenue changes.	Beverage machines (G2 Product + Promotion) Revenue - Total sales ✓
		Beverage vending (G3 Product + Price): Decrease in revenue (-\$593.55, p<0.05). No significant unit changes.	Beverage machines (G3 Product + Price) Revenue X Total sales -
		Beverage vending (G4 Product): Increased sales by 297.2 items (p<0.05). No significant revenue changes.	Beverage machines (G4 Product) Revenue - Total sales ✓
		Beverage machine (G5 Price + Promotion): No significant revenue or unit changes.	Beverage machines (G5 Price + Promotion) Revenue - Total sales -
		Beverage machine (G6 Promotion): No significant revenue or unit changes.	Beverage machines (G6 Promotion) Revenue - Total sales -
		Beverage machine (G7 Price): No significant revenue or unit changes.	Beverage machines (G7 Price) Revenue - Total sales -

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
Jigsaw Research; 2010; Change4Life Convenience Stores programme	Increase in proportion customers reporting they consume recommended 5 serving of F&V every day (Pre-: 25%, T3: 34%) (p<0.05); Increase in proportion reported eating F&V most or every day (Pre-: 57%, T3: 73%) (p <0.05).	All overall opinions of store had significantly higher proportion of Excellent/Very good ratings post-intervention including at 7m vs. pre-intervention (all p<0.05 different from pre-intervention). . - Appealing F&V display 70% vs. 39% - Prominent F&V display 68% vs 42% - Good selection F&V 61% vs 39% - Place to shop for food 54% vs. 43% - Good place to buy F&V 56% vs. 41% Significant Improvement perceptions of quality (Pre-intervention: 52%, 7 m: 68%). Perceptions of selection increased immediately after but since declined (not significant).	(G1 + G2 Promotion + Placement + Product + Other) Customer level of satisfaction with strategy ✓ Customer level of satisfaction with store ✓
Jilcott; 2016; N/A	Not described.	Themes included: "Training staff on preparation" and "Customer complaints". Additional costs included training and labour costs, equipment costs, and "price increases introduced to offset higher food costs". Difficulties sourcing appropriate healthy foods. Most participants noted improved profitability/revenue, increased customer traffic, and positive attitude towards improved customer health; improved relationship between retailers and organisation.	Profitability ✓ Time and/or cost associated with implementation and maintenance X Store patronage ✓ Community stewardship ✓ Attitudes of business stakeholders ✓ Customer level of satisfaction with strategy X
Kerins; 2016; "Healthiest Heart Award"	NS change in percentage sales of labelled "healthy" items compared to unlabelled items.	Total item sales trended up after the intervention, but not significantly.	Total sales -
Kottke; 2013; N/A	Salad bar sales increased by 83% during the intervention month (p = 0.008); Sales of less healthy items did not decrease significantly.	Similar daily food and beverage revenue for each month including pre-intervention and each month of the intervention (no statistical significant reported). Reported increase in purchases of salad bar items during intervention period by nearly all respondents. 88% customer survey respondents supported price discount continuing.	Revenue - Customer level of satisfaction with strategy ✓
Lawman; 2015; "Healthy Corner Store Initiative (HCSI)"	NS change in energy, fat, protein, carbohydrate, sugar, dietary fibre or sodium for stores overall from pre- to post-intervention; Greater increase in energy (+65kCal) (p=0.07) and fat (+93.6g) per transaction over time in basic compared to high-intensity intervention stores.	NS change overall in dollar spend per transaction, but greater increase in spending at high-intensity intervention stores (G2) compared to basic intervention stores (G1) (p<0.01).	Spend per transaction -

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
Lee-Kwan; 2015; "Baltimore Healthy Carryouts"	(P1) Number of healthy items did not change significantly (OR 1.08 (95%CI 0.99, 1.16)) compared to pre-intervention; For control stores, NS changes in number of healthy items sold.	(P1 Promotion) compared to pre-intervention: No significant difference in the total items sold [decrease in control]. Total revenue was higher compared to pre-intervention for intervention group RR 1.24 (95% CI 1.10, 1.40) [decrease in control].	(P1 Promotion) Total sales ✓ Revenue ✓
	(P2) Number of healthy items sold increased (OR 1.23 (95%CI 1.09, 1.39)) compared to pre-intervention; For control stores, NS changes in number of healthy items sold.	(P2 Product + Promotion) compared to pre-intervention: No significant difference in the total items sold [decrease in control]. Total revenue was higher compared to pre-intervention for intervention group RR 1.25 (95% CI 1.09, 1.44) [decrease in control].	(P2 Product + Promotion) Total sales ✓ Revenue ✓
	(P3) Number of healthy items sold increased (OR 1.29 (95%CI 1.04, 1.62)) compared to pre-intervention; For control stores, NS changes in number of healthy items sold.	(P3 Price + Promotion) compared to pre-intervention: No significant difference in the total items sold [decrease in control]. Total revenue was higher compared to pre-intervention for intervention group RR 1.22 (95% CI 1.03, 1.46) [decrease in control].	(P3 Price + Promotion) Total sales ✓ Revenue ✓
Lessa; 2016; N/A	Reduction in energy, fat and protein content of 9/25 dishes.	Customers' perception of portion size decreased slightly pre- (8.9±1.23) vs. post-intervention (9.75±1.14) (p<0.05). There were no significant changes in ratings of meal presentations, product quality, variety or value for money (all p>0.05).	Customer level of satisfaction with store X / -
Leven; 2013; "Scottish Grocers Federation Healthy Living Programme" (HLP)	Retailers reported increased F&V purchases in some outlets, but no impact in others.	Survey: reported benefits including new skills (3/11), new ideas (6/11); 7/10 said did not affect relationship with supplier; 5/10 said changed relationship with customers (direction of effect not indicated); 2/10 reported increase to income/profit, 4/10 reported no change, 2/10 reported increase wastage, 2/10 reported decreased wastage, 3/10 no change to wastage. Case study 1: No impact on sales. Manger reported useful and relevant intervention. Case study 2: Display stands reportedly increased sales at nurseries, but not at most community venues. Manager reported useful and relevant intervention. Case study 3: Positive attitude towards being able to influence community health.	Profitability ✓ / X / - Total sales ✓ / - Wastage ✓ / X / - Retail staff personal satisfaction level ✓ Retailer level of satisfaction with strategy ✓ Community stewardship ✓ Attitudes of business stakeholders -
Lillehoj; 2015; N/A	County government: Proportion of healthy snacks increased (15.2% vs. 25.7%, p=0.03).	County government: Willingness to pay for healthier options moderate [post-only]. No change in frequency snack purchases. Frequency of beverage vending machine purchases increased (p=0.05). No change in satisfaction with snack or beverage vending options.	County government: Store patronage ✓ / - Customer level of satisfaction with strategy - Consumer welfare -

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
	College: Proportion of healthy snacks decreased (8.8% vs. 6.6%, p=0.01).	College: NS change in willingness to pay for healthier options. Frequency snack purchase increased (p<0.01). Frequency beverage vending machine purchases increased (p=0.05). No change in satisfaction with snack or beverage vending options.	College: Store patronage ✓ / - Customer level of satisfaction with strategy - Consumer welfare -
	Manufacturing No. 1: NS changes in healthiness of beverage or snack offerings.	Manufacturing No. 1: NS change in satisfaction with snack vending options. No change in frequency snack or beverage purchases. Satisfaction with beverage vending options decreased pre-(2.8±0.7) vs. post-intervention (2.3±0.8) (p=0.03). No change in "willing to pay more for healthier options".	Manufacturing No. 1: Store patronage - Customer level of satisfaction with strategy X Consumer welfare -
	Manufacturing No. 2: NS changes in healthiness of beverage or snack offerings.	Manufacturing No. 2: "Willing to pay more for healthier options" increased from 1.5±0.8 to 2.4±0.5 (p=0.01). No change in frequency snack or beverage purchases. No change in satisfaction with snack or beverage vending options.	Manufacturing No. 2: Store patronage - Customer level of satisfaction with strategy - Consumer welfare ✓
Macaskill; 2003; "Eat Smart! Ontario's Healthy Restaurant Program"	Not described.	98% retailers planned to continue participating. Reasons for remaining in program included: promoting healthy eating to customers, recognition, attracting more customers.	Retailer level of satisfaction with strategy ✓ Value creation ✓ Feedback from community and external organisations ✓ Community stewardship ✓
Martínez-Donate; 2015; "Waupaca Eating Smart (WES)"	Stores: No effect on healthiness of purchases.	Stores: NS differences in consumer satisfaction with healthy meal offerings compared to comparison community. On average, store owners rated the intervention as business neutral (2.0±0.0/4). On average, store managers said they would be likely to continue with the initiative after the evaluation (2.86±0.90/4).	Stores: Customer level of satisfaction with store - Retailer level of satisfaction with strategy ✓ Value creation -
	Restaurants: Trend to increase in purchases of healthier foods in intervention vs. control (adjusted OR=2.23, p=.094).	Restaurants: NS differences in consumer satisfaction with healthy meal offerings compared to comparison community. On average, restaurant owners rated the intervention as positive (3-3.14±0.69/4). On average, restaurant managers said they would be likely to continue with the initiative after the evaluation (3.5±0.69/4).	Restaurants: Customer level of satisfaction with store - Retailer level of satisfaction with strategy ✓ Value creation ✓

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
Mason; 2014; "100% Healthier Snack Vending Initiative"	Not described.	Customer surveys: 88% customers liked the healthy snacks they tried, and 98% of those customers reported they would buy them again. Staff interviews: 89% of staff (100% of those who had tried) reported liking the healthier snacks. Sales data: monthly revenue per machine increased from \$US84 at beginning of intervention to \$371 at 15m.	Revenue ✓ Retailer level of satisfaction with strategy ✓ Customer level of satisfaction with strategy ✓
Minaker; 2016; N/A	Reduced purchases of carbonated soft drinks in intervention community.	Controlling for seasonality, community sales of carbonated soft drinks decreased by 21.4% (NS). NS change in CSD sales at non-intervention stores.	Societal shift towards healthier food ✓
Närhinen; 1999; N/A	6% customers stated they had bought a healthier product because of the initiative in P3.	92% customers were supportive of the program.	Customer level of satisfaction with strategy ✓
Naylor; 2015; "Healthy Food and Beverage Sales in Recreation and Local Government Buildings (HFBS)" initiative	On average across intervention sites, healthy vending products increased from 11% to 15% (p<0.05) and unhealthy products decreased from 56% to 46% stocked items (p<0.05) in intervention communities; There were no changes in the healthiness of stocked vending machine items in comparison communities.	Outcomes varied for different sites. Not clear what proportion of sites reported barriers/ facilitators/ outcomes applied to. Some retailers reported declining revenue; Senior council stakeholder buy-in reported, "being part of a bigger movement"; Harder to be competitive when offering healthier foods; perceived poor customer demand for healthy food; need for staff time for adequate implementation including sourcing of healthier alternatives.	Revenue X Attitudes of business stakeholders ✓ Competitiveness X Time and/or cost associated with implementation and maintenance X Customer demand for healthy items X
Nevarez; 2013; "Salud Tiene Sabor"	Calorie information influenced purchases for 46% of patrons that noticed the information.	67% customers strongly agreed that "consumers have the right to know the nutrition content of restaurant meals", 93% "would like to see nutrition information when they order at restaurants". Interviews: retailers generally supportive. 2/7 reported positive influence on their own eating habits. 5/7 reported no profit change; 2/7 reported increased profit due to smaller portion sizes. Stakeholders found intervention successful and acceptable.	Retailer level of satisfaction with strategy ✓ Retail staff personal satisfaction level - Profitability ✓ Customer level of satisfaction with strategy ✓
Ni Mhurchu; 2010; "Supermarket Healthy Options Project (SHOP)"	No consistent effects on any tested nutrients including percentage energy from saturated fat between any intervention groups and control at 6m or 12m; 11% increase in purchases of healthy foods (including F&V) in discount group (p<0.001) and 12m (p=0.045).	No change in revenue (p = 0.23); Increased weight all foods purchased (p=0.004) at 6m.	Revenue - Total sales ✓
Nikolaou; 2014; N/A	Sales of high-calorie items fell 30%, and low-calorie items sales fell 18% at intervention sites (both p<0.001) while at control they shifted -3% and +8%, respectively.	Total number of items sold in intervention sites decreased by 17% at interventions sites (p<0.001) compared to 2% at control site.	Total sales X
Nikolaou; 2017; N/A	Sales of high-calorie muffins decreased by 30%; Sales of lower-fat scones increased by 4% (p=0.0014).	23% decrease in total sales of all sweet food items (significance unclear).	Total sales X

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Oka; 2013; N/A	Compared to pre-intervention period, sales of boiled pumpkin increased (p=0.002); No significant change in purchases of extra boiled rice (i.e. pumpkin was not an alternative to rice).	NS difference in customer spend pre-intervention compared to post-intervention.	Spend per transaction -
Olstad; 2011; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	No increased purchases of healthy food; Majority remained energy-dense, nutrient poor purchases.	Sales data from vending and concession suggested lower overall sales; Interviews indicated that less profitable healthy items were being sold and reduced profits meant less funding available for programs; increased time required for food preparation; did not believe program provided them with competitive advantage; perceived stakeholder lack of support/prioritisation; customers unsupportive by observed continued purchase of unhealthy foods.	Profitability X Competitiveness - Time and/or cost associated with implementation and maintenance X Customer level of satisfaction with strategy X Attitudes of business stakeholders X / -
Olstad; 2012; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	Low sales of healthy options.	Declines in total sales in adopter (17% decline in concession and 20% decline in vending); semi-adopter facilities (16% decline in vending sales overall); smaller declines (attributed to falls in attendance) in the non-adopter (2 sites fell 5% and 9% respectively).	Total sales X Revenue X Time and/or cost associated with implementation and maintenance X Customer demand for healthy items X
Olstad; 2013; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	Not described.	Negative financial outcomes experienced by adopters including decreases in revenue of 17%, 50% and 20% for the 3 adopters. Interviewees expressed time consuming to implement including sourcing healthy alternatives; perceived poor consumer acceptability of healthy options; adopters perceived short-term financial losses for longer-term competitive advantage.	Competitiveness ✓ Opportunity costs ✓
Olstad; 2014; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	(P1 Promotion) NS change in total number of healthy or unhealthy items sold in pre- vs. post-intervention periods or control site.	(P1 Promotion) No change in mean total daily sales, mean daily gross profits or mean revenue (p>0.05). Signage intervention cost \$1500. Food costs were higher per food item (and therefore profit per item lower) for healthy compared to unhealthy items.	(P1 Promotion) Total sales - Profitability - Revenue - Time and/or cost associated with implementation and maintenance X
	(P2 Promotion) NS change in total number of healthy or unhealthy items sold pre- vs. post-intervention periods or control site.	(P2 Promotion) No change in mean total daily sales, mean daily gross profits or mean revenue (p>0.05). Signage intervention cost \$1500. Taste tests cost \$200. Food costs were higher per food item (and therefore profit per item lower) for healthy compared to unhealthy items.	(P2 Promotion) Total sales - Profitability - Revenue - Time and/or cost associated with implementation and maintenance X

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
	(P3 Price + Promotion) NS change in total number of healthy or unhealthy items sold in pre- vs. post-intervention periods or control site.	(P3 Price + Promotion) No change in mean total daily sales, mean daily gross profits or mean revenue (p>0.05). Signage intervention cost \$1500. Taste tests cost \$200. Price reductions cost \$600 (in lost revenue). Food costs were higher per food item (and therefore profit per item lower) for healthy compared to unhealthy items.	(P3 Price + Promotion) Total sales - Profitability - Revenue - Time and/or cost associated with implementation and maintenance X
Olstad; 2015; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	There was a significant main effect of intervention (p < 0.01), with an overall increase in sales of 'green' (52.2% to 55.5%, p < 0.05) and a reduction in sales of 'red' (30.4% to 27.2%, p < 0.05) items from pre- to post-intervention; Beverage sales did not change significantly	No differences in mean number of daily transactions or daily revenue or consumer spend per transaction (all p>0.20). Decrease in proportion of customer reporting "always/usually" purchased concession items from 52.8% pre- to 42.4% post-intervention (p=0.008).	Revenue - Spend per transaction - Store patronage X
Olstad; 2015; "Alberta Nutrition Guidelines for Children and Youth (ANGCY)"	Higher sales of healthy items post-intervention (22.7%), compared to pre- (7.7%) and follow-up (9.8%) stages (p < 0.0001).	Spend per transaction and total items sold per customer declined during intervention at municipally operated concession (p < 0.001). NS change in spend per transaction or total sales per customer when both sites combined (P1-3 reported together).	Total sales X / - Spend per transaction X / -
Olstad; 2016; "Supermarket Healthy Eating for Life (SHELF)"	Increased self-reported purchase/consumption of F&V.	68.8% customers reported they liked the price discounts "very much". Participants qualitatively reported: that they increased the proportion of all purchases at the intervention store and that they felt appreciated.	Customer level of satisfaction with strategy ✓ Store patronage ✓
Ortega; 2016; "Proyecto MercadoFRESCO"	No significant change in intervention or comparison communities in F or vs. consumption.	Perception of convenience store characteristics related to the intervention (cleanliness, nutrition information, safety) improved for the intervention (p<0.001) but not control group. Overall perceptions of convenience store improved at both intervention and control stores both p<0.001). Patronage did not change for intervention or control groups.	Customer level of satisfaction with store ✓ Store patronage -
Owen; 2009; Change4Life Convenience Stores programme	(G1) NS change in proportion customers who bought F or vs. on shopping occasion.	(G1) Increase in score for many metrics of satisfaction with store F&V offerings including "a good range of fruit and vegetables" (mean score pre-post: +0.8). Mean scores for G1 rating higher pre-intervention than G2 and control, and greater increase post at G1 (most items <0.05). Ratings of "a place to shop for food in general declined slightly compared to control" (G1: -0.1, Control: +0.2), "The store has the interest of consumers at heart" (G1: -0.1, Control: +0.0) (p<0.05). NS change in average spent on shopping occasion pre-post. ¹¹	(G1 Promotion + Placement + Product + Other) Customer level of satisfaction with strategy ✓ Customer level of satisfaction with store X Spend per transaction -

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
	(G2) NS change in proportion customers who bought F or vs. on shopping occasion.	(G2) *Increase in score for many metrics of satisfaction with store F&V offerings including "a good range of fruit and vegetables" (mean score pre-post: +0.1). Ratings of "a place to shop for food in general" declined slightly compared to control (G2: -0.1, Control: +0.2), "The store has the interest of consumers at heart" (G2: -0.1, Control: +0.0)(p<0.05). NS change in average spent on shopping occasion pre-post. ¹¹	(G2 Promotion + Placement + Product + Other) Customer level of satisfaction with strategy ✓ Customer level of satisfaction with store X Spend per transaction -
Patsch; 2016; "Better Bites"	Item sales of healthy burgers and salads increased and sales of unhealthy burgers and salads decreased during intervention (all p<0.001).	5-8% relative increase in gross sales pre- to post-intervention; Profit overall cafeteria sales increased by 5% at 1 cafeteria and 8% at the other.	Revenue ✓ Profitability ✓
Pack; 2007; "The Fresh & Healthy Program"	Small decreases in sales of targeted healthy foods including 2.9% decrease in mean weekday sales of Fresh and Healthy sandwiches (p<0.0001).	In main cafeteria, increase in total number of daily transactions (+245.89/weekday, +123.52/weekend); Net increase in total number item sales from pre-intervention to 1y post (+336.7 items/day) (statistical comparisons not reported).	Store patronage ✓ Total sales ✓
Payne (Study 1); 2015; N/A	16% higher proportion of consumer spend on produce in intervention compared to control groups post-intervention (p=0.04) (vs. +4% pre-intervention (NS)).	No change in overall store spend per transaction.	Spend per transaction -
Payne (Study 2); 2015; N/A	Produce pending per day per person increased by 12.4% in Store 1 (p<0.001) and 7.5% in Store 2 (p<0.01).	No change in overall store spend per transaction pre- to post-intervention at either store (p=0.64 Store 1, p=0.68 Store 2).	Spend per transaction -
Rahkovsky; 2013; "Guiding Stars Program"	"Starred" cereal market share increased while unstarred (less healthy) cereal market share decreased after intervention (-2.58%, p<0.05) at intervention compared to control sites.	Total cereal category sales decreased by 6.5% at intervention supermarkets and decreased by 0.5% at control stores.	Total sales X
Reinders; 2017; "Meer groente & fruit voor iedereen" (More vegetables and fruit for everyone)	Vegetable consumption (+87%) higher in intervention period (p<0.001); Meat consumption lower (-13%) (p<0.001).	Satisfaction with the main dish was slightly lower in intervention compared to control groups (p<0.01), but on average, participants were "very satisfied" in both groups. No difference in satisfaction with restaurant between intervention and control.	Customer level of satisfaction with strategy X Customer level of satisfaction with store -
Resnick; 1999; N/A	Not described.	NS changes in rating of food quality, price, food presentation, food choices available, entree portion size, or overall quality of cafeteria. Rating of healthfulness of entrees improved (p<0.001) as 36% ratings improved and 41% stayed the same; availability of healthy choices ratings improved (p<0.05) as 34% ratings increased and 44% stayed the same. Length of line ratings decreased (p<0.01) with 31% decreasing, 48% stayed the same and 21% increased.	Customer level of satisfaction with store X / - Customer level of satisfaction with strategy ✓
Rosi; 2017; N/A	(G1) Increased sales of healthier foods compared to pre-intervention (e.g. % "unhealthy +" items sold decreased from 45% to 29% of total sales) (p<0.001).	(G1 Product) NS effect on weekly mean sales between pre-intervention and (G1) sales.	(G1 Product) Total sales -

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	(G2) NS effect of nutritional labelling interventions on sales compared to G1.	(G2 Promotion) NS effect on weekly mean sales between G1 and G2.	(G2 Promotion) Total sales -
	(G3) NS effect of nutritional labelling interventions on sales compared to G1.	(G3 Promotion) NS effect on weekly mean sales between G1 and G3.	(G3 Promotion) Total sales -
Roy; 2016; N/A	No change in kJ purchased overall; Less energy purchased in those that used/recalled kJ labels and/or campaign materials vs. those who did not (p<0.01).	No change in overall sales when social marketing campaign applied compared to labelling intervention only. 75% liked kJ labelling. 96% respondents reported positive impression of campaign.	Total sales - Customer level of satisfaction with strategy ✓
Sacks; 2009; N/A	Overall, increased sales of target ready meals, non-significant decrease sales of target sandwiches; No association between changes in product sales and healthiness.	2.5% increase in sales of ready meals product category (with and without TLL) (significance not reported). No significant change in sandwich category sales overall.	Total sales ✓ / -
Sato; 2012; "Healthy Picks campaign"	Non-significant increase in purchase of healthy entrees; Non-significant decrease in regular entrees as percentage of total.	At end of combined intervention period: Total main meal sales decreased by 8% (p<0.0001). Intervention cost US\$32 (label printing); 71% customers who noticed the labels (n=12) liked them.	Total sales X Time and/or cost associated with implementation and maintenance N/A Customer level of satisfaction with strategy ✓
Seo; 2017; N/A	Not described.	On average, restaurateurs agreed strategy created value through improved image (3.63±0.84), increased sales 3.15±0.75, increased store patronage (3.11±0.78). Menu reformulation (3.83±0.65) and nutrition labelling (3.85±0.67) considered helpful for customers' health. Other relevant results: integrated model considering the influence of multiple factors on intentions to sustain healthy restaurant initiative included close to significant factors of perceptions of positive health outcomes for customers (p=0.078); restaurateur attitude (restaurateurs believe healthy restaurants are a good idea) (p=0.053). NS factors included subjective norms, and relative advantage for restaurant. [NB strongest predictor was "perceived behavioural control" (i.e. having control over the initiative, sufficient technical resources, employee support), p<0.001].	Value creation ✓ Community stewardship ✓ Total sales ✓ Store patronage ✓
Song; 2009; "Baltimore Healthy Stores (BHS)"	Compared to comparison stores, higher weekly reported sales of cooking spray only (p=0.05); No other statistically significant changes in sales of promoted foods or drinks.	NS difference in outcome expectation score about initiative promotion effect on store sales between intervention and comparison stores and pre- and post-intervention. Supermarket managers had higher outcome expectations than corner store owners pre- or post-intervention.	Customer demand for healthy items -
Stastny; 2011; N/A	Not described.	Customer satisfaction was higher when control (fun facts) conditions were presented compared to intervention	Customer level of satisfaction with store X

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
		(nutrition facts panel) (p<0.05). Overall, satisfaction range 4.17-4.74 / 5 (very good).	
Steenhuis; 2004; N/A	Supermarket RCT: NS effects on any consumption outcomes including total fat ⁸ ; Workplace cafeteria RCT: NS change in total fat, fruit or vegetable intake. ⁹	Similar findings for workplaces and supermarkets. "Healthy employees were seen as a benefit to the company." Difficulties with programme implementation - interference with other campaigns, resources such as space, time and personnel (intervention is extra work), competing priorities (e.g. promote decreased snack consumption but most of cafe profits are from snacks, suppliers and sourcing healthier option is limited, unclear and time-consuming labels. Cafeteria managers: no difference in customer satisfaction with the cafeteria. Supermarket managers: similar or increased customer satisfaction with the store.	Supermarket: Customer level of satisfaction with store ✓ / - Time and/or cost associated with implementation and maintenance X Community stewardship ✓ Workplaces: Customer level of satisfaction with store - Time and/or cost associated with implementation and maintenance X Community stewardship ✓
Teisl; 1997; N/A	Labelling was associated with increased share of healthy compared to unhealthy products in the following categories: milk, refried beans, peanut butter. Labelling decreased share of healthy products for mayonnaise and salad dressing.	Annual household benefit of intervention ranges from \$0.02p.a. for fat labelling of refried beans to \$5.16p.a. for fat labelling of milk.	Consumer welfare ✓ / -
Thorndike; 2012; "Choose Well, Eat Well"	(P1 Promotion) Decrease in sales of all 'red' items (-9.2%), and 'red' beverages (-16.5%) from pre-intervention. Increased 'green' items (+4.5%) and 'green' beverages (+9.6%) (all p<0.001). (P2 Promotion + Placement) Further decrease in sales of all 'red' items (-4.9%), and beverages (-11.4%), from P1. 'green' items decreased (-0.5%), but 'green' beverages increased further compared to P1 (+4%) (all p<0.001).	(P1 Promotion) Increase in sales of all items (+1.1%) and beverages (+1.3%) from pre-intervention. (P2 Promotion + Placement) Decrease in sales all items (-2.0%) and beverages (-0.4%) from pre-intervention.	(P1 Promotion) Total sales ✓ (P2 Promotion + Placement) Total sales X
Thorndike; 2014; N/A	Red items decreased from 24% purchases at pre-intervention to 21% at 24m post-intervention (p<0.001); 'green' items increased from 41% purchases pre-intervention to 46% at 24m post-intervention (p <0.001).	Pre- to 24m post-intervention (P2), there were slight increases in: mean number of daily transactions from 6,511 to 6,668 (p=0.004); overall daily cafeteria revenue from mean US\$4,350 to \$4,489 at (p=0.007); amount spent per transaction from \$4.81 to \$4.88 (p<0.001). No results reported for P1.	Store patronage ✓ Revenue ✓ Spend per transaction ✓

First author surname; Year of publication; Intervention "name"	Health-related outcome findings	Business outcome findings	Summary of effect per business outcome
Turconi; 2012; N/A	71.4% customers had changed their food choices since being informed of the meals' nutritional values; 45.5% chose foods lower in calories and fat, 10.4% foods higher in fibre and 11.2% foods higher in carbohydrates.	56.5-57.6% customers considered the intervention "a lot useful", 37.7-38.9% considered it "enough" useful.	Customer level of satisfaction with strategy ✓
van Assema; 2006; "Hartslag Limburg" (Dutch for "Heartbeat Limburg")	No significant health behaviour effects including frequency of lean meat product purchases frequency of liquid margarine use.	NS difference between intervention and control on acceptability of labelling of meat products (both high acceptability, post- intervention (1.56 ±0.81), control (1.54±0.78); Receiving advice on meat choice or preparation also acceptable to both groups but NS difference, intervention (1.05±1.11), control (0.99±1.12). Campaign was evaluated higher in intervention than control, both moderate intervention (6.8±1.77), control (6.4±2.03) (p=0.035).	Customer level of satisfaction with strategy ✓ / -
van der Feen de Lille; 1998; "Fat Watch"	Not described.	Decrease in the proportion of stores who agreed "the campaign is good for customers' health" from 1992 (88%) to 1993 (75%) (p<0.05); Decrease in the proportion of stores who agreed "the campaign improves the image of my store" from 1992 (43%) to 1993 (36%) (p<0.05); Consumer target audience had reasonable appreciation of campaign 7.0-7.2 / 10 over the 3 y of measurement.	Community stewardship ✓ Value creation X Customer level of satisfaction with strategy ✓
Van Hulst; 2013; "Health promoting vending machines (HPVM)" project	No impact on self-reported stages of change to adopt healthier diet	90% overall satisfaction remained in both pre- and post-intervention periods.	Customer level of satisfaction with store -
van Kleef; 2012; "Healthy Snacks at the Checkout Counter"	No effect of proportion healthy snacks, shelf arrangement or interaction on sales of unhealthy snacks (all p>0.05); Healthy snacks sales increased when 75% snacks were healthy (p=0.01).	Most frequently preferred shelf arrangement was 75% healthy snacks with healthy snacks on top (P4) (p<0.05). Perceived freedom of choice high for all phases (range mean score 4.5 to 4.8/7).	Customer level of satisfaction with strategy ✓
Vermeer; 2011; N/A	Unclear (results reported inconsistently).	Customers in G1 and G2 were generally positive towards the smaller portion sizes (3.69±0.07) (significance not given). No significant differences in total number of hot meals sold (p=0.42).	Total sales - Customer level of satisfaction with strategy ✓ Time and/or cost associated with implementation and maintenance ✓ Customer demand for healthy items ✓ / X Profitability ✓ / X
Vermeer; 2012; N/A	Not described.	[Groups reported together]. Mixed results on manager-perceived customer demand or smaller serving sizes (half perceived as high, the other half as too low). Profit decreased in some cases where customers chose smaller portion, in others it increased where customers also selected a side option. Perceived customer satisfaction high. Time and costs associated with implementation were low.	

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Waterlander; 2013; N/A	Increase in proportion of participants meeting F&V requirements from 42.5% (pre-intervention) to 61.3% (6 months, end of intervention) in discount group (G1) compared to control (G4) (p<0.03).	NS difference at 1 or 3m into the intervention; or at 3m post-intervention for total expenditure for price group (G1) compared to control (G4); At 6m into the intervention, Total expenditures €52 higher in price compared to control group over 2wperiod (p=0.05).	Spend per transaction ✓ / -
Webb; 2011; N/A	(G1 results only) The proportion of target (healthy) items for intervention (menu board + poster) compared to control sites was higher for snacks (intervention sites +1.3%, control sites -8.1%, p=0.006), side dishes (intervention sites +4.8%, control sites -4.8%, p=0.0007), but not main dishes (NS).	(G1 Promotion) 88 % customers agreed that "cafeterias should provide calorie information", 76% that calorie information is useful for making purchase decisions, 86% that "By providing calorie information, [the health service] is helping to look after respondent's health", and very few patrons thought there were disadvantages to having calorie information in the cafeteria (10%). No significant differences in any responses between G1 and G2.	(G1 Promotion) Customer level of satisfaction with strategy ✓
		(G2 Promotion) 82 % customers agreed that "cafeterias should provide calorie information"; 70% that calorie information is useful for making purchase decisions; 82% that "By providing calorie information, [the health service] is helping to look after respondent's health"; and very few patrons thought there were disadvantages to having calorie information in the cafeteria (12%).	(G2 Promotion) Customer level of satisfaction with strategy ✓
Winkler; 2016; "Project Sundhed & Lokalsamfund (Project SoL)"	No change in sales of confectionary, fruit, dried fruit, dried fruit bars. Increased sales of carrot snack packs in intervention compared to control stores (p<0.05).	Customers generally supportive of intervention, as it supports parents to make healthier choices for children, but maintains overall customer autonomy in the store (can buy confectionary elsewhere); satisfaction with store for participating; some dissatisfaction with unhealthy items throughout store and near checkouts.	Customer level of satisfaction with strategy ✓ Customer level of satisfaction with store ✓ / X
Wolfenden; 2015; N/A	OR of usual purchase of F&V products by members at intervention compared to control sites 2.58 (95%CI 1.08, 6.18); OR of usual purchase of non-SSBs by members at intervention compared to control sites 1.56 (95%CI 1.09, 2.25).	After adjusting for pre-intervention revenue, there was no significant difference in post-intervention revenue between intervention and control groups (p=0.910).	Revenue -
Zick; 2010; N/A	Healthy menu items comprised 13% total sales during intervention.	Ongoing costs of staff training and nutrition advice; increased menu development time associated with implementing intervention.	Time and/or cost associated with implementation and maintenance X

F&V, Fruit and vegetables; m, months; N/A, Not applicable; NS, Not significant; OR, odds ratio; p.a., per annum; RCT, Randomised control trial; TLL, Traffic light labelling; w, weeks; WIC,

US Special Supplemental Nutrition Program for Women, Infants, and Children; y, years

Table S8: Quality appraisal of included studies

First author surname; Year of publication	S1	S2	1.2	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	Overall quality
Adam; 2017	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%
Albert; 2017	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%
Andreyeva; 2011	Y	Y	Y	N	Y	N	-	-	-	-	Y	Y	?	Y	-	-	-	-	Y	Y	N	50%
Anzman-Frasca; 2015	Y	Y	-	-	-	-	-	-	-	-	Y	N	Y	Y	-	-	-	-	-	-	-	75%
Auchincloss; 2013	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	N	-	-	-	-	-	-	-	50%
Ball; 2015	Y	Y	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	100%
Bedard; 2015	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%
Bergen; 2006	Y	Y	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	75%
Berkowitz; 2015 [Patterson dental]	Y	Y	Y	?	Y	N	-	-	-	-	Y	Y	Y	N	-	-	-	-	Y	N	N	50%
Berkowitz; 2015 [Town and Country Club]	Y	Y	Y	?	Y	N	-	-	-	-	Y	Y	Y	N	-	-	-	-	Y	N	N	50%
Biediger-Friedman; 2014	N	-																				N/A
Bleich; 2014	Y	Y	-	-	-	-	-	-	-	-	?	Y	Y	?	-	-	-	-	-	-	-	50%
Block; 2010; NA	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%
Boelsen-Robinson; 2017	Y	Y	Y	Y	Y	Y	-	-	-	-	N	Y	-	Y	-	-	-	-	Y	Y	Y	75%
Bollinger; 2011	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Brimblecombe; 2017	Y	Y	-	-	-	-	Y	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	100%
Britt; 2011	Y	Y	Y	N	Y	Y	-	-	-	-	N	Y	Y	Y	-	-	-	-	Y	Y	Y	75%
Budd; 2017	Y	Y	-	-	-	-	Y	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	100%
Buscher; 2001 [Study 1]	Y	Y	-	-	-	-	-	-	-	-	?	Y	Y	Y	-	-	-	-	-	-	-	75%
Buscher; 2001 [Study 2]	Y	Y	-	-	-	-	-	-	-	-	?	Y	Y	?	-	-	-	-	-	-	-	50%
Cardello; 2013	Y	Y	-	-	-	-	-	-	-	-	Y	Y	?	Y	-	-	-	-	-	-	-	75%
Chu; 2009	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Chu; 2014	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Cohen; 2017	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	?	Y	N	-	-	-	50%
Cranage; 2004	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	?	-	-	-	-	-	-	-	75%
Dannefer; 2012	Y	Y	Y	?	Y	N	-	-	-	-	N	Y	Y	N	-	-	-	-	Y	N	N	50%
Dawson; 2006	Y	Y	Y	Y	Y	N	-	-	-	-	-	-	-	-	Y	?	Y	N	Y	N	N	50%

First author surname; Year of publication	S1	S2	1.2	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	Overall quality
de Wijk; 2016	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
DeFosset; 2017	Y	Y	-	-	-	-	-	-	-	-	N	Y	-	Y	-	-	-	-	-	-	-	75%
Deliens; 2016	Y	Y	Y	Y	Y	N	-	-	-	-	N	Y	Y	Y	-	-	-	-	Y	Y	Y	75%
Department of Health; 2010	Y	Y	Y	N	Y	N	-	-	-	-	Y	N	Y	N	-	-	-	-	Y	Y	N	50%
Drewnowski; 2017	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Ellison; 2014	Y	Y	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	100%
Escaron; 2016	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	N	Y	?	-	-	-	50%
Ferguson; 2017	Y	Y	Y	Y	Y	Y	-	-	-	-	Y	Y	Y	?	-	-	-	-	Y	Y	?	75%
Finkelstein; 2011	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%
Fitzgerald; 2004	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Fitzpatrick; 1997	Y	Y	Y	Y	Y	N	-	-	-	-	-	-	-	-	?	?	Y	Y	Y	Y	Y	50%
French; 1997	Y	Y	-	-	-	-	-	-	-	-	?	Y	Y	Y	-	-	-	-	-	-	-	75%
French; 2001	Y	Y	-	-	-	-	Y	N	Y	Y	-	-	-	-	-	-	-	-	-	-	-	75%
French; 2010	Y	Y	-	-	-	-	Y	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	100%
Gardiner; 2013	Y	Y	Y	Y	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75%
Gittelsohn; 2012	Y	Y	Y	Y	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75%
Gorton; 2010	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	N	-	-	-	-	-	-	-	75%
Gudzune; 2014	Y	Y	Y	Y	Y	N	-	-	-	-	N	Y	Y	Y	-	-	-	-	Y	Y	Y	75%
Hamburger; 2016	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	Y	?	Y	N	Y	Y	Y	50%
Hartigan; 2017	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Holdsworth; 1997	Y	Y	Y	Y	Y	Y	-	-	-	-	N	Y	N	Y	-	-	-	-	Y	Y	Y	50%
Holmes; 2012	Y	Y	-	-	-	-	-	-	-	-	?	Y	Y	N	-	-	-	-	-	-	-	50%
Horgen; 2002	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	N	-	-	-	-	-	-	-	75%
Hua; 2016	Y	Y	-	-	-	-	Y	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	100%
Jigsaw Research; 2010	Y	Y	Y	?	Y	N	-	-	-	-	?	Y	Y	?	-	-	-	-	Y	Y	N	50%
Jilcott; 2016	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	Y	Y	N	75%
Kerins; 2016	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%
Kottke; 2013	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	N	-	-	-	-	-	-	-	50%
Lawman; 2015	Y	Y	-	-	-	-	-	-	-	-	N	N	Y	Y	-	-	-	-	-	-	-	50%

First author surname; Year of publication	S1	S2	1.2	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	Overall quality
Lessa; 2016	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	?	-	-	-	-	-	-	-	75%
Leven; 2013	Y	Y	Y	?	Y	N	-	-	-	-	Y	Y	-	N	-	-	-	-	Y	Y	N	50%
Lillehoj; 2015	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	N	-	-	-	-	-	-	-	50%
Macaskill; 2003	Y	Y	Y	Y	Y	Y	-	-	-	-	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	N	75%
Martínez-Donate; 2015	Y	Y	-	-	-	-	Y	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	100%
Mason; 2014	Y	Y	Y	Y	Y	N	-	-	-	-	Y	Y	Y	?	-	-	-	-	Y	Y	N	75%
Minaker; 2016	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Närhinen; 1999	Y	Y	-	-	-	-	-	-	-	-	Y	?	Y	Y	-	-	-	-	-	-	-	75%
Naylor; 2015	Y	Y	Y	Y	Y	N	-	-	-	-	N	Y	Y	N	-	-	-	-	Y	N	N	50%
Nevarez; 2013	Y	Y	Y	Y	Y	Y	-	-	-	-	-	-	-	-	?	?	Y	?	Y	N	N	25%
Ni Mhurchu; 2010	Y	Y	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	100%
Nikolaou; 2014	Y	Y	-	-	-	-	-	-	-	-	?	Y	Y	?	-	-	-	-	-	-	-	50%
Nikolaou; 2017	Y	Y	-	-	-	-	-	-	-	-	?	Y	Y	Y	-	-	-	-	-	-	-	75%
Oka; 2013	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Olstad; 2011	Y	Y	Y	Y	Y	N	-	-	-	-	-	-	-	-	Y	?	Y	Y	Y	Y	Y	75%
Olstad; 2012	Y	Y	Y	Y	Y	N	-	-	-	-	-	-	-	-	Y	Y	Y	Y	Y	Y	Y	75%
Olstad; 2013	Y	Y	Y	Y	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75%
Olstad; 2014	Y	Y	Y	Y	Y	N	-	-	-	-	N	Y	Y	Y	-	-	-	-	N	N	Y	50%
Olstad; 2015 [Traffic light labelling]	Y	Y	-	-	-	-	-	-	-	-	?	Y	Y	N	-	-	-	-	-	-	-	50%
Olstad; 2015 [Alberta Nutrition Guidelines for Children and Youth]	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%
Olstad; 2016	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	75%
Ortega; 2016	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Owen; 2009	Y	Y	Y	?	Y	N	-	-	-	-	N	N	Y	?	-	-	-	-	Y	Y	N	25%
Patsch; 2016	Y	Y	-	-	-	-	-	-	-	-	?	Y	Y	Y	-	-	-	-	-	-	-	75%
Pack; 2007	Y	N	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%
Payne; 2015 [Study 1]	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%
Payne; 2015 [Study 2]	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%

First author surname; Year of publication	S1	S2	1.2	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	5.1	5.2	5.3	Overall quality
Rahkovsky; 2013	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Reinders; 2017	Y	Y	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	100%
Resnick; 1999	Y	Y	-	-	-	-	-	-	-	-	N	N	?	N	-	-	-	-	-	-	-	0%
Rosi; 2017	Y	Y	-	-	-	-	Y	-	Y	Y	-	-	-	-	-	-	-	-	-	-	-	100%
Roy; 2016	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%
Sacks; 2009	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Sato; 2012	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	?	-	-	-	-	-	-	-	50%
Seo; 2017	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	?	Y	N	-	-	-	50%
Song; 2009	Y	Y	-	-	-	-	-	-	-	-	?	Y	Y	?	-	-	-	-	-	-	-	50%
Stastny; 2011	Y	Y	-	-	-	-	-	-	-	-	?	Y	N	Y	-	-	-	-	-	-	-	50%
Steenhuis; 2004	Y	Y	Y	Y	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75%
Teisl; 1997	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Thorndike; 2012	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	100%
Thorndike; 2014	Y	Y	-	-	-	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	-	-	-	75%
Turconi; 2012	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	Y	?	N	Y	-	-	-	50%
van Assema; 2006	Y	Y	-	-	-	-	-	-	-	-	?	Y	Y	Y	-	-	-	-	-	-	-	75%
van der Feen de Lille; 1998	N	-	-	-	-	-	-	-	-	-	?	Y	Y	Y	-	-	-	-	-	-	-	75%
van Hulst; 2013	Y	Y	-	-	-	-	-	-	-	-	Y	Y	Y	N	-	-	-	-	-	-	-	75%
van Kleef; 2012	Y	Y	-	-	-	-	-	-	-	-	?	Y	-	N	-	-	-	-	-	-	-	25%
Vermeer; 2011	Y	Y	-	-	-	-	N	-	Y	N	-	-	-	-	-	-	-	-	-	-	-	50%
Vermeer; 2012	Y	Y	Y	Y	Y	N	N	N	Y	N	-	-	-	-	-	-	-	-	Y	Y	Y	25%
Waterlander; 2013	Y	Y	-	-	-	-	Y	Y	N	N	-	-	-	-	-	-	-	-	-	-	-	50%
Webb; 2011	Y	Y	-	-	-	-	N	N	Y	?	-	-	-	-	-	-	-	-	-	-	-	25%
Winkler; 2016	Y	Y	Y	Y	Y	N	-	-	-	-	?	Y	Y	?	-	-	-	-	Y	N	N	50%
Wolfenden; 2015	Y	Y	-	-	-	-	Y	Y	Y	Y	-	-	-	-	-	-	-	-	-	-	-	100%
Zick; 2010	Y	Y	Y	Y	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75%

Y, yes; N, no;?, Can't Tell; -, Not applicable

Table S9: Mixed methods appraisal tool (MMAT) criteria

Types of mixed methods study components or primary studies	Methodological quality criteria
Screening questions (for all types)	S1. Is there a clear qualitative and/or quantitative research question (or research objective)? S2. Do the collected data allow answering (meeting) the research question (objective)? E.g., consider whether the follow-up period was long enough for the outcome to occur (concerning longitudinal studies or study components).
1. Qualitative	1.1. Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question (objective)? 1.2. Is the process for analysing qualitative data relevant to address the research question (objective)? 1.3. Is appropriate consideration given to how findings relate to the context, e.g., the setting, in which the data were collected? 1.4. Is appropriate consideration given to how findings relate to researchers' influence, e.g., through their interactions with participants?
2. Quantitative randomized controlled (trials)	2.1. Is there a clear description of the randomization (or an appropriate sequence generation)? 2.2. Is there a clear description of the allocation concealment (or blinding when applicable)? 2.3. Are there complete outcome data (80% or above)? 2.4. Is there low withdrawal/drop-out (below 20%)?
3. Quantitative non-randomized	3.1. Are participants recruited in a way that minimizes selection bias? 3.2. Are measurements appropriate (clear origin, or validity known, or standard instrument; and absence of contamination between groups when appropriate) regarding the exposure/intervention and outcomes? 3.3. In the groups being compared (exposed vs. non-exposed; with intervention vs. without; cases vs. controls), are the participants comparable, or do researchers take into account (control for) the difference between these groups? 3.4. Are there complete outcome data (80% or above), and, when applicable, an acceptable response rate (60% or above), or an acceptable follow-up rate for cohort studies (depending on the duration of follow-up)?
4. Quantitative descriptive studies	4.1. Is the sampling strategy relevant to address the quantitative research question (quantitative aspect of the mixed methods question)? 4.2. Is the sample representative of the population under study? 4.3. Are measurements appropriate (clear origin, or validity known, or standard instrument)? 4.4. Is there an acceptable response rate (60% or above)?
5. Mixed methods	5.1. Is the mixed methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed methods question (or objective)? 5.2. Is the integration of qualitative and quantitative data (or results) relevant to address the research question (objective)? 5.3. Is appropriate consideration given to the limitations associated with this integration, e.g., the divergence of qualitative and quantitative data (or results) in a triangulation design?

Reference: Pluye, P., Robert, E., Cargo, M., Bartlett, G., O’Cathain, A., Griffiths, F., Boardman, F., Gagnon, M.P., & Rousseau, M.C. (2011). Proposal: A mixed methods appraisal tool for systematic mixed studies reviews. Retrieved on [30 Jul 2017] from <http://mixedmethodsappraisaltoolpublic.pbworks.com>.

Table S10: Summary of validated or common evaluation tools used in included studies

Outcome domain	Tool [retail settings; strategy type]	Constructs measured	Description	Strengths and limitations
Commercial viability	Electronic sales data ¹²⁻⁴⁷ [wide variety of strategies and settings]	Revenue Profitability Total item sales Store patronage Consumer welfare (customer perspective)	Data captured by point of sales system. Itemised data may include number of items sold, sales price, cost, number of transactions.	Strengths: Captures all sales data. Low burden data collection. Limitations: Not usually associated with individual -level customer information. May be considered commercially sensitive.
	Sales receipt data ⁴⁸⁻⁵³ [wide variety of strategies and settings]	Revenue Profitability Total item sales Store patronage Spend per transaction	Collected at register or from customers using exit surveys.	Strengths: If collected with customer data (e.g. surveys), may be linked with customer characteristics; May monitor longitudinal changes within individuals. Limitations: Resource-intensive data collection and entry.
Retailer perceptions	“Store Impact Questionnaire” ^{54, 55} [small stores; Product and Promotion]	Retailer level of satisfaction with strategy	Retailer-completed quantitative survey on retailer psychosocial outcomes. Questions include “outcome expectations for sales” and “outcome expectations for overall programme impact”. Measured on 5 point Likert scale from strongly disagree (-2) to strongly agree (+2).	Strengths: Quantification of retailer satisfaction allowing for longitudinal monitoring. Validity: Piloted; face and content validity checks. ⁵⁶
	Retailer survey ⁵⁷ [full-service restaurants; Product and Promotion]	Value creation Community stewardship Competitiveness Retailer support of strategy Retail staff personal satisfaction level Feedback from community and external organisations	Retailer-completed survey developed based on literature review. Items include restaurateur attitude towards strategy, subjective norms, and perceived behavioural control and perceived innovation characteristics (5 point Likert scales).	Strengths Validity: Exploratory factor analysis used to remove items with low factor loadings, high cross-loadings with other items and low communalities. Confirmatory factor analysis found good fit. Reliability: Cronbach’s alpha 0.72 to 0.96 for all constructs.
Customer perceptions	“Q” touristic quality certification questionnaire ⁵⁸ [full-service restaurants; Product]	Customer level of satisfaction with store	Developed by Spanish Institute for Quality Tourism. Customers rate product quality, presentation, portion size, menu variety, value for money on a scale from 1 (low) to 10 (high).	Strengths: Industry developed therefore likely to be retailer-relevant. Limitations: In Spanish language.
	“The National Society of Healthcare Food Service Managers (HFM) survey” ⁵⁹ [full-service restaurants; Promotion]	Customer level of satisfaction with store	9 questions regarding meal satisfaction. Measured on ordinal scale from excellent to poor.	Strengths: Validated (as stated by authors, no further information available). Limitations: Original survey no longer available from website.

Note: No relevant tools identified for community outcomes.

Table S11: Summary of outcomes used and direction of effect in all included studies, reported by strategy type per study sub-group

Outcome domain	Outcomes reported (number of study subgroups)	Overall					Product				Price				Placement			Promotion				Combined				
		✓	X	-	M	N/A	✓	X	-	M	✓	X	-	N/A	✓	-	M	✓	X	-	M	✓	X	-	M	N/A
Commercial viability	Total sales (n= 61)	16	11	33	1		2		3		2		6			1		5	4	13		7	7	10	1	
	Revenue (n= 46)	11	6	29			1	1	3				5			1		2		10		8	5	10		
	Profitability (n= 24)	7	3	11	3		2		1			1	3							5	1	5	2	2	2	
	Wastage (n= 5)	3			2		2														1	1			1	
	Return on investment (n= 1)					1								1												
	Time and/or cost associated with implementation and maintenance (n= 23)	5	13	2	1	2	1	2						1					3			4	8	2	1	1
	Competitiveness (n= 5)	2	1	2				1									1					1		2		
	Value creation (n= 7)	4	2	1																		4	2	1		
	Opportunity costs (n= 1)	1																				1				
	Attitudes of business stakeholders (n= 5)	3		1	1		1													1		2			1	
	Store patronage (n= 22)	11	1	7	2		2		1		1							1	1	2		7		4	2	
Spend per transaction (n= 13)	2	1	8	2						1						1		1	3	1	2		1			
Retailer perceptions	Retail staff personal satisfaction level (n= 4)	3		1														1				2		1		
	Feedback from community and external organisations (n= 2)	2																				2				
	Retailer level of satisfaction with strategy (n= 13)	9	2	1	1		2				1							1	1			6		1	1	
	Community stewardship (n= 14)	14					1											2				1	1			
Customer perceptions	Customer level of satisfaction with strategy (n= 40)	32	4	3			2	1			1				1			6				2	3	3		
	Customer level of satisfaction with store (n= 17)	6	3	5	3		2		1	1						1	1	1		1		3	2	4		
	Customer demand for healthy items (n= 11)	6	2	1	2		3	1														3	1	1	2	
	Consumer welfare (n= 7)	4		3													3					1		3		
Community outcomes	Societal shift towards healthier food (n=1)	1					1																			

✓, change in favourable direction; X, change in unfavourable direction; -, no change; M, Mixed (multiple measures of same outcome with different directions of effect); N/A, Not applicable, e.g. absolute cost without comparison. Blank cells indicate that no outcomes were found in that category. The following variables were not reported and therefore are not included in table: customer demand for healthy food at other retail sites, community perceptions of intervention or similar, broader social impact, level of barriers for other retailers to implement similar policies.

Table S12: Summary of outcomes used and direction of effect in included grocery store ^a intervention studies, reported by strategy type per study sub-group

Outcome domain	Outcomes reported (number of study subgroups)	Overall					Product				Price				Placement			Promotion				Combined				
		✓	X	-	M	N/A	✓	X	-	M	✓	X	-	N/A	✓	-	M	✓	X	-	M	✓	X	-	M	N/A
Commercial viability	Total sales (n=29)	7	5	17			1		3		1		4			1		2	2	4		3	3	5		
	Revenue (n= 24)	5	4	15			1		3				4			1		1		2		3	4	5		
	Profitability (n= 9)	2	1	6			1		1				3							2		1				
	Wastage (n= 1)				1																					1
	Return on investment (n= 1)					1								1												
	Time and/or cost associated with implementation and maintenance (n= 6)	1	3		1	1		1						1								1	2			1
	Competitiveness (n= 0)																									
	Value creation (n= 2)		2																					2		
	Opportunity costs (n= 0)																									
	Attitudes of business stakeholders (n= 0)																									
Store patronage (n= 10)	4		4	2		1		1		1											2		3		2	
Spend per transaction (n= 7)	1		6							1									2					4		
Retailer perceptions	Retail staff personal satisfaction level (n= 1)	1																								
	Feedback from community and external organisations (n= 0)																									
	Retailer level of satisfaction with strategy (n= 7)	3	2	1	1		2					1							1			1		1		
	Community stewardship (n= 6)	6					1															5				
Customer perceptions	Customer level of satisfaction with strategy (n= 15)	11	1	3			1							1								8	1	3		
	Customer level of satisfaction with store (n= 8)	4	2	1	1		1									1						3	2	1		
	Customer demand for healthy items (n= 5)	3		1	1		1															2		1	1	
	Consumer welfare (n= 5)	2		3													1					1		3		
Community outcomes	Societal shift towards healthier food (n=1)	1					1																			

✓, change in favourable direction; X, change in unfavourable direction; -, no change; M, Mixed (multiple measures of same outcome with different directions of effect); N/A, Not applicable, e.g. absolute cost without comparison. Blank cells indicate that no outcomes were found in that category. The following variables were not reported and therefore are not included in table: customer demand for healthy food at other retail sites, community perceptions of intervention or similar, broader social impact, level of barriers for other retailers to implement similar policies.

^a ‘Grocery stores’ settings include supermarkets, grocery stores, butchers, pharmacies, convenience stores/ corner stores, and vending machines.

Table S13: Summary of outcomes used and direction of effect in included food service ^a intervention studies, reported by strategy type per study sub-group

	Outcomes reported (number of study subgroups)	Overall					Product				Price			Placement	Promotion				Combined				
		✓	X	-	M	N/A	✓	X	-	M	✓	X	-	-	✓	X	-	M	✓	X	-	M	N/A
Outcome domain	Total sales (n= 28)	8	5	14	1		1				1		2		2	2	8		4	3	4	1	
	Revenue (n= 18)	6		12								1			1		7		5		4		
	Profitability (n= 12)	5	1	5	1		1										3		4	1	2	1	
	Wastage (n= 2)	2					2																
	Return on investment (n= 0)																						
	Time and/or cost associated with implementation and maintenance (n= 11)	2	6	2		1	1									2			1	4	2		1
	Competitiveness (n= 1)			1																	1		
	Value creation (n= 5)	4		1															4		1		
	Opportunity costs (n= 0)																						
	Attitudes of business stakeholders (n= 2)	2																	2				
	Store patronage (n= 11)	7	1	3			1								1	1	2		5		1		
	Spend per transaction (n= 6)	1	1	2	2									1		1	1	1	1			1	
Retailer perceptions	Retail staff personal satisfaction level (n= 2)	1		1															1		1		
	Feedback from community and external organisations (n= 2)	2																	2				
	Retailer level of satisfaction with strategy (n= 4)	4																	4				
	Community stewardship (n= 5)	5																	5				
Customer perceptions	Customer level of satisfaction with strategy (n= 20)	18	2				1	1							5			12	1				
	Customer level of satisfaction with store (n= 9)	2	1	4	2		1		1	1				1	1		1				3		
	Customer demand for healthy items (n= 3)	2			1		2															1	
	Consumer welfare (n= 2)													2									
Community outcomes	Societal shift towards healthier food (n=0)																						

✓, change in favourable direction; X, change in unfavourable direction; -, no change; M, Mixed (multiple measures of same outcome with different directions of effect); N/A, Not applicable, e.g. absolute cost without comparison. Blank cells indicate that no outcomes were found in that category. The following variables were not reported and therefore are not included in table: customer demand for healthy food at other retail sites, community perceptions of intervention or similar, broader social impact, level of barriers for other retailers to implement similar policies.

^a 'Food service outlets' include quick-service restaurants, full-service restaurants, cafés, cafeteria, kiosks, food trucks, and canteens.

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