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Equity and local health systems: a qualitative evaluation of the experiences of local health service leads during the first two years of the NHS Low Calorie Diet programme pilot

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1 **Equity and Local Health Systems – a qualitative evaluation of the**

2 **experiences of Local Health Service Leads during the first two years**

3 **of the NHS Low Calorie Diet Programme pilot**

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21   Abstract

22   **Background:** Obesity and type 2 diabetes can both profoundly impact health and wellbeing, and their

23   prevalence largely follows a social gradient. The National Health Service Low Calorie Diet programme

24   in England, aims to support people to achieve type 2 diabetes remission, while also reducing health

25   inequalities. We aimed to explore the experiences of local health service leads and identify barriers

26   and facilitators in relation to the equitable mobilisation of the Low Calorie Diet programme.

27   **Methods:** Twenty **s**emi-structured interviews were completed with 24 locality leads across the first

28   two years of the Low Calorie Diet programme. Interviewees were purposively sampled from the ten

29   localities who undertook the Low Calorie Diet programme pilot. Each interview explored a number of

30   topics of interest including referrals, training, communication, incentivisation, governance and

31   engagement, before being subjected to a thematic analysis.

32   **Results:** From the data, seven core themes were identified: Covid-19 and primary care capacity and

33   engagement, methods of communication, approaches to training, approaches to incentivisation,

34   approaches to Referrals, barriers to referrals and the importance of collaboration. Covid-19 presented

35   a specific challenge to the mobilisation and delivery of the Low Calorie Diet programme; however, our

36   findings demonstrate the large variation and differences in the approaches taken when delivering the

37   programme across ten geographically and demographically distinct pilot sites. We also identified a

38   lack of a recognised approach or strategy to mobilisation and delivery support for the Low Calorie Diet

39   programme, such as proportionate universalism, which is a social policy response to tackling health

40   inequalities by ensuring service delivery is equitable.

41   **Conclusions:** Health inequalities remain a significant challenge, and health service leads have the

42   potential to adopt an equity perspective from the start of programme mobilisation. In doing so

43   resources at their disposal can be managed equitably and can therefore contribute to efforts to

44   reduce the potential occurrence of intervention generated inequalities.

45

48

Introduction

50   Obesity and type 2 diabetes (T2D) are both prevalent non-communicable diseases, which can

51   profoundly impact health and wellbeing (1). In England, 64% of adults live with overweight, of which

52   26% live with obesity (2). It is estimated that 3.8 million adults (≥16 years) in England have diabetes,

53   and modelled projections indicate that the National Health Service (NHS) and wider societal costs

54   associated with obesity and diabetes, will escalate unless urgent action is taken (3).

55   Health outcomes largely follow a social gradient, with prevalence of both obesity and T2D

56   increasing with age and area-level deprivation, and amongst people of Black and South Asian ethnicity

57   (1, 2, 4, 5). Inequalities, the unjust and avoidable differences in people's health outcomes, have been

58   further exacerbated by the COVID-19 pandemic (6-8), and also exist in access to healthcare. For

59   example, amongst people of Black and South Asian ethnicity, and also shaped by wider determinants,

60   inequalities in diabetes treatment and metabolic control have been evidenced in the UK (9). Although

61   addressing inequalities is a public health priority (10), many interventions aimed at improving health

62   across the entire population can be markedly more beneficial for individuals of higher socio-economic

63   status, and of White ethnicity (11-14). This has been referred to as an inequality paradox – the

64   occurrence of intervention generated inequalities in interventions that aim to reduce them (15).

65

The NHS Low Calorie Diet Programme

67   Recent systematic reviews (16-20) and clinical trials (21-23) show that for some people living

68   with, or at risk of obesity and T2D, a Low Calorie Diet (LCD) achieved by Total Diet Replacement (TDR),

69   can lead to clinically significant weight loss, support remission of T2D, and improve quality of life. The

70 NHS Long-Term Plan (24) therefore made a commitment to pilot a LCD programme, for people living

71 with excess weight and T2D. This commitment aims to significantly improve health, while reducing

72 health inequalities and associated future costs to the NHS. NHS England, partnered with Diabetes UK,

73 commissioned the programme delivered by commercial providers across ten geographically diverse

74 pilot areas (integrated care systems[1] (25)), where each area tested one of three different delivery

75 models (group, 1:1 and digital) (see Additional file 1). The programme was available to adults (18-65

76 years) with a BMI ≥27kg/m² (adjusted to ≥25kg/m² for Black, Asian and other ethnic groups) and a T2D

77 diagnosis within the last 6 years (full eligibility criteria (26)), and aims to significantly improve health

78 by reducing glycaemic parameters, diabetes-related medication, and weight, as well as achieving

79 remission.

80   The delivery of the NHS LCD programme gave due regard to the reduction of health

81 inequalities by ensuring compliance with the NHS Act 2006 and the Equality Act 2010 (27, 28). The

82 promotion of equal access by all service users, and the tailoring of a programme to support those with

83 the greatest need through a proportionate universalism approach, was also mandated in the service

84 specification (29). Thus, health equity (the state in which people have a fair and just opportunity,

85 irrespective of their social position, to attain their full health and welling from social conditions that

86 seek to promote and support good health (30)), is crucial to the delivery of the NHS LCD programme.

87 Although the programme is delivered by commercial service providers, the local health system

88 (primary care) is responsible for referring eligible patients to the programme. The obligations set out

89 in the service specification, and specifically the due regard to reduce inequalities is therefore

90 incumbent, in part, on local health service leads who have responsibility for the mobilisation of the

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[1] Integrated care systems are partnerships between NHS bodies, local authorities, and local organisations which work together on health and care services to improve the lives of people locally

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91 programme. This paper, therefore, aims to explore the experiences of local health service leads, and

92 identify barriers and facilitators in relation to the equitable mobilisation of the service.

93

94 Methods

95   This study received ethical approval from the Health Research Authority (REF 21/WM/0136),

96 and is reported using COREQ guidelines (see Additional File 2)(31). Participants from each of the first

97 ten Integrated Care Systems (referred to hereon in as 'localities') who undertook the pilot programme

98 across England were sampled. Twenty four health service leads (referred to hereon in as 'locality

99 leads') (20 females and 4 males) with responsibility for the mobilisation of the NHS LCD programme

100 and employed by local integrated care systems (local commissioning lead, project manager, and

101 clinical lead) were interviewed across 20 interviews (see Additional file 1). Semi-structured interviews

102 (MS Teams) lasting between 60 and 90 minutes were completed between July and September 2021

103 (n=10), with follow up interviews completed in July 2022 (n=10).

104   In 2021, interviews were carried out by two researchers (KD and CF) each conducting five

105 interviews, whilst all follow up interviews (2022) were conducted by KD. The interviews were semi-

106 structured in nature, giving the interviewer control over the interview, and designed to elicit

107 discussion on specific topics of interest. Topics were communicated to interviewees prior to interview,

108 and included: referrals, training, communication, incentivisation, governance and engagement. These

109 topics were pre-empted by initial programme theory (32), developed through the overarching realist

110 informed Re:Mission evaluation (33), which this study contributes to. Fieldnotes were recorded after

111 each interview.

112   Interviews were audio recorded, transcribed verbatim, and then subjected to a thematic

113 analysis as described by Braun, Clarke (34). KD and CF familiarised themselves with the data, by

114 undertaking multiple readings of the interview transcripts from the interviews they conducted.

115 Transcripts were coded using a latent coding method and the interview guide as a deductive

116   framework for analysis. This involved abductive reasoning, or the mixing of inductive and deductive

117   reasoning which facilitated movement between participant accounts and researcher defined topics of

118   interest. Following initial coding, KD, CF and KK read through a sample of transcripts as second coders,

119   to search for alternative meanings in the data not previously tagged. Differing interpretations of the

120   data were subsequently discussed. NVivo software (QS International Pty Ltd. Version 12) was used to

121   assist this process of storing and organising textual data and initial coding.

122   The use of thematic analysis allowed for the identification of patterns ('themes') in the data.

123   The identification, reviewing, defining, and naming of themes was conducted by KD, who used

124   inequalities as a theoretical lens for interpretation. This involved the organisation of codes by

125   clustering them to identify what Braun et al. call 'higher-level' patterns in the data. Twelve and ten

126   themes emerged from the data collected in 2021 and 2022, respectively. These themes were then

127   subjected to a further interrogation by KD to consolidate themes into clusters that represented

128   broader patterns in the data. A fourth researcher (CH) provided a greater depth of meaning in the

129   analysis, which led to the refinement and consolidation of themes and the development of

130   recommendations.

131

Findings

133   Upon completion of the analysis, seven core themes were constructed out of the data from

134   both years of data collection. The following section presents these core themes, along with exemplar

135   quotes. Further supporting quotations can be found in Additional file 3.

136

Covid-19 and, Primary Care Capacity and Engagement of (theme 1)

138   The NHS LCD programme was mobilised when primary care was experiencing Covid-19 related

139   pressures, such as the pausing of governance processes, the vaccine rollout, and the deferral and

140   alteration of annual diabetes reviews. By year two of the programme, interviewees discussed Covid-

141   19 related backlogs, and staffing challenges.

142   *"We've not got back to pre-pandemic levels at all. I think it is still very much a barrier, you*

143   *know from a workforce perspective, from a backlog perspective"* (LL10 – Y2).

144   In this context of Covid pressures, the engagement of GP practices was mixed and variably defined.

145   Engagement was discussed in relation to the generation of referrals in the healthcare system, where,

146   by year two, percentages of referring practices fell between 42% and 85%. Engagement was also

147   deduced from the number of practices that had taken part in LCD training.

148   *"187 practices in [area], 87 of whom have referred. So that's 46.5% have referred"* (LL6 – Y2).

149   Interviewees also discussed referrals being generated by a small number of practices, or even single

150   referrers. Specifically, the capacity of referrers, and their interest and passion for the NHS LCD

151   programme were important aspects of engagement.

152   *"But this practice that's done 56 is a single referrer"* (LL20 – Y2).

153   *"it seems to be that you have one particular referrer who just gets the programme, sees the*

154   *benefits of the programme and is passionate about it"* (LL10 – Y2).

155   The engagement of practices was not only dependent on referral staff, such as GPs, practice nurses or

156   pharmacists. Interviewees discussed the important contributions of other colleagues from the wider

157   community, including nurse or diabetes champions, dietitians, clinical leads, and care coordinators.

158   Thus, the engagement of practices was dependent on the wider team across the whole health system.

159

160   ## Methods of Communication (theme 2)

161   Interviewees discussed a multitude of methods used to communicate information about the

162   NHS LCD programme to the local health system. These methods included internal communication

163   channels, which typically relied on written communication, such as bulletins, newsletters, or emails.

164   It was, however, ubiquitous across all interviews that these more formal means of written

165   communication did not always reach their intended audience, either because the right gatekeepers in

166   GP practices had not been identified, the information wasn't passed on, or primary care staff often

167   suffered from "Bulletin blindness" (LL3 – Y1).

168   *"it's every other month for the GP bulletin. Again, we want to avoid like sending out too many*

169   *and people just sort of then just skimming over it, I don't know, bulletin blindness"* (LL3 – Y1).

170   Methods of communication also included synchronous information sessions, either, via means of

171   attendance at existing forums, such as practice or health system meetings, or LCD specific sessions,

172   such as drop in sessions or diabetes education events. Information sessions were predominantly

173   delivered remotely via video conferencing, with in person sessions starting to be utilised by July 2022.

174   Furthermore, the use of existing forums was seen as the most successful method of communication.

175   *"Newsletters, e-mail circulars, they just land in practice inboxes and don't tend to be analysed,*

176   *read or they're put to the bottom of the pile. I think practices are absolutely bombarded with*

177   *communications, be it from the CCG [Clinical Commissioning Group], from NHS, from lots and*

178   *lots of other sources. They just don't have the time or the capacity to wade through. Whereas*

179   *if we can get ourselves a brief slot on a session that's delivered by senior stakeholder like the*

180   *CMO [Chief Medical Officer], practices will tend to engage with that"* (LL15 – Y2).

181   Interviewees were unanimous about the need to find as many methods of communication as possible,

182   while three localities discussed using more informal and unstructured methods of communication,

183   such as an MS Teams channel, WhatsApp group or lunch and learn session. These methods of

184   communication were seen as successful because they dealt with the issues of "bulletin blindness"

185   while providing a means of reaching referral staff via more unstructured and informal means.

186   *"So, every time we sort of have an opportunity, we will raise it to just try and drive the*

187   *numbers up really"* (LL23 – Y2).

188   *"We also have a WhatsApp group for [area] with 140 GPs, practice nurses and practice*

189   *pharmacists"* (LL11 – Y1).

190   During mobilisation, communication was focused on practices, however, in year two, five localities

191   reported communicating directly to patients, including via Facebook, press releases, audio visuals in

192   GP waiting rooms, diabetes events and at the end of structured education for diabetes.

193

194   **Approaches to Training (theme 3)**

195   Interviewees discussed their localised approach to the adoption of training to support the

196   mobilisation and delivery of the NHS LCD programme. Nine localities made training available - defined

197   as a resource more than just the dissemination of written information – by providing synchronous

198   webinars, and their recordings for asynchronous viewing. One locality did not make training available

199   on the account of it not being necessary from their perspective.

200   *"That works on it's a sort of a 2 minute introduction from me to the programme itself, a 5*

201   *minute introduction from [provider] [...] on how they operate. And then the rest of the session*

202   *is delivered by the GP going through the referral process, going through the medication*

203   *changes with Q&A time. And as I say, we record those sessions and then make them available*

204   *as well"* (LL21 – Y2).

205   *"I think from our perspective, it was fairly cut and dry. You have a new service with a set of*

206   *criteria, you have a mechanism whereby practices can identify and refer patients into that, as*

207   *I say those parameters are fairly set in stone, we provide the supporting information. I guess*

208   *we trust our clinicians to a certain degree to read and absorb that, and we didn't, I guess we*

209   *didn't really feel that there was a need for formal training"* (LL12 – Y1).

210 Training was typically delivered by a team, including locality leads, IT support staff, providers, and

211 clinical leads, with an emphasis on the latter being important for addressing the concerns of referral

212 staff. The frequency of training varied but was overall provided infrequently across both years of data

213 collection, with fewer synchronous sessions provided in year two.

214 "*We did, we did all the bulk of the referrer training [at the start]. So, we haven't done anything*

215 *since then up until this last couple of weeks where what we've done is, we've started to create*

216 *more recordings*" (LL10 – Y1).

217 The aim of training varied between localities. It was made mandatory by four localities because it was

218 perceived to lead to a higher proportion of eligible referrals and thought to be better for referral staff

219 and account for patient safety. Conversely, training was made optional by five localities because

220 participation in the programme was voluntary, and because mandatory training was seen as a barrier

221 to generating referral numbers. However, the need for training overall coalesced around the need to

222 address referrals barriers, ineligible referrals, and the need to improve engagement amongst GP

223 practices.

224 "*we were seeing quite a high proportion of inappropriate or ineligible referrals either because*

225 *the patient didn't meet the eligibility criteria or the medication changes simply hadn't been*

226 *filled in, either appropriately or indeed at all. So, what we wanted to do was go back out to*

227 *practices and stress one, raising the awareness, but two, taking them through and giving them*

228 *the opportunity to see how to go through the referral properly and make those medication*

229 *changes appropriately*" (LL21 – Y2).

230 There were no national requirements on the use of training, and therefore training was managed

231 based on local resource (time of key stakeholders), the views and experiences of locality leads and

232 clinical leads, and in line with local approaches to training more broadly. Moreover, any training that

233 was put in place and described by locality leads did not address inequalities.

234

Approaches to Incentivisation (theme 4)

236 Reimbursement systems are meant to create incentives to achieve policy objectives, or

237 health-related targets (35). During mobilisation of the NHS LCD programme, four localities deployed

238 incentivisation while a further two had their plans to incentivise delayed by Covid-19. As a result, by

239 the second year of data collection, six localities were offering localised incentivisation, which varied in

240 the amount and the time of payment. For example, one locality paid £200 per practice for attendance

241 at LCD training. Three localities paid between £10.30 and £75 for each referral, of which one locality

242 also paid £41.20 for patients starting TDR while a second paid an additional £10 for programme

243 completion. A fifth locality paid £90 for starting TDR. A sixth locality introduced a local improvement

244 scheme and paid GP practices a one off sum of £150 for making a referral to the programme, as well

245 as £20 at 6- and 12-month for the completion of GP reviews.

246 *"We released a local improvement scheme that incentivises practices. But they have to follow*

247 *certain steps before they get a payment, they have to do the search, review the […] numbers*

248 *that the search throws up, contact the patients, do the consultation, do the medication review*

249 *and generate at least one eligible referral before we pay them £150"* (LL19 – Y2).

250 There was also variation in the reasons for incentivising. For some localities, incentivisation was

251 deployed as a means of increasing the number and eligibility of referrals. Other interviewees discussed

252 incentivising as a means of just remittance for the increased work of referral to the programme.

253 Further still, there was an element of opportunism to incentivisation locally, and plans were devised

254 in line with other services, or because the money was available.

255 *"What we're trying to say is we recognise these consultations will take longer. We want to*

256 *make sure that they're high quality, and therefore we will remunerate you in this pilot phase*

257 *for this"* (LL13 – Y1).

258   The remaining four localities reasoned that incentivisation did not increase the number, or improve

259   the quality of referrals, or stated that they did not have sufficient funds to incentivise.

260   *"unless it's something that's really significant, the same practices that will refer anyway will*

261   *refer whether they are incentivised or not. And the lower referring practices […] whether or*

262   *not you're incentivised, they'll still be the lower referring practices. I don't think that any*

263   *previous project has proven that incentivisation generates more referrals"* (LL8 - Y1).

264   During the second year of the programme, the NHS added the NHS LCD programme to the national

265   weight management incentivisation scheme[2] (36), thus, all ten localities had a form of incentivisation,

266   as well as their localised approaches to incentivisation.

267

268   ## Approaches to Referrals (theme 5)

269   Five localities staggered the rollout of participating practices over a period of 1 to 12-months

270   (i.e., not all parts of each pilot area were encouraged to refer at the same time), due to capacity issues

271   and the need to provide training before practices could refer. Yet, despite these differing approaches

272   taken during mobilisation, all localities were required to adopt an open referral policy, i.e., any eligible

273   patients could be referred within the referral limits at any time. The main reasons given for this

274   approach were that an open referral policy facilitates high referral numbers and is considered fair or

275   provides an equality of opportunity.

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[2] To maximise referrals to weight management services, during the second year, the programme was included

in the Weight Management Enhanced Service which enabled practices to claim a payment of £11.50 for each

individual referred who was eligible for the Enhanced Service payment, and within an allocation limit of 20% of

the number of patients on the practices Obesity Register.

276   *"You'll get some that will need an awful lot of hand holding. But we didn't have the time and*

277   *the resource to set out and map out a phased introduction of those practices, so we just went*

278   *with the big bang once we were happy that everything worked"* (LL6 – Y1).

279   *"I think it's because there are practices that have been generally quite good at referring in, and*

280   *then there's always the practices that, that aren't so good, and we just wanted to make sure*

281   *that there wasn't any inequality in patients being able to access it"* (LL7 – Y1).

282 In the first year of the programme, five localities allocated referral places at either a practice or area

283 level, thus, putting some caps on referral numbers. These allocations were typically based on diabetes

284 prevalence locally, for example, one locality initially allowed practices to refer 1% of their registered

285 population with T2D. The remaining localities did not allocate referral places on the account that they

286 did not want to add barriers to the generation of referrals. However, all five localities to initially use a

287 referral allocation had removed that cap to encourage increased referral numbers by the second year

288 of the programme.

289   *"We also thought we didn't necessarily want practices to think that they were restricted in*

290   *terms of the number of referrals that they could send. So initially we just really wanted to kind*

291   *of keep it open to encourage practices to refer anybody that they had identified as eligible"*

292   (LL2 -Y1).

293   *"We'd allocated everybody 1%. But actually, what we were finding was a high proportion of*

294   *non-engaging practices. So therefore, we removed the cap of 1% so that people could refer as*

295   *many as they found, and they wanted to"* (LL20 – Y2).

296 During the second year of data collection, a greater number of localities subsequently discussed

297 monitoring referrals to see who refers, before taking action to target individuals or areas where the

298 number of referrals were low, or not representative of the population. Given this practice of

299 monitoring referral numbers, inequalities or inequities were not considered or addressed in the

management of referrals by all localities from the start of the programme or were only starting to be considered during the latter stages of the programme. Some localities discussed a focus on inequalities as taking time, not being conducive to referral generation and an aspect to have only been discussed following the first year of the programme.

"I have started talking to our engagement officer about actually how are we going to target with that inequalities lens. […] I think as we're kind of going through this year we'll definitely put an inequalities lens on that and that's something I'm really keen to do" (LL24 – Y2).

"what I found quite difficult with the inequalities aspect of this is it, it kind of seems to have raised its head quite recently" (LL10 – Y2).

Barriers to referrals (theme 6)

By the second year of the programme the majority of locality leads reflected that referral numbers were below their referral trajectories. This resulted in frustrations: it was felt that referral numbers did not reflect the work locality leads were putting into the programme, which in turn resulted in a sense that some localities just did not know what worked to generate increased referrals.

"At the moment I'm really struggling to see that we're even gonna get to our figures" (LL10 - Y2).

"It doesn't feel like the referrals are reflecting kind of the effort we are putting in" (LL17 – Y2)

In this context of low referral numbers, multiple referral barriers were discussed by interviewees, and include process-based barriers, such as: ineligible referrals, the time needed for a referral and the fact that it was considered complicated.

"We were seeing quite a high proportion of inappropriate or ineligible referrals" (LL21 – Y2).

322   "*The comment that's often passed from referrers is oh it's complicated, it's a complicated*

323   *criteria*" (LL6 – Y2).

324 Referrer-based barriers were also discussed, such as: staff turnover in the local health system and

325 referrer confidence and expertise.

326   "S*taff turnover is like a really big issue. We worked with our provider to get like time at various*

327   *forums for practice managers, nurses, you know even with GPs, social prescribers. But the*

328   *turnover is so high it's almost as if we need to do that on a constant basis*" (LL14 – Y2).

329   "*I think again this comes down to confidence though, 'cause in my experience of going into*

330   *practices it's not always that they don't know what they're doing, they just need a reminder of*

331   *how to do it or you know, obviously it's a live clinical system*" (LL16 – Y2).

332 Some locality leads also discussed a lack of database searches to identify eligible patients. Instead, and

333 to varying degrees, all localities relied on opportunistic referral touch points, such as annual reviews,

334 to identify eligible patients. However, with Covid-19 related disruption and the reliance on staff

335 engagement in the local health system, localities discussed a lack of opportunistic referral touch

336 points.

337   "*Some of the barriers would include one, the search function itself is not, not capturing the*

338   *totality of the patient population, because the information simply isn't up to date or correct.*

339   *Second is the capacity within practices themselves to run the searches and then act upon them*

340   *appropriately when there's so much other stuff going on*" (LL21 – Y2).

341   "*I think the biggest issue for the LCD has been that patients haven't been seeing their clinicians*

342   *face to face*" (LL18 – Y2).

343 A number of localities had started to address these barriers, and in doing so made the referral process

344 easier for referral staff. At the time of data collection, at least one locality had developed a referral

345 pop-up and had shared it amongst several other localities. The referral pop-up maximised

346   opportunistic touch points by prompting referral staff to discuss the programme with eligible patients,

347   whilst also alleviating the need to run searches. Another locality was potentially providing additional

348   staff to run searches, whilst three other localities were trying to increase referral touch points by

349   involving clinical pharmacists, dietitians, and care coordinators in the referral process.

350   *"Late last year we started working on a clinical system pop up. So, these pre-runs the searches*

351   *and caches them in a report. Then when the patient's record is opened by an appropriate*

352   *clinician […] [LCD] will pop up […][and what] they're presented with is about 95, 98% populated*

353   *referral form. So, as it's gone along it prepopulates and the only things that they're left to do*

354   *are any free text that the field needs to go on to support the referral and medication changes"*

355   (LL6 – Y2).

356   *"the second approach that we're looking at doing is putting in additional staff to the provider*

357   *and getting the GP practices to consent to running a search and sharing the eligible*

358   *participants with the provider. So then then the provider can ring them up and say, would you*

359   *like to join one of these sessions"* (LL20 – Y2).

360

361   ### The Importance of Collaboration (theme 7)

362   Locality leads discussed the importance and positive impact of collaboration with fellow public

363   health colleagues in mobilising and supporting the delivery of the NHS LCD programme. Steering

364   groups, and to a degree programme boards, which was protected leadership time, enabled oversight

365   of the programme and brought together a broad representation of people who could share ideas, and

366   converse constructively about the challenges of delivering the programme. Despite some Covid-19

367   disruption, these governance structures were largely unchanged across the two years of the

368   programme.

369 *"It was important for us that the steering group wasn't just those that were going to be directly*

370 *involved in this, so we have dietetics representation, we've had varying clinical inputs, we've*

371 *got a GP practice based nurse at the moment who's got a particular interest in research and*

372 *obesity, so she sits on it and gives a really good clinical insight. Our clinical leads on it. We've*

373 *also got population health and public health representation. So, we've gone quite broad in*

374 *terms of where those people sit, it's open to all localities […]. We wanted people in that group*

375 *that, that would constructively challenge"* (LL12 – Y1).

376
377 The notion of collaboration also includes the role of the provider and their contributions towards the

378 mobilisation and delivery of the programme. Provider representatives attended LCD engagement

379 events, contributed to the delivery of training, and sat on steering groups. Overwhelmingly, the

380 relationship between the locality leads and providers was discussed positively. These views of the

381 providers are held in a context where the locality lead role has been filled by a number of different

382 staff with different levels of experience, and where those in post have reported having numerous

383 other responsibilities. Overall, locality leads reported having other pressures which limited the time

384 they could spend on the NHS LCD programme, however, the support and time put in from the provider

385 enabled delivery to progress.

386 *"It's been a really, really good working relationship. Really positive I think right from the outset*

387 *[…]. In terms of how easy the team have been to work with, really kind of positive. I think that*

388 *has made a huge difference actually, in terms of, you know, working together collaboratively,*

389 *as a team, I don't think that could have really been any better to be honest"* (LL2 – Y1).

390 *"It would be a couple of hours per week is the amount of time I'm able to put into LCD"* (LL21

391 *– Y2).*

392

393   Discussion

394   In this paper we have provided insights from the evaluation of the NHS LCD programme (which

395   will be renamed NHS Type 2 Diabetes Path to Remission Programme when rolled out nationally in

396   June 2023) by exploring the experiences of NHS staff involved in the mobilisation within the wider

397   local health system. A significant investment for the NHS, the NHS LCD programme is based on

398   outcomes from two recent UK clinical trials (21, 22), however, translating controlled clinical trials into

399   routine service delivery remains a significant challenge. Thus, the data presented in this paper

400   elucidates this challenge by highlighting the approaches and context in which the NHS LCD programme

401   is being delivered, and contributes to a larger programme evaluation (Re:Mission study) (33, 37).

402   At its most fundamental level, our findings demonstrate the variation and differences in the

403   approaches taken when mobilising the NHS LCD programme. Key aspects of these approaches, such

404   as training, incentivisation and management of referrals (allocation, rollout to practices), and the

405   human and financial resource they depend on, were utilised, and justified differently across the ten

406   pilot localities. Covid-19 presented a specific challenge, which meant the programme was mobilised

407   and delivered in a context that undoubtedly had a constraining influence on the capacity and capability

408   of the local health system. The findings also highlight a lack of focus on proportionate universalism,

409   and although delivery is ultimately the responsibility of the service providers, local health systems

410   could play a more prominent role in driving this agenda through the mobilisation process.

411   Despite an ongoing debate about the use of targeted and universal strategies to address

412   health inequities (38), proportionate universalism is an example of a policy approach or strategy

413   considered appropriate for tackling the social gradient in health. Calling for a combination of universal

414   and targeted actions, Marmot (5, p.16) defines proportionate universalism as universal actions "with

415   a scale and intensity that is proportionate to the level of disadvantage". Proportionate universalism,

416   therefore, is conceived as a social policy response to inequities – the state in which people do not have

417   a fair and just opportunity to attain health. This is important because it is inequities that create,

418   perpetuate and exacerbate inequalities, thus, inequalities or the social gradient in health is the

419   manifestation of inequities (10, 30).

420

An equity perspective from the start

421

422   During the first year of data collection, five of the ten localities adopted referral allocations

423   based on the size of eligible populations. While these localities did not explicitly target specific

424   populations, by considering how eligibility was distributed they adopted a 'secondary' level of

425   targeting within their referral policy. This level of targeting is considered secondary because it ensures

426   that areas or practices with the highest need are given more opportunities to refer but does not take

427   measures to ensure that certain groups within these areas or practices subsequently receive referrals.

428   Our findings show that the targeting, or the equitable distribution of referrals was not

429   something adopted by all localities, and for localities that started with referral allocations, there was

430   a tension between generating referrals and doing so equitably. Specifically, despite the best intentions

431   of some localities, there was a tension between generating referrals equitably and utilising all the

432   places available, and therefore maximising the benefit from the NHS LCD programme for the whole

433   population. Furthermore, while the lack of a referral allocation may result in referrals coming from a

434   small number of practices, it is possible these referrals are generated equitably. Nonetheless, referral

435   allocations adopted in year one, were later changed in order to meet overall referral numbers, which

436   often relied on a small number of practices or referral staff. Similarly, a lack of commitment to

437   concrete action to reduce inequalities in local systems has previously been reported (39). Yet,

438   following the ratification of the Health and Social Care Act 2012, local health systems have had an

439   increased responsibility to address inequalities in access to health and health outcomes (40).

440   To address inequalities, or achieve equitability, there is a need for a suite of measures

441   at varying levels, including at a national or policy level, organisational or planning level (local health

442   systems), service delivery level and a lifestyle level (41-45). By implication, there is also a need to adopt

443   an equity perspective from the start, as a degree of responsibility for identifying and addressing the

444   inequities in healthcare falls upon those doing public health work (46). Thus, the organisation and

445   planning of resources at a local health systems level can be managed within a proportionate

446   universalism approach. As a result, the decisions locality leads make regarding the organisation and

447   planning of resources at a local health system level has an impact on the equitability of programme

448   delivery and should be duly considered.

449   A health equity impact assessment (HEIA), a process of exploring or mitigating the impacts of

450   decisions on inequalities during decision making, is one such tool that encourages an equity

451   perspective from the start (42). When conducted meaningfully a HEIA can act as a catalyst to equity-

452   focused organisational change and can improve health equity by promoting and encouraging

453   considerations of health equity in policies and programmes, such as the deployment of resources at

454   the disposal of local health systems. The local completion of a HEIA has been recommended by Public

455   Health England (44) who advocated positioning health equity at the heart of all strategies and policies

456   across local health systems. Doing this can reduce the negative impact of policy and programmes that

457   could further widen health inequalities (42).

458

459   **Managing resources equitably**

460   Overall, our findings demonstrate the importance of training for addressing referral barriers

461   and ineligible referrals, as well as improving engagement amongst GP practices. Similarly, the use of

462   information sessions proved effective at communicating information about the programme to the

463   local health system, especially in light of the phenomenon of "bulletin blindness" – where written

464   communications do not always reach referral staff. Therefore, training and/or synchronous

465   information sessions can be considered important in enabling the effective referral of eligible patients

466   to the NHS LCD programme. For example, our findings show that barriers to referrals include referrer-

467   based barriers, many of which can be addressed by providing appropriate training. Indeed, the depth

468   of knowledge within participating stakeholders in the health system, and the subsequent need for

469   training has been shown to be important for the effective delivery of large diabetes programmes (47).

470   There is also a need to consider the proportionality of service resourcing and provision when

471   delivering health-based interventions. Time could be distributed differentially at a planning or

472   organisational level, for example, by delivering training amongst GP practices proportionate to their

473   need, judged by the prevalence of T2D in their population, or their level of engagement across multiple

474   programmes. However, our results show that time was not managed equitably by all participating

475   localities, because training and synchronous information sessions were delivered variably.

476   Specifically, many localities were reactive in allocating additional time and resource to support

477   practices or areas with lower rates of referral. There was less evidence of proactive allocation of time

478   and resource at the initial stages of mobilisation to avoid intervention-generated inequalities in

479   referral rates from potentially developing at the outset. Therefore, many localities did not use

480   resource and time proportionately from the start, thus missing a potential opportunity to adopt an

481   equity perspective in service resourcing and provision. Indeed, where local health systems have

482   allocated resource that is proportionate to need, instead of simply supporting those who are easiest

483   to support, proportionate universalism has been an effective policy approach (44).

484   The introduction of incentivisation has been associated with an improvement in quality of

485   primary care for people living with diabetes (48). However, we found that economic resource, used as

486   an incentive, missed a potential opportunity to use financial incentives to address inequalities (49). As

487   a consequence, the actions of locality leads run the inherent risk of exacerbating existing inequalities,

488   if patients who are more likely to achieve favourable outcomes are selected (50). However, there is

489   limited evidence to support the use of incentives to address inequalities, and it has been suggested

490   that resource allocation matched to increased needs might have a greater impact on health

491   inequalities than the type of incentivisation (35). Nonetheless, the approaches to incentivisation have

492   the potential to contribute to a more equitable programme and should be considered through an

493   equity lens. This is important, because any programme that does not take due diligence towards

494   equities, runs the risk of becoming an inequality paradox, thus, becoming markedly more beneficial

495   for individuals of higher socio-economic status, and of White ethnicity.

496   The importance of collaboration within the local health system was also demonstrated in this

497   study, for example, a close working relationship with providers (51) and community involvement to

498   identify services users (47) have also been reported by others. Furthermore, the presence of a Steering

499   Group was more often than not discussed as an important part of the NHS LCD programme, which

500   presented an ideal location for the equitable management of resources. Findings from this work help

501   to build a comprehensive picture of the programme mobilisation, which will be further supported by

502   insights from NHS staff responsible for patient referral to the programme.

503

504   Limitations

505   This is the first study to explore the experiences of local health service leads with the responsibility for

506   the mobilisation of a national Low Calorie Diet programme of this nature in real-world settings.

507   However, there are a number of limitations to the current study: 1) The programme was mobilised in

508   the middle of the Covid-19 pandemic, which placed significant strain within the health system and will

509   have undoubtedly impacted programme mobilisation. 2) The wider health system, including the

510   position of locality lead, experienced a high turnover of staff during this tumultuous period, meaning

511   follow up interviews were often conducted with different personnel, which will have impacted

512   consistency in the findings between years 1 and 2. 3) These findings alone do not permit us to conclude

513   which approaches and methods are the most successful when judged against their impact on the

514   identification and generation of referrals. Instead, we have attempted to share the perspectives of

515   locality leads, and as we move away from first order constructs, we have shared our interpretations

516   of the data using inequalities as a lens for interpretation. 4) There is also a need to consider the impact

517   on equity at a national or policy level, which in the case of the current study precedes the actions of

518 locality leads, and therefore has not been considered. This is important as an equity perspective from

519 the start needs to consider policy, which has not always been presented convincingly (52, 53).

520

Recommendations

522 Based on our findings the following recommendations may help inform the equitable mobilisation

523 of the NHS LCD (and similar) programmes at a local health system level in the future:

524 1. Localities could consider an approach to addressing inequalities at the start of programme

525 mobilisation, such as a local HEIA, and review it regularly to ensure it remains fit for purpose.

526 2. Training and/or information sessions could be delivered equitably, for example, by prioritising

527 delivery to parts of the local health system with a high proportion of eligible patients and/or

528 low engagement.

529 3. Financial incentivisation can be used to increase the equity of the NHS LCD programme, but

530 should be measured to ensure this is achieved. For example, outcome incentives, whereby

531 practices receive payment for the number of patients referred, have been shown to stimulate

532 more participation (54). However, they could also adopt an equitable perspective, or be

533 proportionate to the prevalence of T2D locally, by paying more to areas with a greater need.

534 4. Built on the collaboration within the wider health system, a means of regularly monitoring

535 uptake in addition to adopting an equity perspective from the start is reasonable, as is

536 responding to this data in a timely manner to address any emerging inequalities.

537

Conclusions

539 Health inequalities remain a significant challenge, and while the healthcare system may not be able

540 to remedy inequalities that transcend healthcare, such as socioeconomic inequalities, we should

541 expect that the healthcare system does not exacerbate existing inequalities. As a result, it is important

542   that health service leads adopt an equity perspective from the start of any new service mobilisation,

543   and in doing so manage resources equitably. This will help to reduce the potential occurrence of

544   intervention generated inequalities and avoid the possibility of programmes becoming an inequality

545   paradox. Perhaps only when inequities are considered at a planning or organisational level, can we

546   expect to see more favourable outcomes in health and access to healthcare between different socio-

547   demographic groups.

548

549   ## Abbreviations

550   **T2D**: Type 2 Diabetes; **NHS**: National Health Service; **TDR**: Total Diet Replacement; **LCD**: Low Calorie

551   Diet Programme; **HEIA**: Health Equity Impact Assessment; **LL**: Locality Lead; **Y**: Year.

552

553   ## Declarations

554   The views expressed in this paper are those of the authors and not necessarily those of the NHS or the

555   National Institute for Health Research.

556

557   ## Ethics Approval and consent to participate

558   All methods were carried out in accordance with relevant guidelines and regulations. The Re:Mission

559   study was granted ethical approval by the Health Research Authority (HRA) on 5 July 2021, REC ref:

560   21/WM/0136. Participants provided both oral and written informed consent to participate in the

561   Re:Mission study, including consent for publication.

562

563   ## Consent for publication

564   Not applicable

565

Availability of data and materials

567 The datasets generated during this current study are not publicly available due to reasons of privacy

568 and confidentiality, and because of the inability to de-identify the data. Additional knowledge of the

569 data can be available from the corresponding author on reasonable request.

570 Additional File 1 presents an overview of pilot areas, delivery models and programme structure.

571 Additional File 2 provides an overview of the COREQ checklist. Additional File 3 provides further

572 quotations from the data.

573

Competing interests

577

Funding

581

Author contributions

583 LE secured funding for the Re:Mission study, and with CH, DR and KD designed the outline for the

584 current work and managed access with NHS England. KD and CF conducted fieldwork. KD, CF, KK and

585 CH contributed to the analysis of data. All authors contributed to drafts of this paper and have

586 reviewed and agreed this final draft that is submitted for publication.

587

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