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1 **Internet-based pharmacy and centralised dispensing: an exploratory mixed-methods study of the**  
2 **views of family practice staff**

3 **ABSTRACT**

4 **Background**

5 Over the last decade, technological advances, market competition and increasing pressures for  
6 efficiencies across health care systems have resulted in changes to the processes and policies  
7 involved in medicines prescribing and dispensing. The aim of this study was to explore the views of  
8 family practice staff, including GPs, on the perceived impact of changes associated with remote  
9 dispensing and the increasing availability of distance-selling pharmacies.

10 **Methods**

11 Exploratory mixed methods study using qualitative focus groups and an online cross-sectional survey  
12 distributed to a non-probability sample of staff from family practices across England. Survey items  
13 were developed based on existing literature and initial thematic analysis from the focus groups and  
14 adapted using cognitive interviewing techniques.

15 **Results**

16 Findings suggest that family practice staff believe that where and how prescriptions are dispensed  
17 impacts on their practice and patients. Frequent contact with distance-selling pharmacies is not  
18 common, however, highlighted concerns included patient safety issues and the potential threat to  
19 the loss of valued elements and sustainability of community pharmacy and dispensing practices.  
20 Identified concerns and experiences are unlikely to be routinely discussed within or between  
21 practices, limiting opportunities for shared learning and consideration of the potential impact of  
22 changes to dispensing processes and policies.

23 **Conclusions**

24 Further research is needed to confirm these exploratory findings, due to the low response rate and  
25 sample size. Findings, nevertheless, highlight how wider changes in dispensing processes may have  
26 unintended consequences on other aspects of the healthcare system.

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Submitted final version

29 **Internet-based pharmacy and centralised dispensing: an exploratory mixed-methods study of the**  
30 **views of family practice staff**

31 **INTRODUCTION**

32 The application of technological advances relating to the supply of medicines and the provision of  
33 pharmacy services is continuously evolving. Many of these developments have occurred in line  
34 with increasing market competition and pressures for efficiencies across health care systems [1-3].  
35 For example, electronic prescribing systems which allow the automation of aspects of traditional  
36 dispensing systems, such as the English Electronic Prescription Service [4], offer technological  
37 solutions that help to improve efficiency and convenience and can offer benefits to the health  
38 service, patients, family practice, and community pharmacy [5]. Increasing availability of the  
39 internet has also had a profound effect on the way patients access not only health information, but  
40 also their medicines [3]. There has been an associated growth in the availability of internet-based  
41 pharmacy, including established chain and large retail pharmacies that operate online or manage  
42 online portals for mail-order pharmacy services, brick and mortar pharmacies that have an online  
43 presence, and pharmacies that operate solely online [6]. Although there is some evidence from the  
44 US to support the potential advantages of mail order pharmacy [7], much of the available literature  
45 on internet pharmacy tends to focus on the controversies and legalities of dispensing and  
46 prescribing online [6] or on the patient characteristics of those who purchase medications over the  
47 internet [3]. There seems to be a lack of evidence on the attitudes and opinions of patients,  
48 pharmacists or other health providers.

49 Advances in technology-enabled, remote, automated and centralised dispensing are also reported to  
50 have potentially significant implications for the organisation and funding of community pharmacy  
51 services more widely [8]. In the UK, for example, there have been proposals to change regulatory  
52 frameworks that would allow an increase in large scale centralised dispensing as a possible solution  
53 to more efficient, safer and convenient dispensing, with the proposed aim of freeing up pharmacist

54 time for the delivery of a wider range of cognitive and medicines optimisation services within  
55 community pharmacy [9]. Concerns have been raised, however, as the economic value of  
56 centralised dispensing remains untested in the UK and increasing reliance on centralised supply may  
57 result in an increased burden for accessibility and support placed on family practitioners [10].

58 Adaptation to and integration of new innovations within healthcare systems are complex processes  
59 that depend on a number of organisational and contextual factors [11-13]. The implementation of  
60 new technologies and ways of working within established healthcare practice has been associated  
61 with a degree of risk and uncertainty, the encouragement of “workarounds” and the creation of  
62 “unanticipated or latent hazards” [4].

63 Due to the current rise in numbers of patients with long-term conditions and multi-morbidities [14]  
64 and the increased workload associated with processing of prescriptions for repeat and multiple  
65 medications, the potential cumulative impact on family practice associated with changes in the way  
66 patients’ medicines are supplied could be substantial. Research from Norway and Sweden has  
67 highlighted that physicians tend to be more critical of automated dispensing systems than other  
68 professional groups and many have concerns in relation to safety, complexity of prescribing  
69 procedures and increased workload [2]. Little is known about the experiences and perceptions of  
70 family practice staff (including family practitioners; GPs) in the UK in relation to centralised  
71 dispensing and distance selling pharmacy via the internet or on the existing or potential impact that  
72 associated changes may have on their workload, practices, patient care or their relationships with  
73 community pharmacy.

74 This study aimed to explore the experiences and views of GPs and other practice staff on the  
75 perceived influence and potential impact of centralised dispensing and internet-based pharmacy  
76 services on family practice. Findings can help to improve our understanding of key considerations  
77 and issues in this area and help to identify barriers and facilitators to effective patient-centred  
78 collaboration between pharmacy and family practice and inform future policy decisions in this area.

## 79 **METHODS**

80 This was an exploratory mixed methods study using qualitative focus groups and an online survey.

81 Two focus groups with a convenience sample of GPs from North East England were conducted to

82 elicit in-depth qualitative data on shared experiences and beliefs in relation to the influence of

83 centralised dispensing and internet-based pharmacy on family practice. An emphasis was placed on

84 the elicitation of key issues and terminology to inform the development and wording of the survey.

85 The focus groups were transcribed verbatim. An inductive thematic approach to data analysis was

86 employed with a particular focus on the interactions, agreements and discrepant views between the

87 group members [15, 16].

88 Due to agreement within the focus groups that other practice staff dealt with prescription and

89 dispensing issues more frequently than GPs, the survey was designed to be completed by any

90 member of staff who dealt with these issues as part of their roles. Survey items were informed by

91 findings from the focus groups and existing research [17, 18] and elicited views on the perceived

92 impact of centralised dispensing and distance-selling pharmacy on family practice. The survey items

93 were grouped into questions about demographics (e.g. role within the practice, practice size and

94 location); general views about the value of communication and relationships with community

95 pharmacy; perceived influences on the safe and efficient supply of medicines and appliances;

96 frequency and perceived burden associated with resolving supply related issues; and attitudes

97 towards centralised dispensing and internet pharmacy. Most items were measured using a 4 or 5

98 point Likert scale, or with fixed choice response options. Additional comments were collected using

99 free text responses.

100 A pilot with a convenience sample of three GPs using cognitive interviewing methods ensured

101 appropriateness and ease of comprehension of questions, response options, and navigation [19].

102 Amendments were made accordingly and content validity and questionnaire wording was then

103 assessed by a further GP and a pharmacist. A copy of the survey is attached as supplemental  
104 material (see Appendix S1).

105 An electronic link to the survey was distributed to a non-probability sample of family practice staff  
106 via professional bodies, UK research networks and commissioning groups newsletters, social media  
107 (twitter) as well as a direct electronic mailing to a random sample of English GP practice email  
108 addresses from a publicly available online database stratified by region (n=1762). Emails were  
109 addressed for the attention of the practice manager who was asked to forward the information to all  
110 GPs and other practice staff who deal with prescription/dispensing queries as part of their role.  
111 Data collection took place from June 2018 to August 2018 using Qualtrics software (Qualtrics, Provo,  
112 UT, USA.) No reminders were sent.

113 All participants were provided with study information sheets. Informed written consent was gained  
114 from all focus group participants. Ethics approval was provided by the University of Sunderland  
115 Ethics Group (May, 2017; ref: 000645).

## 116 **RESULTS**

### 117 **Focus groups**

118 Participants (n=8) varied in the length of time they had been practicing as a GP, additional  
119 commissioning roles held and their interest in prescribing systems and medicines optimisation (see  
120 table 1).

121 (insert table 1)

122 The following three key themes were identified from the analysis.

#### 123 *Valued community pharmacy "safety net"*

124 Concerns were raised in both groups that an increased reliance on remote dispensing could result in  
125 the potential loss of valued elements of local community pharmacy provision. Continuity of care,



126 community pharmacists' local knowledge of patients and relationships with GPs were perceived to  
127 be essential for enabling a valued alert system for compliance problems and prescribing errors and  
128 for the efficient resolution of problems.

129 *"There's a big issue around continuity in care generally... I think if you take out yet another*  
130 *community-based resource or you denigrate it as (participant 2) sort of described by*  
131 *challenging their financial viability, ... you could very readily lose that immediate contact with*  
132 *patients"* (GP1: Focus Group 1)

### 133 *Legitimising role boundaries*

134 GP discourses centred primarily around the resolution of problems associated with patients not  
135 being able to get their medicines when needed. Dealing with medicines dispensing and supply  
136 issues was not perceived to be a legitimate responsibility of the GP, unless it impacted directly on  
137 patient care. *"it's when it doesn't work that I become more interested"* (GP6: Focus Group 2).

138 Understanding the scale and nature of the impact of dispensing related issues on general practice  
139 was often limited due to delegation of problem resolution to administrative teams, whose workload  
140 associated with the processing of prescriptions and resolution of patients' medicines supply issues  
141 was reported as substantial. Required changes to electronic repeat prescriptions and remotely  
142 dispensed multi-compartment compliance aids (medi-boxes), in particular, were reported to be  
143 potentially complex and time-consuming to resolve.

### 144 *Lack of common practice and terminology*

145 Participants demonstrated confusion over, and inconsistent use of, the terminology associated with  
146 electronic, online, internet, centralised or remote prescribing /dispensing. This partly reflects rapid  
147 and ongoing changes in processes and the use of available technologies, including, for example, the  
148 introduction of the English Electronic Prescription Service and patient use of internet-based  
149 pharmacies. A range of terms were also used for multi-compartment compliance aids, as well as for

150 managed, batched or repeat prescriptions. The use of terminology and some of the processes  
151 relating to the technological elements of prescribing and dispensing seemed to differ both within  
152 and across practices and were not issues that participants reported to be commonly discussed or  
153 had previously considered.

#### 154 ***Online survey***

155 Survey responses (n=97) were received from a range of staff and practice types. Most responses  
156 (97.9%, n=95) were from the direct email contact with practices (5.4% response rate). Participant  
157 and practice characteristics are summarised in tables 2 and 3.

158 (Insert tables 2 and 3)

#### 159 *Frequency of contact with different pharmacy types*

160 The majority of respondents reported that they dealt with local independent or small chain  
161 pharmacies on a daily or weekly basis (68%, n=66) and less frequently with large multiple or  
162 supermarket pharmacies or distance selling pharmacies that trade only online or by mail order (see  
163 figure 1). Regular contact with pharmacies (on a weekly basis or more) was reported more  
164 frequently by other practice staff than by GPs (82.4%, n=56) and 77.8%, n=14) respectively),  
165 although this difference was not found to be significant ( $\chi^2= 0.197, df=1, p>0.05$ ). .

166 (Insert figure 1)

#### 167 *Valued elements of interaction with community pharmacy*

168 In line with the focus group findings, interaction with community pharmacy was highly valued.  
169 Most respondents (76.3%, n=74) reported that they would prefer to deal with a local pharmacist  
170 they knew well when dealing with medicine supply and dispensing queries (47.4%, n=46, strongly  
171 agreed; 28.9%, n=28, agreed). When asked to rate the importance of a list of items relating to the  
172 safe and efficient supply of medicines, the most highly rated item was “effective communication

173 between pharmacy and general practice" (97.9%, n=96, very important). This was followed by good  
174 relationships between general practice and pharmacy (88.7%, n=86, very important); alerts about  
175 medicines compliance (81.4%, n=79, very important), supply issues (77.3%, n=75, very important)  
176 and safety issues (75.3%, n=73, very important); the opportunity for patients (and/or carers) to have  
177 direct face to face contact with the pharmacist responsible for dispensing their medicines (67%,  
178 n=65, very important); and dispensing pharmacist knowing local patients well (63.9%, n=62, very  
179 important).

#### 180 *Perceived burden associated with dispensing related issues*

181 Most respondents agreed or strongly agreed that where and how prescriptions are dispensed has an  
182 impact on their practice and patients (81.4%, n=79). Figure 2 summarises the perceived burden  
183 associated with dispensing related issues identified in the focus groups. Although encountered the  
184 least frequently, resolving the lack of receipt of medications from a pharmacy trading over the  
185 internet was rated as the most time consuming.

186 (Insert figure 2)

#### 187 *Perceived advantages and disadvantages of internet-based distance selling pharmacies*

188 More respondents rated home deliveries of medications by local community pharmacies (92.6%,  
189 n=88, agreed or strongly agreed) as an important service than postal delivery by distance-selling  
190 pharmacy (26%, n=25, agreed or strongly agreed). Sixty-six respondents (70.2%) provided free-text  
191 comments on advantages and concerns associated with distance-selling pharmacies that trade over  
192 the internet and ranked these in order of priority. Just over a quarter of these (27.3%, n=18) were  
193 able to identify advantages to patients of distance selling pharmacies. These centred around patient  
194 convenience (Postal delivery, ease of use, ordering, fast, reliable, efficiency, increased access to  
195 medication and less supply issues) and patient choice (patient managing demand, meeting patient  
196 demand, ability to shop around). Concerns were identified by 86.4% (n=57) with 72.7% (n=48)

197 reporting concerns only and an additional 13.6% (n=9) reporting that concerns outweighed  
198 identified advantages.

199 Table 4 summarises the themes identified from thematic analysis of the reported concerns.  
200 Although communication issues and poor customer service were most frequently mentioned, the  
201 appropriateness and reliability of sending medications by post and the lack of direct patient contact  
202 were more commonly reported to be of greater priority.

### 203 *Perceived value of centralised dispensing*

204 Around half of respondents were unsure whether centralised dispensing could be cost-effective for  
205 the NHS or pharmacy, or whether increasing opportunities for centralised dispensing would allow  
206 pharmacists to spend more time delivering other clinical services. However, there was a higher  
207 percentage of respondents who felt that centralised dispensing would be cost-effective for  
208 pharmacies (24%, n= 21) than the NHS (17%, n=15), and 40% (n=35) felt this would not result in  
209 pharmacies being able to spend more time delivering a wider range of clinical services (see figure  
210 S1).

211 Content analysis of additional free text comments provided at the end of the questionnaire reflected  
212 previously identified themes with the addition of further more detailed examples, but no new issues  
213 being reported (illustrative comments provided in table 5).

214 (insert table 5)

## 215 **DISCUSSION**

216 Little is currently known about the views of family practice staff on how wider changes in dispensing  
217 processes affect their practice and patients. This study provides a preliminary exploration of staff  
218 perceptions and experiences of distance-selling pharmacy trading over the internet and general  
219 attitudes towards centralised dispensing. Findings highlight that community pharmacy is seen by

220 family practice staff to provide a valued “safety net” that can help to identify and resolve compliance  
221 issues and prescribing errors more efficiently. Reported concerns suggest that some staff believe  
222 that an increased reliance on distance selling pharmacies and other forms of centralised dispensing  
223 may denigrate valued elements of community pharmacy and dispensing practices by threatening  
224 their long-term sustainability. .

225 Views from a diverse sample of family practice staff from a wide geographical area across England  
226 are included. Our mixed methods approach allowed the identification of key themes and questions  
227 to be asked, as well as ensuring that we gained perspectives from a wide sample of family practice  
228 staff from different practice types and locations. This has helped to provide a general indication of  
229 the significance and frequency of the issues raised. The limitations of our small sample size and  
230 limited response from GPs are acknowledged and findings should be interpreted with caution.

231 Responses may have been affected by a lack of interest and low priority of this issue, which could be  
232 expected in light of other pressures on the NHS system and the limited contact that individual  
233 practices have with distance selling pharmacy on a daily basis. Some response bias is also possible  
234 as knowledge of where patients fill their prescriptions is more likely when there is an issue that is  
235 brought back to the attention of the practice and respondents may have been those who were more  
236 likely to have encountered previous problems. The low response rate to the survey also restricted  
237 possible analysis of differences between different groups of staff types and practice types. Whilst  
238 every effort was made to ensure that survey questions and terminology were easy to understand, it  
239 is possible that some of the questions may have been misinterpreted. For example, the questions  
240 relating to perceived burden associated with dispensing related problems may have been  
241 misinterpreted as total time burden rather than level of workload each time an issue arises.

242 Findings, nevertheless, highlight that GPs and other staff from family practice place high value on the  
243 perceived need for communication between general practice and community pharmacy, community  
244 pharmacy’s local knowledge of patients, and opportunities for direct pharmacist/patient contact.

245 This finding is somewhat surprising in light of research that has identified poor collaboration

246 between GPs and community pharmacists in relation to the implementation of extended services in  
247 the UK [20] and the focus by the UK government to improve these collaborations [1]. Possible  
248 explanations may be that GPs views are not as dominant as community pharmacist views within this  
249 literature, or that the views of other practice staff who may deal with community pharmacy more  
250 regularly are not usually included. It is also possible, however, that the literature focused on the  
251 provision of extended services within community pharmacy that are associated with more overlap in  
252 traditional role boundaries [21-23] fails to reflect the more positively perceived value of the  
253 contribution of more conventional and bounded roles related to the dispensing and supply of  
254 medicines and their contribution to supporting patient-centred care. A report [24] on the  
255 inaccessibility and loss of pharmacy internet sites over time supports the significance of the  
256 perceived concerns in relation to potential disruption of continuity of care, which is highly valued  
257 within family practice in the UK [25].

258 Acknowledged advantages to online distance-selling pharmacy centred on patient choice and  
259 convenience. The most commonly reported concerns were communication difficulties and poor  
260 customer service, however these were not prioritised as highly as the lack of direct patient contact  
261 and/or local patient knowledge; the lack of reliability, appropriateness and safety of delivering  
262 medications by post; and the potential for abuse of the system and lack of trust. Findings also reflect  
263 previously identified apprehensions in relation to some internet pharmacies being perceived as  
264 being overly aggressive in the market place focusing only on sales and profit rather than patient  
265 safety, despite acknowledgement of the potential benefits in terms of patient convenience [26].

266 Research from the US has demonstrated that mail-order pharmacies can help to eliminate barriers  
267 to access to medicines, such as time, mobility and transportation and that benefits may also extend  
268 to improved adherence and disease control [27-32]. Our findings suggest that practice staff in  
269 England value home deliveries by local community pharmacy and concerns were raised in relation to  
270 the perceived appropriateness of delivering medicines by post, particularly to vulnerable groups. In  
271 England, changes to the national funding contract for community pharmacies [33] have resulted in a

272 number of large multiples and other types of community pharmacies restricting their home delivery  
273 services only to those who are housebound or are considering implementing delivery charges [34].  
274 The potential implications of this change in terms of patient care and on family practice are as yet  
275 unknown.

276 Knowledge and understanding of the potential impact of proposed changes to regulations, policy  
277 and practice relating to centralised dispensing in the UK [10] was found to be low. Our findings also  
278 highlight that identified issues and concerns are not encountered regularly or discussed within or  
279 between practices and differences in terminology can make reaching shared understandings and  
280 discussions more difficult. This limits opportunities for reflexive monitoring [12] i.e. the assessment  
281 and shared understanding of how changes in dispensing processes and policies may be affecting  
282 general practice and patient care more widely. Potential implications may be that more efficient  
283 processes and related knowledge that can help to resolve or prevent queries and additional  
284 workload is not being routinely identified, shared or implemented [11]. Further research on a larger  
285 more representative sample would be required to confirm these findings and to identify patient and  
286 pharmacist views.

## 287 **CONCLUSIONS**

288 This study highlights the perceived value of community pharmacy within the health care system in  
289 terms of local patient knowledge, medicine safety and efficient resolution of problems. This was  
290 seen to be important in relation to the perceived impact that a potential increased reliance on  
291 distance-selling pharmacy and centralised or remote dispensing may have on future sustainability of  
292 community pharmacies and dispensing practices.

293 The expansion of technologically enabled changes, such as distance-selling internet pharmacy and  
294 centralised dispensing, seems to add increasing complexity to collaborations between family  
295 practice and community pharmacy. Unintended consequences related to these developments need  
296 to be considered by both. Internet distance-selling pharmacies may offer important advantages to a

297 select group of patients, however, few practice staff deal with these organisations on regular basis.  
298 Identified concerns and experiences are therefore not routinely discussed within or between  
299 practices, limiting opportunities for reflexive monitoring and consideration of how changes in  
300 dispensing processes and policies may be affecting family practice and patient care.

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399 Table 1 – Focus group participant characteristics

	Male/Female	CCG/medicines optimisation role	Over 5 years in GP practice	Urban/rural practice
<b>Focus Group 1</b>				
Participant GP1	Male	Yes	Yes	Semi-rural
Participant GP2	Male	Yes	Yes	Semi-rural
Participant GP3	Male	Yes	No	Semi-rural
Participant GP4	Male	yes	Yes	Semi-rural
<b>Focus Group 2</b>				
Participant GP5	Male	No	No	Rural (dispensing practice)
Participant GP6	Female	No	No	Urban
Participant GP7	Male	No	Yes	Rural
Participant GP8	Female	Yes	Yes	Urban

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401 Table 2 – Online survey participant characteristics (n=97)

	n	%
<b>GPs</b>	<b>19</b>	<b>19.8</b>
Time in role: 3-5 yrs	1	5.3
6-9 yrs	3	15.8
10 yrs +	14	73.7
Missing	1	5.3
Formal commissioning role	<b>2</b>	<b>10.6</b>
<b>Other - Practice staff</b>	<b>69</b>	<b>70.8</b>
Time in role: <1 year	2	2.9
1-3 yrs	20	29.4
4+	45	66.2
missing	2	1.5
<b>Missing</b>	<b>9</b>	<b>9.3</b>
<b>Other Practice staff - roles</b>		
Practice Manager	25	36.2
Administrative/Reception Staff	16	23.2
Prescription or Medication management clerk or coordinator	6	8.7
Dispenser/Dispensing Manager	4	5.8
Nurse/Nurse Manager	5	7.2
Pharmacist/ pharmacy technician	8	11.6
Other	5	7.2

402 **Table 3– Practice characteristics (n=97)**

<b>Practice Sizes</b>	n	%
Single handed (1 of fewer FTE GPs)	8	7.4
Small-medium (More than 1 and up to 3 FTE GPs)	28	29.5
Medium-large (more than 3 and less than 6 FTE GPs)	34	35.8
Large (6 or more FTE GPs)	15	15.8
Missing	12	12.3
<b>Practice Location</b>		
Rural area	13	13.7
Semi-rural area	34	35.8
Urban area	37	37.9
Missing	13	13.4
<b>Proximity to Pharmacy</b>		
The practice is a dispensing practice	16	16.8
The practice has a co-located pharmacy	16	16.8
The practice has a pharmacy in close proximity	9	9.5
The practice has more than one pharmacy in close proximity	40	41.1
Other	4	4.2
Missing	12	12.4
<b>Region</b>		
North East	22	22.9
North West	13	13.5
Yorks and Humber	9	9.4
East of England	7	7.3
South West	15	15.6
South East	17	17.7
Missing	14	14.4

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405 **Table 4 – Thematic content analysis of reported concerns by assigned priority (n=66)**

Themes	Priority 1 (most important)	Priority 2	Priority 3 (least important)	Total times mentioned
<b>Communication and customer service Issues</b> - patient confidentiality; patient difficulties contacting on phone; lack of communication /relationship/rapport between pharmacy/practice/GP; lack of contact person / instructions for primary care/knowning who you are talking to for resolving problems; patient difficulties explaining issues; - poor customer services (phone not answered, not helpful, inability to handle adverse situations e.g stock, no instructions)	9	9	14	<b>32 (48.5%)</b>
<b>Delivery Concerns</b> - no assurance that patient has received meds/appliances; not getting meds/appliances on time/when needed; postal system not appropriate (e.g. controlled drugs/ families friends unable to pick up missed deliveries); postal system not safe or reliable (e.g. misdelivered/lost/delays/missed deliveries/patient in hospital)	15	7	6	<b>28 (42.4%)</b>
<b>Potential for abuse of system (lack of trust)</b> - over ordering/reordering too soon/not on time/ misuse of managed repeats; drug ingredients; fraud/financial manipulation/scam; not governed by same rules as dispensing practices; pressurised and misleading marketing (confusing, especially for vulnerable groups); patients claiming not received medications/or supplying to others.	7	13	6	<b>26 (39.4%)</b>
<b>Lack of direct patient contact</b> - generic concerns and related specifically to: lack of advice for minor illnesses/pharmacy first services; difficulty for patients in resolving issues/problems/ confusing and worrying; no medication information/counselling/discussion/safety-netting; loss of personal service and social interaction (especially for the elderly and housebound)	15	7	3	<b>25 (37.9%)</b>
<b>Lack of patient knowledge</b> - General lack of knowledge of patients, their circumstances or changes in condition and also more specifically related to: lack of safeguarding/identification or reporting concerns (e.g. day to day living or medication/compliance); lack of staff personal responsibility to individual patients.	9	9	6	<b>24 (36.4%)</b>
<b>Ordering issues</b> - cannot accommodate non EPS (e.g. for locums), urgent supply, consistent supply; ordering not completed on time; time consuming process; changes to medication requests take longer to be acted on/more difficult (e.g. dosette boxes).	5	10	3	<b>18 (27.3%)</b>
<b>Potential Impact</b> - loss of earnings and threat to sustainability of community pharmacy (and services such as pharmacy first), dispensing practices and local communities; increasing pressures on general practice.	7	0	7	<b>14 (21.2%)</b>
<b>Difficulties with problem resolution</b> - difficult to resolve problems (medications, data entry, ordering, delivery); unable to resolve on same day/when needed; lack of / distant practice/pharmacy relationship/rapport makes resolution of issues more difficult; time consuming for patient and for primary care (e.g. chasing medication requests); patient complaints.	4	7	2	<b>13 (19.7%)</b>
<b>Potential for errors</b> - scripts going missing / wrong medications / incomplete medications/medications dispensed when not required; errors and significant events difficult to pick up / manage.	4	3	2	<b>9 (13.6%)</b>
<b>Patient safety / security</b> - unspecified; call centre staff felt to have lack of pharmacy or clinical knowledge, patient confidentiality concerns	3	1	1	<b>5 (7.6%)</b>
<b>Cherry picking/inequalities</b> - only suitable for very limited group of patients and not for those who are computer illiterate, need urgent medications, or have unstable conditions)	1	1	3	<b>5 (7.6%)</b>

406 **Table 5 - Selected free text comments**

**Selected illustrative free text comments - Survey**

*“Relationships matter in healthcare delivery and lack of personal continuity of relationship has multiple known negative effects. A focus on organisation types overlooks issues of relationship continuity which are key to the welfare of the most vulnerable patients, especially those who, treated as consumers, tend to make wrong choices. This winter snow came. For several weeks in some cases, postal deliveries were unavailable and it was locally located healthcare providers who cooperated to manage the supply difficulties such patients had, including those used to relying on internet providers etc.” (participant 26, GP, rural area, North East England)*

*“The relationship we have with our local pharmacists is very important. They flag up concerns about patients as they know them well. They are a source of advice to us GP’s about complex pharmaceutical issues and they provide a minor illness service for over the counter medication. Online pharmacists are cherry picking the easy profitable parts of the service and in doing so are undermining the profitability of face to face pharmacists which may lead to closure. Their marketing strategies are outrageous as they imply that they offer a service that other pharmacists don’t” (participant 12, GP, urban area, South East England)*

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