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


## ABSTRACT

### Background

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

### Methods

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

### Results

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

### Conclusions

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

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## INTRODUCTION

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

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

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

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

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

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

## METHODS

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

Two focus groups with a convenience sample of GPs from North East England were conducted to elicit in-depth qualitative data on shared experiences and beliefs in relation to the influence of centralised dispensing and internet-based pharmacy on family practice. An emphasis was placed on the elicitation of key issues and terminology to inform the development and wording of the survey. The focus groups were transcribed verbatim. An inductive thematic approach to data analysis was employed with a particular focus on the interactions, agreements and discrepant views between the group members [15, 16].

Due to agreement within the focus groups that other practice staff dealt with prescription and dispensing issues more frequently than GPs, the survey was designed to be completed by any member of staff who dealt with these issues as part of their roles. Survey items were informed by findings from the focus groups and existing research [17, 18] and elicited views on the perceived impact of centralised dispensing and distance-selling pharmacy on family practice. The survey items were grouped into questions about demographics (e.g. role within the practice, practice size and location); general views about the value of communication and relationships with community pharmacy; perceived influences on the safe and efficient supply of medicines and appliances; frequency and perceived burden associated with resolving supply related issues; and attitudes towards centralised dispensing and internet pharmacy. Most items were measured using a 4 or 5 point Likert scale, or with fixed choice response options. Additional comments were collected using free text responses.

A pilot with a convenience sample of three GPs using cognitive interviewing methods ensured appropriateness and ease of comprehension of questions, response options, and navigation [19]. Amendments were made accordingly and content validity and questionnaire wording was then

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

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

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

## RESULTS

### Focus groups

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

(insert table 1)

The following three key themes were identified from the analysis.

*Valued community pharmacy "safety net"*

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

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

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

*Legitimising role boundaries*

GP discourses centred primarily around the resolution of problems associated with patients not being able to get their medicines when needed. Dealing with medicines dispensing and supply issues was not perceived to be a legitimate responsibility of the GP, unless it impacted directly on patient care. *"it's when it doesn't work that I become more interested"* (GP6: Focus Group 2). Understanding the scale and nature of the impact of dispensing related issues on general practice was often limited due to delegation of problem resolution to administrative teams, whose workload associated with the processing of prescriptions and resolution of patients' medicines supply issues was reported as substantial. Required changes to electronic repeat prescriptions and remotely dispensed multi-compartment compliance aids (medi-boxes), in particular, were reported to be potentially complex and time-consuming to resolve.

*Lack of common practice and terminology*

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

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

***Online survey***

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

(Insert tables 2 and 3)

*Frequency of contact with different pharmacy types*

The majority of respondents reported that they dealt with local independent or small chain pharmacies on a daily or weekly basis (68%, n=66) and less frequently with large multiple or supermarket pharmacies or distance selling pharmacies that trade only online or by mail order (see figure 1). Regular contact with pharmacies (on a weekly basis or more) was reported more frequently by other practice staff than by GPs (82.4%, n=56) and 77.8%, n=14) respectively), although this difference was not found to be significant (Chi2= 0.197, df=1, p>0.05). .

(Insert figure 1)

*Valued elements of interaction with community pharmacy*

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

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

*Perceived burden associated with dispensing related issues*

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

(Insert figure 2)

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

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

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

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

*Perceived value of centralised dispensing*

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

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

(insert table 5)

**DISCUSSION**

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

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

Views from a diverse sample of family practice staff from a wide geographical area across England are included. Our mixed methods approach allowed the identification of key themes and questions to be asked, as well as ensuring that we gained perspectives from a wide sample of family practice staff from different practice types and locations. This has helped to provide a general indication of the significance and frequency of the issues raised. The limitations of our small sample size and limited response from GPs are acknowledged and findings should be interpreted with caution. Responses may have been affected by a lack of interest and low priority of this issue, which could be expected in light of other pressures on the NHS system and the limited contact that individual practices have with distance selling pharmacy on a daily basis. Some response bias is also possible as knowledge of where patients fill their prescriptions is more likely when there is an issue that is brought back to the attention of the practice and respondents may have been those who were more likely to have encountered previous problems. The low response rate to the survey also restricted possible analysis of differences between different groups of staff types and practice types. Whilst every effort was made to ensure that survey questions and terminology were easy to understand, it is possible that some of the questions may have been misinterpreted. For example, the questions relating to perceived burden associated with dispensing related problems may have been misinterpreted as total time burden rather than level of workload each time an issue arises.

Findings, nevertheless, highlight that GPs and other staff from family practice place high value on the perceived need for communication between general practice and community pharmacy, community pharmacy's local knowledge of patients, and opportunities for direct pharmacist/patient contact. This finding is somewhat surprising in light of research that has identified poor collaboration

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

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

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

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

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

## CONCLUSIONS

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

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

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

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## TABLES

**Table 1 – Focus group participant characteristics**

| | Male/Female | CCG/medicines optimisation role | Over 5 years in GP practice | Urban/rural practice |
|---|---|---|---|---|
| **Focus Group 1** | | | | |
| 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 |
| | | | | |
| **Focus Group 2** | | | | |
| 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 |

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

| | n | % |
|---|---|---|
| **GPs** | **19** | 19.8 |
| 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 | **2** | 10.6 |
| | | |
| **Other - Practice staff** | **69** | 70.8 |
| Time in role: <1 year | 2 | 2.9 |
| 1-3 yrs | 20 | 29.4 |
| 4+ | 45 | 66.2 |
| missing | 2 | 1.5 |
| | | |
| **Missing** | **9** | 9.3 |
| | | |
| **Other Practice staff - roles** | | |
| 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)**

| **Practice Sizes** | 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 |
| | | |
| **Practice Location** | | |
| Rural area | 13 | 13.7 |
| Semi-rural area | 34 | 35.8 |
| Urban area | 37 | 37.9 |
| Missing | 13 | 13.4 |
| | | |
| **Proximity to Pharmacy** | | |
| 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 |
| | | |
| **Region** | | |
| 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 |
|---|---|---|---|---|
| **Communication and customer service Issues** - patient confidentiality; patient difficulties contacting on phone; lack of communication /relationship/rapport between pharmacy/practice/GP; lack of contact person / instructions for primary care/knowing 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 | **32 (48.5%)** |
| **Delivery Concerns** - 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 | **28 (42.4%)** |
| **Potential for abuse of system (lack of trust) -** 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 | **26 (39.4%)** |
| **Lack of direct patient contact** - 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 | **25 (37.9%)** |
| **Lack of patient knowledge -** 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 | **24 (36.4%)** |
| **Ordering issues** - 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 | **18 (27.3%)** |
| **Potential Impact** - 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 | **14 (21.2%)** |
| **Difficulties with problem resolution** - 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 | **13 (19.7%)** |
| **Potential for errors** - scripts going missing / wrong medications / incomplete medications/medications dispensed when not required; errors and significant events difficult to pick up / manage. | 4 | 3 | 2 | **9 (13.6%)** |
| **Patient safety / security-** unspecified; call centre staff felt to have lack of pharmacy or clinical knowledge, patient confidentiality concerns | 3 | 1 | 1 | **5 (7.6%)** |
| **Cherry picking/inequalities** - 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 | **5 (7.6%)** |

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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