Researchers' experiences of pharmacy involvement: a UK cross-sectional survey

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Objectives
We aimed to explore the experiences and opinions of researchers who have involved pharmacy professionals in research studies. Pharmacy teams are valued healthcare professionals, with a wide knowledge base and skill set. They have regular contact with service users who may be interested in research, placing them in a good position for collaboration with researchers.

Methods
Cross-sectional survey circulated to researchers in the UK; analysed using descriptive, quantitative methods.

Key findings
A total of 238 responses were received from researchers, mainly within hospitals and universities. Most had more than 10 years of experience (45%) and had worked on 2–10 studies involving pharmacies (54%), frequently requiring hospital services (74%). Two-thirds of researchers had worked on clinical trials of investigational medicinal products. Most researchers worked with pharmacy teams that all had previous research experience (78%) yet did not involve them in participant recruitment (85%). Pharmacy staff frequently managed or dispensed medication (43%), however also engaged with other research-related tasks. Their previous experience and keenness were desirable qualities for researchers. Many respondents had a positive experience of collaboration and acknowledged various advantages (e.g. developing training/knowledge) and disadvantages (e.g. staffing issues).

Conclusions
Researchers' positive impression of working with the pharmacy sector bodes well for future collaborations. Many had experience with pharmacy, however, those more unfamiliar should consider the roles staff could perform; and pharmacy teams and professional bodies should advocate their involvement. For collaboration to prosper, we should promote the benefits of research engagement and consider how to overcome known challenges.

Introduction

Strategic opportunities to engage in research across healthcare settings are essential to achieve the goal of the United Kingdom's (UK) National Health Service (NHS) Constitution[1] and Long-Term Plan.[2] This is important when considering the aim of increasing the number of those registering to participate in health research to one million by 2023/24.[2] Every NHS trust in England recruited participants into Clinical Research Network portfolio studies for the third consecutive year,[3] showing research is well embedded in hospitals. In comparison, research opportunities in community pharmacy seem less apparent; despite being uniquely placed in the health system and supporting a range of patients without an appointment, often outside traditional working hours.[4] Initiatives to support research in community pharmacy have included Community Pharmacy Research Champions and the Royal Pharmaceutical Society (RPS) Research Ready accreditation scheme.[4, 5] Previous work suggests that there is limited literature available regarding the complexities associated with research in community settings; with researchers assumed to have developed their knowledge and understanding to implement their interventions in community pharmacy.[6] It may be beneficial for researchers to engage with the UK pharmacy sector to facilitate studies and to do so, it is important to understand the opinions and experiences of researchers who have involved pharmacy services in their work.

Methods

A standard measure was not available to address our aims; therefore, an online questionnaire based on previous work investigating pharmacist views on research[7] was created using Qualtrics (Supplementary Appendix 1), and reviewed by two researchers for face validity before circulation. Ethical approval was given by the University of York's Department of Health Sciences Research Governance Committee on 20 March 2020. Submitting a response was taken as consent. The questionnaire was circulated to research offices listed on the NHS UK R&D Contacts directory, and to members of the UK Trial Managers Network and UK Clinical Research Collaboration Clinical Trials Unit Network, to reach researchers employed within healthcare and academic settings. We employed a snowball sampling approach thereby requesting recipients forward the questionnaire to colleagues, and therefore a sample size was not calculated. Responses were reviewed and analysed using descriptive, quantitative methods and summarised in frequency tables. Free-text responses were subcategorised to identify recurring themes.

Results

We received 238 responses from researchers across England, Scotland and Wales. Of these, 113 (48%) worked in acute hospital settings, and 65 (27%) were based in a university. Five respondents (2%) worked in other settings. A work affiliation was not provided by 55 respondents (23%). Some respondents did not answer all questions.

Researchers' demographic characteristics and involvement in pharmacy research

A range of researchers completed our questionnaire, shown in Table 1. Approximately half had more than 10 years of research experience (*n* = 106, 45%) and had worked on 2–10 studies involving pharmacy (*n* = 114, 54%). Most respondents had worked with hospital pharmacy teams (*n* = 196, 74%). Of those who had engaged with community pharmacy teams, three-quarters had not involved Research Ready accredited pharmacies (*n* = 18, 72%). The majority of respondents advised that all pharmacy teams had previous research experience (*n* = 145, 78%), and they had mostly worked together on clinical trials of investigational medicinal products (CTIMPs) (*n* = 167, 65%). Over half of the respondents had collaborated with a pharmacist/pharmacy manager (*n* = 103, 56%).

Table 1. Researchers' demographic characteristics and involvement in pharmacy research

		Organisation type				
		All^	**Hospital**	**University**	**Other**	**Not reported+**
		n=234	**n=113**	**n=65**	**n=5**	**n=51**
Current job title	**Trial Coordinator, Trial/Project Manager, Research Associate/Fellow**	73 (31%)	22 (19%)	31 (48%)	2 (40%)	18 (35%)
	Research nurse, Pharmacy Role, Allied Health Professional*	44 (19%)	31 (27%)	1 (2%)	0 (0%)	12 (24%)
	Senior Trial Coordinator, Senior Trial/Project Manager, Senior Research Associate/Fellow	40 (17%)	12 (11%)	20 (31%)	1 (20%)	7 (14%)
	Management, Governance/Quality Assurance Role*	36 (15%)	24 (21%)	6 (9%)	2 (40%)	4 (8%)
	Trial Administrator/Facilitator*	29 (12%)	19 (17%)	0 (0%)	0 (0%)	10 (20%)
	Chief/Principal Investigator*	4 (2%)	4 (4%)	0 (0%)	0 (0%)	0 (0%)
	Other*	8 (3%)	1 (1%)	7 (11%)	0 (0%)	0 (0%)
		n=237	**n=113**	**n=65**	**n=5**	**n=54**
Length of time in research	**More than 10 years**	106 (45%)	48 (42%)	33 (51%)	3 (60%)	22 (41%)
	6-10 years	53 (22%)	25 (22%)	16 (25%)	2 (40%)	10 (19%)
	3-5 years	47 (20%)	24 (21%)	14 (22%)	0 (0%)	9 (17%)
	1-2 years	14 (6%)	7 (6%)	2 (3%)	0 (0%)	5 (9%)
	Less than one year	17 (7%)	9 (8%)	0 (0%)	0 (0%)	8 (15%)
		n=210	**n=113**	**n=65**	**n=5**	**n=27**
Number of studies undertaken involving pharmacy	**1**	27 (13%)	5 (4%)	16 (25%)	1 (20%)	5 (19%)
	2-10	114 (54%)	59 (52%)	40 (62%)	4 (80%)	11 (41%)
	11-30	15 (7%)	10 (9%)	1 (2%)	0 (0%)	4 (15%)
	31-50	5 (2%)	4 (4%)	1 (2%)	0 (0%)	0 (0%)
	51-100	1 (0.5%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)

	101-200	4 (2%)	4 (4%)	0 (0%)	0 (0%)	0 (0%)
	Unknown/not reported*	44 (21%)	30 (27%)	7 (11%)	0 (0%)	7 (26%)
		n=264	**n=132**	**n=90**	**n=6**	**n=36**
Type of pharmacy settings involved	**Hospital pharmacy**	196 (74%)	114 (86%)	54 (60%)	4 (67%)	24 (67%)
	Community pharmacy	32 (12%)	7 (5%)	18 (20%)	1 (17%)	6 (17%)
	Industrial/manufacturing pharmacy	17 (6%)	6 (5%)	7 (8%)	1 (17%)	3 (8%)
	Pharmacy in a GP practice	16 (6%)	4 (3%)	9 (10%)	0 (0%)	3 (8%)
	Other*	3 (1%)	1 (1%)	2 (2%)	0 (0%)	0 (0%)
		n=257	**n=170**	**n=79**	**n=6**	**n=2**
Type of research studies	**Clinical Trials of Investigational Medicinal Products (CTIMP)**	167 (65%)	111 (65%)	50 (63%)	4 (67%)	2 (100%)
	Observational study	36 (14%)	27 (16%)	9 (11%)	0 (0%)	0 (0%)
	Non-CTIMP interventional study	29 (11%)	20 (12%)	8 (10%)	1 (17%)	0 (0%)
	Qualitative study	20 (8%)	11 (6%)	8 (10%)	1 (17%)	0 (0%)
	Other*	5 (2%)	1 (1%)	4 (5%)	0 (0%)	0 (0%)
		n=183	**n=112**	**n=65**	**n=5**	**n=1**
Pharmacy staff worked with	**Pharmacist/Pharmacy Manager**	103 (56%)	56 (50%)	45 (69%)	2 (40%)	0 (0%)
	Pharmacy Technician	63 (34%)	46 (41%)	13 (20%)	3 (60%)	1 (100%)
	Dispenser/Pharmacy Assistant	6 (3%)	4 (4%)	2 (3%)	0 (0%)	0 (0%)
	More than one of the above*	9 (5%)	6 (5%)	3 (5%)	0 (0%)	0 (0%)
	Other*	2 (1%)	0 (0%)	2 (3%)	0 (0%)	0 (0%)

[^]Total quantities based on all organisation types.
[+]Organisation type not reported by respondent.
[*]Category not available in questionnaire. Identified during analysis.

The roles fulfilled by pharmacy staff involved in research studies

Pharmacy staff were responsible for several research activities; most commonly managing/dispensing CTIMPs (*n* = 171, 43%). Other roles included contributing to the development of the trial/study protocol (*n* = 52, 13%), discussing their experiences of study procedures (*n* = 38, 9%), delivering a study intervention (*n* = 36, 9%) and manufacturing clinical trials medication (*n* = 35, 9%). A total of 85% of respondents (*n* = 157) advised that pharmacy teams did not have a role in participant recruitment, and half of those indicated they did not consider pharmacy as a potential avenue for recruitment (*n* = 85, 46%).

Qualities sought in pharmacy teams involved in research studies

Most respondents reported they had a very good/good experience of working with a pharmacy on a research study (*n* = 152, 84%). Key qualities sought by researchers when working with pharmacy teams included previous experience of research (*n* = 92, 20%); keenness to be involved (*n* = 82, 17%) and being conveniently located (*n* = 74, 16%).

Benefits and barriers experienced having involved pharmacy in research studies

Respondents indicated they benefited from working with pharmacy staff on their research studies, as shown in Table 2. They acknowledged having developed their training/knowledge (*n* = 92, 21%), strengthened collaborations and relationships between organisations/departments (*n* = 86, 20%) and being able to provide enhanced services (*n* = 80, 19%). Key barriers included staffing issues (*n* = 81, 18%), lack of time (*n* = 70, 16%), delayed study start date (*n* = 50, 11%) and difficulties with meeting availability (*n* = 48, 11%).

Table 2. Benefits and barriers of involving pharmacy in research studies

	Organisation type			
	All^	**Hospital**	**University**	**Other**
Benefit type	**n=432**	**n=283**	**n=141**	**n=8**
Developed your training/knowledge	92 (21%)	54 (19%)	36 (26%)	2 (25%)
Strengthened collaborations/relationships between organisations/departments	86 (20%)	47 (17%)	37 (26%)	2 (25%)
Enabled enhanced services to be provided to patients that would otherwise be unavailable	80 (19%)	60 (21%)	18 (13%)	2 (25%)
Provided opportunities for future collaborations	60 (14%)	36 (13%)	23 (16%)	1 (12.5%)
Successfully met recruitment targets	46 (11%)	41 (14%)	5 (4%)	0 (0%)
Generated financial support or funding	40 (9%)	32 (11%)	7 (5%)	1 (12.5%)
Provided the opportunity to explore a personal interest	12 (3%)	7 (2%)	5 (4%)	0 (0%)
Access to expert skills/knowledge*	10 (2%)	4 (1%)	6 (4%)	0 (0%)
Provided a necessary service*	3 (1%)	1 (0.5%)	2 (1%)	0 (0%)
Other*	3 (1%)	1 (0.5%)	2 (1%)	0 (0%)
	Organisation type			
	All^	**Hospital**	**University**	**Other**
Barrier type	**n=444**	**n=198**	**n=240**	**n=6**
Staffing issues	81 (18%)	32 (16%)	48 (20%)	1 (17%)
Lack of time	70 (16%)	31 (16%)	38 (16%)	1 (17%)
Delayed study start date	50 (11%)	23 (12%)	26 (11%)	1 (17%)
Difficulties with availability for setup/monitoring/regular meetings	48 (11%)	24 (12%)	24 (10%)	0 (0%)
Lack of underpinning research knowledge/experience	34 (8%)	17 (9%)	17 (7%)	0 (0%)

Difficulties with costs/payments	28 (6%)	9 (5%)	18 (7.5%)	1 (17%)
Lack of interest	24 (5%)	12 (6%)	11 (5%)	1 (17%)
Lack of confidence	24 (5%)	12 (6%)	12 (5%)	0 (0%)
Difficulties delivering intervention	23 (5%)	10 (5%)	13 (5%)	0 (0%)
Difficulties during training	12 (3%)	7 (4%)	5 (2%)	0 (0%)
Did not recruit to target	10 (2%)	7 (4%)	3 (1%)	0 (0%)
Issues with service delivered*	8 (2%)	5 (3%)	3 (1%)	0 (0%)
Collaboration difficulties*	4 (1%)	3 (2%)	0 (0%)	1 (17%)
Other*	11 (2%)	6 (3%)	5 (2%)	0 (0%)
None*	17 (4%)	0 (0%)	17 (7%)	0 (0%)

^Total quantities based on all organisation types.
*Category not available in questionnaire. Identified during analysis.

Discussion

The majority of respondents had been involved with research utilising hospital pharmacy teams, which may be due to research seemingly being more established in this environment. Research support within community pharmacies appears limited. Linked to this, a consensus was reached that the 'RPS Research Ready is not fit for purpose in its current form' and wider challenges were identified outside the capacity of the accreditation programme,[8] suggesting additional support is required to embed research in this setting.

While most respondents noted that pharmacy teams had research experience and were involved with a range of related tasks, few engaged with recruitment activities; suggesting that researchers do not recognise the access to potential participants that a pharmacy team can offer. Previous research has shown that community pharmacists are interested in recruiting patients for research,[9] and pharmacy professionals could highlight their skills and raise awareness of their ability to be involved in research activities. Professional bodies and networks should advocate for their development and provide support. Future work on the RPS Research Ready Accreditation Programme may contribute to this, as Auckland *et al.*, describe developing a research career roadmap for pharmacists.[8]

Pharmacy professionals may wish to assess how they are perceived by researchers in relation to the key qualities sought, highlighted by our work. Researchers have previously identified 'red flags' which may predict recruitment failure including; previous poor site performance; slow approvals process; strong staff/patient preferences; the site recruitment target; the trial protocol and its implementation at the site; lack of staff engagement; lack of research experience among site staff and busy site staff.[10] Pharmacy teams may influence a researcher's views on such factors, even if not directly involved in recruitment.

Researchers recognised a range of benefits to working with pharmacy. Their positive experiences add further weight to acknowledging the value of pharmacy teams in research. Respondents also highlighted a range of barriers. Lowrie *et al.* conducted interviews with primary and secondary care pharmacists and described several common barriers to research participation; including time constraints, and a lack of experience and training, amongst others.[11] Difficulties appear to be experienced by researchers and pharmacists alike, suggesting there is considerable work needed to overcome these system-wide challenges, and we must consider potential personal and professional obstacles.

Limitations

The questionnaire dissemination approach was not exhaustive, however, was considered to be appropriate to provide new insights on the topic. The questionnaire was circulated when COVID-19 research was prioritised and we may have received fewer responses. Recipients were asked to forward the questionnaire to colleagues, however due to this snowball sampling approach; we have been unable to ascertain a sample size or response rate. The questionnaire was sent within England, Scotland and Wales; and we could strengthen our understanding by circulating it more widely. Some respondents did not answer all questions or complete their 'organisation type'; however, their data have been included for completeness.

Future research

Further research is needed to determine what support pharmacy teams require to deliver recruitment activities, and how to encourage researchers to involve them in this. It would also be beneficial to investigate the views of less represented sectors.

Conclusions
Our work adds to the evidence by seeking the views of UK researchers' working with pharmacy teams. The positivity expressed by researchers' strengthens the case for pharmacy involvement in research, and researchers should consider the extended roles pharmacy teams could fulfil in their studies.

Supplementary Material
Supplementary data are available at *Journal of Pharmaceutical Health Services Research* online.

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C.W., P.T.: study design, data collection, data analysis, supervision and manuscript writing; M.W.: study design, data collection, data analysis and manuscript writing.

Ethical Approval
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Conflict of Interest
The authors declare that there are no conflicts of interest.

Data Availability
Further data are not widely available as respondents were advised their data would only be available to the authors of this manuscript.

References

1.Department of Health & Social Care. *The NHS Constitution for England*. https://www.gov.uk/government/publications/the-nhs-constitution-for-england/the-nhs-constitution-for-england (02 August 2021, date last accessed)
2.NHS. *The NHS long term plan*. https://www.longtermplan.nhs.uk/publication/nhs-long-term-plan/ (02 August 2021, date last accessed)
3.National Institute for Health Research. *Annual Statistics*. https://www.nihr.ac.uk/about-us/what-we-do/our-research-performance/annual-statistics.htm (02 August 2021, date last accessed)
4.National Institute for Health Research. *Delivering health research in the community*. https://www.nihr.ac.uk/partners-and-industry/industry/run-your-study-in-the-nhs/delivering-research-in-the-community.htm (02 August 2021, date last accessed)
5.Royal Pharmaceutical Society. *Evaluation of the Community Pharmacy Research Ready Accreditation Programme*. https://www.rpharms.com/Portals/0/RPS%20document%20library/Open%20access/Research/ResR%20Evaluation%202016.pdf
6.Maher JH, Lowe JB, Hughes R et al. Understanding community pharmacy intervention practice: lessons from intervention researchers. Res Social Adm Pharm 2014; 10: 633–46. doi:10.1016/j.sapharm.2013.09.002
7.Watson M, Bewick BM, Tharmanathan P. The current role and perceived benefits and barriers of secondary care pharmacists facilitating patient participation in Clinical Trials of Investigational Medicinal Products (CTIMPs) conducted within the NHS: a cross-sectional survey. J Eval Clin Pract 2020; 26: 142–8.
8.Auckland R, Martini L, Truong Y et al. Poster abstracts: a review of the royal pharmaceutical society research ready programme. Int J Pharm Pract 2020; 28: 44–87. doi:10.1111/ijpp.12607
9.Crilly P, Patel N, Ogunrinde A et al. Community pharmacists' involvement in research in the United Kingdom. Pharmacy 2017; 5: 48.
10.Bruhn H, Treweek S, Duncan A et al. Estimating Site Performance (ESP): can trial managers predict recruitment success at trial sites? An exploratory study. Trials 2019; 20: 1–10.
11.Lowrie R, Morrison G, Lees R et al. Research is 'a step into the unknown': an exploration of pharmacists' perceptions of factors impacting on research participation in the NHS. BMJ Open 2015; 5: e009180e009180. doi:10.1136/bmjopen-2015-009180