

Abstract

Introduction

The year 2015, represented the target year for the Millennium Development Goals (MDGs). However, the MDG target could not be achieved in most countries. The World Health Organization (WHO) estimated that of 56 million global deaths in 2012, 38 million, or 68%, were due to non-communicable diseases (NCDs). The four main NCDs are cardiovascular disease, cancer, diabetes and chronic lung disease.² Most of these conditions are preventable through public health initiatives involving community pharmacists. This study aims to identify strategies enhancing the public health role of community pharmacists.

Methods

Data was collected through telephone interviews, supported by Skype, and recorded using the 'HD Call Recorder for Skype'. The qualitative data software package NVivo (version 10) was used for the storage, retrieval and analysis of data. The constant comparative method of data analysis was used.

Results

Participants suggested a number of strategies to enhance the public health role of community pharmacists in the UK. They included: integrating UK undergraduate healthcare programmes; broadening the public health knowledge of students and pharmacists; pharmacists working alongside other healthcare professionals; teaching communication methods to students and pharmacists; teaching the use of new technologies and social media; empowerment through the direct remuneration of pharmacists; and creating greater awareness of the public health role of the community pharmacist. Enhancing the public health role of community pharmacists could make services more accessible to the public, enhance public safety and trust in pharmacists, encourage collaboration between pharmacists, doctors and other healthcare providers, as well as, bring financial savings to the NHS

Conclusions

This study has identified strategies that could potentially enhance the public health role of community pharmacists in the UK. Enhancing the public health role of community pharmacists could make services more accessible to the public, improve public safety and trust in pharmacists, encourage collaboration between pharmacists, doctors and other healthcare providers, as well as bringing financial savings to the NHS.

Strategies enhancing the public health role of community pharmacists – A qualitative study

Introduction

According to the WHO,¹ 2015 represented the target year for the Millennium Development Goals (MDGs). However, as some of the gains made in different regions of the world have been uneven, this has meant that the MDG target could not be achieved in most countries¹ The WHO also estimated that of 56 million global deaths in 2012, 38 million, or 68%, were due to non-communicable diseases.² The four main NCDs are cardiovascular disease, cancer, diabetes and chronic lung disease.² Most of these conditions are preventable through public health initiatives involving community pharmacists.

In the UK, the government has identified the importance of a multidisciplinary public health workforce for handling the main causes of ill health.^{3,4} In a recent White Paper, 'Five Year Forward View', the UK government presented its plan to make greater use of pharmacists through its Multi-specialty Community Providers (MCPs), who would become the focal point for a far wider range of care needed by their registered patients.⁵ The vision outlined in the White Paper is also supported by the findings of a recent study,⁶ and cited by another paper,⁷ which reported that the cost of treating common ailments (e.g. head lice, threadworms, athlete's foot, etc.) in community pharmacies was about £29.30 per patient. However, when the same ailments were treated at A&E, the cost was found to be nearly five times higher at £147.09 per patient and nearly three times higher at GP practices at £82.34 per patient.⁷

Aim: To identify strategies enhancing the public health role of community pharmacists.

Method

Design

The sample size for the study was determined during the process, hence, the interviews were continued until no new information was yielded or data became saturated.^{8,9} Individual participants were randomly selected based on their availability and willingness to participate in the study. Informed consent was obtained from participants prior to inclusion in the study. Data was collected through telephone interviews, supported by Skype, using an interview guide that incorporated open-ended questions.¹⁰ Interviews were recorded with HD Call Recorder for Skype, and lasted approximately 20–30 minutes. These interviews were facilitated by members of the research team: CA conducted the in-depth interviews, consistent with the method suggested for such interviews.¹¹ Researchers JO and JP reviewed the potential topics to determine their suitability.¹² Participants were assured that confidentiality was guaranteed.¹³

Analysis

The qualitative data software package NVivo (version 10) was used for the storage, retrieval and analysis of data. CA transcribed the interviews verbatim. An experienced researcher as a validity check on the interpretative process independently verified the coding procedure. In the analysis, the constant comparative method was used,¹⁴ and processes adapted from other researchers^{15,16} were applied to code the data. Initial codes were assigned to data that was of interest to the analytical framework through a process of repeated reading, the emphasis being on including all relevant data. As the analysis progressed, the number of new codes reached saturation point, with the process of refinement then taking precedence. The codes were considered together to identify patterns and connections to form what became subcategories, which were then connected across higher order categories.¹⁷ Emerging themes were reviewed for counterthemes¹⁸ In addition, some numerical data were presented in the analysis.¹⁹

Results

Characteristics of healthcare professionals interviewed

In terms of characteristics, fifteen healthcare professionals (including eleven pharmacists, three General Practitioners and a nurse) were included in the interviews. Nine (60%) of the

healthcare professionals interviewed were female and the majority of participants (seven (46.7%)) were aged between 50 and 59 years. Following the telephone interviews with healthcare professionals, a number of themes emerged from the data analysis.

Enhancing the public health role of community pharmacists in the UK

Participants suggested a number of strategies needed to enhance the public health role of community pharmacists in the UK.

Empowerment through education and awareness

Two pharmacists who felt that little could be achieved without the support of these very important groups highlighted the wider issue of empowerment by the public and the commissioning and regulatory bodies. For one participant, enhancing the undergraduate and postgraduate training/awareness of pharmacists in clinical skills as well as public health was important,

But I feel that for the public to trust us more, I think we need to really do more clinical stuff, during our undergraduate training or even post-graduation (PR-FLY).

At least two other participants highlighted the need to create more awareness and develop the public health training of pharmacists. One of these participants, a pharmacist, also suggested that pharmacists should also work with other healthcare professionals. Two GPs talked about the need for public awareness and a referral system, with the overall impact being that this could help minimise the present wastage of NHS resources,

I think making access better. It is very difficult to get hold of anybody. I think to save the GPs extra work by making sure that the pharmacists can give initial advice ... Maybe the government should try to do it, to raise awareness that you should go to you [pharmacist] first, and not your GP (GP partner-SIM)

Based on his experience overseas, a US-based pharmacist, who formerly worked in the UK, highlighted how the health system in the US presently utilises the skills and takes advantage of the accessibility of community pharmacists in the delivery of public health services,

The pharmacy is always the first point of call ... something like flu, pneumonia, or the childhood immunisations ... Pharmacists are now immunising, because they have a far wider reach of the public ... they do not necessarily need to make an appointment to see the pharmacist (USP-CHD).

Empowerment through direct remuneration of pharmacists

According to another participant, remunerating pharmacists directly rather than through their employers for providing public health services could be an incentive for pharmacists to play greater role in public health services,

So, whoever is acting in the capacity of the function for today is taking responsibility for every aspect of public health ... they should be remunerated accordingly and not the business ...there are many, many roles the pharmacists can do, if value is place on them to do it (P-OL).

The use of new technologies and social media in practice

On the use of new technologies in public health, one nurse practitioner saw this as an avenue through which community pharmacists could attract the younger population who is often hard to reach. In the case of another participant, the use of new technologies is likely to be innovative and beneficial for the promotion of public health campaigns. One of our participants talked about the use of popular applications such as Twitter, Instant Messaging and Facebook in public health activities,

We are living in such a technologically advanced world, everything is online, and everything is on Twitter or Facebook or whatever. I think if we can utilise that in some way for pharmacists that will be great (P-NKT).

One participant described other situations where the use of new technologies could help enhance the public health role of community pharmacists, for example, for recording the public health activities offered by community pharmacies, which could also be useful in emergency situations. For another participant, new technologies could also be extended to other areas, such as the Medicines Use Reviews (MURs) in patients' homes, which could then be linked to the GP practice computers (and maybe the computers at the pharmacy and hospital). A GP participant argued that doing otherwise could amount to a waste of resources,

Giving advice could be a waste of resources when the person can easily contact you through Telehealth ... It will be invaluable. You take photos, and say, 'I got this rash, what do you think? Do you think I should see my GP?' That will help (GP-CHY).

On specific technologies, some of the suggestions included: the development of diagnostic tools to quickly differentiate bacterial and viral infections, using the Electronic Prescription Service (EPS 2) system, telephone and smart phone systems, and social media applications such as the Smart Messaging Service (SMS), Twitter and Facebook. One participant suggested the use of robots in dispensing.

Teaching the use of new technologies

Regarding the teaching of using new technologies for public health/pharmacy practice in UK pharmacy schools, most of our interviewees indicated that they were happy with this arrangement, even in situations where the same participants had earlier shown some reservation on their use in practice. According to one participant,

It would really go a long way to open their mind sets, to understanding how practical it is, how a pharmacy is actually run. But unfortunately, what we actually see in most pharmacy schools today is the opposite of how a pharmacy and new technologies are being run (P-VI).

Yet, for two other participants, it seemed logical, bearing in mind that the pharmacists of today will have no choice but to face the challenges of the computer age,

Obviously, as we advance it seems like the computer is here to stay and the robot is here to stay. So, definitely, it needs to be on the curriculum GP-NA)

People need to know, because when they qualify they can't escape new technologies (P-SOL).

While one of our participants was against the use of new technologies in pharmacy practice, probably due to an earlier negative experience he had had with robots, he did not believe that this should prevent UK pharmacy schools teaching students about their use, his reasoning being that it is the responsibility of universities to ensure they provide sound education to their students. Interestingly, the tendency of older professionals to be less interested in the use of new technologies in practice was also captured in the responses of another participant:

You know some pharmacists who graduated many years ago, they may not be all that interested in handling these machines, so it has to be a kind of organising workshop that would help many pharmacists to have that technological know-how

in handling these new technologies (P-PK).

Some of the benefits of enhancing the public health role of community pharmacists

Enhancing preventative care

The main benefit of pharmacists' involvement in the public health role could be in the area of preventative care. This benefit was reported to be not only for pharmacists, but also for every healthcare professional,

I think there is a benefit ... not just for pharmacists, but for every healthcare professional to be involved in public health because it is a preventative measure. Why give people statins, when you can start by just educating them about health, about exercise, about not smoking? (PR-FLY)

Supporting this, another participant argued that this was not just about treatment; it was also about preventing long-term diseases, which could then save lives through lifestyle changes, etc.

So trying build up in such areas as epidemiology or statistics or something like that, could be one of the best things to put into the curriculum of pharmacy education, so that they could try to spot it out as quickly as possible ... You could be part of the global team necessary to enhance global health (P-JO).

Enhancing accessibility

Another benefit relates to accessibility, particularly, as this will enable community pharmacists to be more trusted and respected by the public.

Yeah, there are benefits, definitely. The benefits, I would say, will include the fact that community pharmacists are in regular contact with a wide majority of members of the community – that is the greatest benefit (P-PO).

Enhancing collaboration

For some, enhancing the public health role of community pharmacists could encourage collaboration between pharmacists and other healthcare professionals, enhance the profile of pharmacists, and extend their role in healthcare delivery. This might also mean less pressure on GPs over matters that could easily be resolved by pharmacists,

Saves you listening to coughs and colds every minute! Every minute, coughs and colds coming to me, you know, when the pharmacist can just give advice for that (GP-CHY).

Financial savings and time management

For others, the benefits could be in the area of financial savings to the NHS, enhancing the viability of community pharmacies and improving time management for other healthcare providers.

The use of Independent Pharmacist Practitioners (IPPs)

According to a GP interviewed, the use of independent GP practitioners in general practice is a common feature, hence, she saw no reason why this group of practitioners could not be useful in community pharmacy public health activities,

But they are pharmacists? Aren't they?... It's just like for us doctors, not everybody is affiliated to a practice ... but, when they need us, because they know where we are, we go and help them out. So, in the same way, if there is a list of IPPs... Like right now, I'm not affiliated anywhere (GP-CHY).

On the other hand, one of our participants raised the issue of 'ownership' of public health qualifications, which, he reasoned, often belong to the practitioner rather than the practice, and hence, places independent pharmacist practitioners at the centre of public health services. Using the recent Ebola outbreak in West Africa as an example, another participant described IPPs as 'stakeholders in public health', particularly as in this case, IPPs (not pharmacies) had to work collaboratively with other practitioners to contain the situation. However, this participant cited another example, on the global Vitamin D deficiency that, he argued, could also be tackled by IPPs, hence, the need for pharmacists to take up leadership positions in public health. The advantage of this model, reasoned another participant, lies in the fact that practitioners will be practising for the benefit of patients rather being constrained by some of the limitations associated with commercially oriented establishments,

I think that could intentionally be a good thing because, hopefully, they are actually working for the benefit of the patient, as opposed to maybe some sort of business (HP/TP-NKT).

Teaching communication methods to students and pharmacists

On the teaching of communication methods to UK pharmacy students and pharmacists, all of our participants agreed that this could enhance the role of community pharmacists in public health. A preregistration participant argued that this could help students and pharmacists develop skills in the use of pharmacy consultation tools (mnemonics) in practice. A GP participant also supported this,

The communication method is very important, just like saying bedside manner. Isn't it, of a doctor? ... They talked to us about communication skills as doctors; that we need to be empathetic ... a need for confidentiality. And communication methods are very important, because you're looking at people from all kinds of lives, religions, beliefs (GP-CHY).

Other benefits lie with the ability to provide patients with information on the use of medical equipment and devices. Yet the teaching of communication methods could help develop some uniformity across healthcare professions, particularly in terms of service delivery and information provision; it could help pharmacists consolidate public health messages from other healthcare practitioners, as well as to help enhance the profile of pharmacists,

Because, some patients come to the pharmacy, not with a lot of confidence, it's after you interact with them that they begin to respect you and value you (P-OL).

Sometimes, you find in general practice that you give a patient advice on how to do something, how to take a particular medication and how to self-manage, and they forget it when they go out of the door (GP-NN).

Integrating UK undergraduate healthcare programmes

On the question that asked if UK pharmacy students should be taught with other health students, e.g. medical and nursing students, the majority of participants indicated that this was a good idea. Obviously, this would help break down barriers and facilitate communication between healthcare practitioners, as well as foster a better understanding of the roles and skill sets of practitioners. In addition, it could widen the professional field of pharmacists, enhance their knowledge base, and improve their ability to pass information

on easily. Furthermore, as some of the modules taught to students are health related, many of them could be taught at the same time across professions,

So, it is good for all to understand what the physiotherapist does, what the special nurse does, what they do, how to communicate ... Even professions have got their own sense of pride ... Doctors see us in a certain way and pharmacists, so it's all good to get that, even during education, so that when it happens in the real world, it doesn't get you by surprise (PR-FLY).

A line of thought also supported by a GP participant,

It will help because, especially when you're dealing with chronic conditions ...you know, a chronic condition is a drain in healthcare in this country ... we are not intertwined with other people who are also health professionals, who play an important part. And then when you get to working with them, you have no clue how to handle them; so taking certain courses together will help (GP-CHY).

Another participant also supported this, based on his experience both as an undergraduate pharmacy student and as a PhD student in two developed countries.

And if you look at a number of countries, medical schools and pharmacy schools are together ... you find that the basic subjects both parties need to know are always taught together in one class ... I had background training which I spent together with medical students and dentists, ... then we separated to different lines. So, you have a basic understanding of what a pharmacist knows, what that the doctor is aware of, or that the dentist is aware ... When there is a common problem, we could all be speaking on the same wavelength, rather than what you find at times in this country, they (pharmacists) are not even confident to speak to doctors ... In some areas, doctors don't even know what the role of a pharmacist is! (P-JO).

Another participant, a GP, also supported this idea of integrated training, having witnessed a similar experience overseas.

I think it is a fantastic idea ... I'm not sure if it happens here. If not, why not? I think it's important that we have collaboration among the different health professionals. I think training together is a good way to use resources, lecturer time, equipment, lab time, and even the building ... You just have one school for health professionals in an area or town or region or county ... The way I trained, that's the model I'm familiar with, and I think it works quiet well. I have no problems with this type of thing, as it is actually a good idea, so it's efficient, it offers savings, it works well because when everyone is fully qualified in different spheres you are better able to cooperate because you're coming from professions where some of you have relationships,

which develop people on a personal level and that obviously helps when you are working together as a team (GP-NN).

In terms of organisation, several subjects including pharmacology could benefit,

You do your degree in pharmacy, not in the same building as somebody who is a medical student. But they could definitely go to the same lectures. There is no reason why not. Some lectures in pharmacology would be possible, if they were able to organise it (GP Partner-SIM).

Additional benefits

As well as the benefits highlighted above, we learnt that integrated learning would enable practitioners to understand the rationale behind unfamiliar concepts, such as off-licence prescribing, as well as to appreciate the behaviour of healthcare colleagues. In addition, integrated learning could facilitate patients' care services. This could also provide an opportunity to further enhance the knowledge base of undergraduate students, as integrated training would enable students to ask questions of other healthcare students from their perspective, something that might never be possible through unitary training. Yet, integrated training could help reduce any negative perceptions doctors might have that pharmacists are 'clamouring for their jobs'.

Pharmacists working with other healthcare practitioners

According to one of our respondents, pharmacists working alongside other healthcare professionals would enable a holistic management of patients to develop, without which another respondent argued, the whole idea of patient care becomes counterproductive,

Pharmacists do not operate in a silo-environment ... Pharmacists cannot work independent of other members of the health team ... such a module is counterproductive to the person and patients who are asking for quality services (P-ART).

Furthermore, a nurse participant argued that pharmacists working alongside other healthcare professionals could be the way forward for the NHS, particularly as it would help reduce waiting times and prevent harm to patients due to unintended prescribing errors. Nonetheless, building patients' confidence in the pharmacist through proper education is

important. According to a GP practitioner, this type of integration is best achieved when healthcare professionals have been trained together during undergraduate training. Other than managing health outcomes, another participant reported that integrated work patterns could also help pharmacists access better career progression and fulfilment in practice.

According to one of our participants, GP practices that employed pharmacists seemed to make fewer prescribing errors than other practices. Her reasons were that in-house pharmacists were able to correct any errors before prescriptions leave the practice. In addition, these GP practices were also more likely to follow the National Institute for Clinical Excellence (NICE) guidance in their prescribing patterns, hence, helping to minimise harm to patients. Moreover, they were also more likely to consider the cost of medicines and other items in their prescribing habits, which can translate to a lot of savings to GP practices and the wider NHS. Pharmacists employed in GP practices, particularly those with sound clinical knowledge and skills, she further argued, were often in a better position to advise doctors regarding the best therapeutic choices in complex clinical. However, not all practices are able to employ in-house pharmacists due to financial constraints,

So, I think, that's how every surgery should be run, to have a pharmacist inside the surgery advising a group of doctors ...Because a lot of them don't know which drug is expensive, which one is not, they just follow whatever information was sent to them, maybe, by the Clinical Commissioning Groups (CCGs)... But people always think that pharmacists are expensive (P-SOL).

Hopefully, the recent Royal Pharmaceutical Society's and the Royal College of General Practitioner's integrated practice, which is being developed with the support of the government^{20,21} will help move this initiative forward.

Changing the curriculum to increase its public health content

On changing the UK undergraduate pharmacy curriculum to increase its public health content, our preregistration pharmacist participant argued that many of the common chronic conditions we find today are interlinked with lifestyles. Hence, there is a need to

enhance both public health knowledge as well as the collaborative skills of healthcare professionals. This will also entail spending money on the public health education of healthcare professionals as a preventative measure, rather than on certain therapeutic medicines. Another participant emphasised the need to ensure that undergraduate pharmacy students were well informed about public health before graduation, which could then be augmented, depending on individual needs,

It will be important that before a pharmacist graduate goes into community pharmacy, as a pharmacist, that they're aware of public health as a discipline ... depending on what services they provide in their areas, further training can always be provided (P-PO).

It also seems that broadening the public health knowledge of pharmacists would help extend their role in public health, particularly when this is supported by education, increased awareness and the NHS triage system.

At the moment now, most pharmacists ... they just give you your usual supply of prescription. They don't advise anymore. This year we have started giving leaflets to patients. So when we triage, we give them leaflets. Basically, they say that you don't need to come to A&E for every simple minor cold and flu. You can get over-the-counter medication from the pharmacy. It is about educating the public that even your flu, whatever, you can still get drugs from the pharmacist without the need to pay (N-CHM).

One of our participants further argued that changing the undergraduate pharmacy curriculum could also help students and pharmacists keep abreast of the ever-changing healthcare structure in the UK. However, the onus lies with pharmacists remaining up to date with these changes. Supporting the need for change, another participant wanted this to be in the area of public health information. On the type of change needed, another participant indicated that he was not happy with the dominance of science modules in the present UK undergraduate pharmacy curriculum, at the expense of strong public health content. He would prefer the public health module in UK pharmacy schools to be exactly the same as found in many medical schools.

It should be the same in pharmacy schools as medical schools. There is a need to incorporate public health as a major part of pharmacy curriculum ... There are some things that might need to be reduced if there is need for it, like the pharmacist is trained to be an industrialist, at the same time, a public health worker ... The pharmacy curriculum includes a lot of scientific training, as to discovery, invention of medications, drug development, drug design, and all of that. While those are

important, there is also a need to bring in a strong public health curriculum, which is the way the practice is going (P-OL).

Supporting this line of thought, another participant argued that,

It is not good if you're not clinically sound when you're qualified as a pharmacist: that you just have to be learning all these things as you go along ... Whatever they are teaching them in clinical pharmacy in the hospital, I think it should be brought into the university syllabus, so that when people leave they know all these things. When I was in the final year, people had to choose whether they wanted to do chemistry, whether they wanted to do pharmacology...people had different options. To me, I think that's a waste of time ... I think I did chemistry and biochemistry and I can't remember needing this after I left the university - using that chemistry (P-SOL).

There was also the issue of the lack of a basic health infrastructure in some of the consultation rooms located in community pharmacies, e.g. the absence of comfortable waiting areas and the continued over-emphasis by pharmacy owners, most of whom are non-pharmacists, on profit and the steady growth of the business.

You must have a consultation room; all we need to do now is to give parameters for a consultation room in terms of dimension, in terms of what should be there ... they are not thinking about what they have provided for you to enhance (help) the patient. Even the books they are providing, this is because registration makes it compulsory for them to provide them, otherwise, they would cut them as cost savings ... Then, there must be a waiting area as well, for your customers ... where people can speak and be comfortable (P-OL).

Finally, the global nature of pharmacy practice is another reason why there is a need to change the undergraduate pharmacy curriculum, and this might also mean adopting good practices from other systems.

Discussion

This project has enabled us to identify some of the strategies needed to enhance the public health role of community pharmacists in the UK. Particularly in relation to dual medical degrees, while not popular in the UK (except with medical degrees) their popularity and take up has increased considerably in the US in the last decade or so.²² A number of papers have discussed how the introduction of the dual pharmacy degree in the UK could empower and

create jobs for pharmacists, particularly at a time when the profession is struggling with an over-supply of pharmacists.^{23,24}

On the use of new technologies and social media in practice, another paper has described how the clinical as well as the public health role of community pharmacists could be enhanced (with the added benefit of financial savings), through the use of new technologies that allow pharmacists to give advice to patients at a distance with the help of a webcam, a computer and a broadband Internet connection.²⁵ In support of this, another paper²⁶ has also argued that social networks can be great tools for accessing professional knowledge and disseminating information globally. While our interview participants were, in general, supportive of the use of new technologies and social media in practice (also bearing in mind the needs of younger service users), a few of them, particularly the older practitioners, were less supportive. Some of their concerns centred on privacy and confidentiality and their belief that patient care was best delivered through face-to-face contact. Our elderly GP Partner participant even argued that the use of new technologies was a waste of resources.

However, the public health role of community pharmacists could be affected by the fact that many UK pharmacy schools are failing to match theory with practice. To enhance the public health role of community pharmacists in the UK there is, therefore, a need to engage more than one pharmacist in community pharmacies during opening hours. A GP Partner [SIM] and a pharmacist participant [PKT] were fully in support of this when interviewed. One of our interviewees argued that all the chemistry she learnt during her undergraduate pharmacy training in the 1990s had made little contribution to her practice as a community pharmacist. It seems that UK pharmacy schools shifting their emphasis from the basic sciences to more clinical and public health topics might be more relevant to pharmacists in their clinical as well as their public health roles. However, the UK system, where most students have little or no interaction with other healthcare students at undergraduate level, remains a deviation from the experience of some of our interview participants who had witnessed some of the benefits of integrated training overseas.

A number of our interview participants hinted that they would like pharmacists to enhance patients' self-management capacities. Again, from the comments we received from our US-

based pharmacist participant, it seems reasonable to argue that the NHS could learn a few things from the practices of US health insurance companies, which seem to minimise the need to make huge treatment payouts by paying community pharmacies/pharmacists to provide immunisation services to patients. Even within the UK non-health sector, several insurance and utility companies are known to offer online self-care tips, which they hope will help reduce their costs by limiting the need for customer call-outs.

Although, some of our interview participants made general statements regarding the use of medicines, none of them raised any specific issues concerning polypharmacy. In Scotland, the Scottish government supports pharmacists' enhanced role in polypharmacy to minimise risks to patients.²⁷ To support this and other community pharmacy initiatives, the Scottish government has also noted that remunerating pharmacists directly for providing public health services can help enhance their role in public health.²⁸

Enabling the development of IPPs who are not attached to employers, as proposed by a pharmacist organisation,²⁹ could help change the status quo and, at the same time, motivate pharmacists to enhance their role in public health.³⁰ Another benefit of this model is that it limits some of the constraints often associated with employer-led public health services, such as targets and other commercial considerations.^{29,31} While the pharmacist's prescribing role is becoming an important element of pharmacy practice,^{32,33} none of the interview participants showed any desire to see UK pharmacists developing their skills in this area.

Recommendation for further studies

Our findings could be made more illuminating by exploring the perspectives of healthcare users. None of our interview participants highlighted the need for a dual pharmacy degree in the UK. On the use of new technologies and social media, our older interview participants were less interested in their use in community pharmacy practice. Further research on the need for a dual pharmacy degree and the use of new technologies and social media in the UK might be needed to identify how these could help enhance the public health role of community pharmacists.

Limitations

Some of the issues raised in the interviews with healthcare professionals might be a reflection of interviewees' pressing concerns at the time of data collection.³⁴ Prior knowledge of some of the respondents' professions may have affected both the issues raised³⁵ and the respondent's willingness to share certain views.³⁶

Conclusions

This study has identified a range of strategies that could potentially enhance the public health role of community pharmacists in the UK. Enhancing the public health role of community pharmacists could make services more accessible to the public, increase public safety and trust in pharmacists, encourage collaboration between pharmacists, doctors and other healthcare providers, and bring financial savings to the NHS. In addition, developing the public health role of community pharmacists could help reduce stress levels among other healthcare professionals, as well as empower and guarantee the status of community pharmacists as important members of the healthcare team.

References:

1. World Health Organization. *World Health Statistics 2015*. [Online] 2015. Available from: http://apps.who.int/iris/bitstream/10665/170250/1/9789240694439_eng.pdf?ua=1&ua=1 [Accessed: 23rd August 2015].
2. World Health Organization. *NCD Mortality and Morbidity*. [Online] 2015. Available from: http://www.who.int/gho/ncd/mortality_morbidity/en/ [Accessed: 23rd August 2015].
3. Department of Health. *Saving Lives: Our Healthier Nation*. London: Stationery Office, 1999. (Cm; 4386).
4. Department of Health. *Healthy Lives, Healthy People: Our Strategy for Public Health in England*. Norwich: Stationery Office, 2010. (Cm; 7985).
5. National Health Service. *Five Year Forward View*. [Online] 2014. Available from: <http://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf> [Accessed: 20th May 2015].
6. Mina Study. *Community Pharmacy Management of Minor Illness*. [Online] 2014. Available from: <http://www.pharmacyresearchuk.org/waterway/wp-content/uploads/2014/01/MINA-Study-Final-Report.pdf> [Accessed: 23rd August 2015].
7. Royal Pharmaceutical Society. Pharmacists could save the NHS 1.1billion by treating Common Ailments. [Online] 2014. Available from: http://www.rpharms.com/pressreleases/pr_show.asp?id=2342 [Accessed: 23rd August 2015].
8. Morse JM. Determining sample size. *Qualitative Health Research* 2000;10: 3-5.
9. Cline RR. Data collection methods. In: Aparasu RR. (ed.) *Research methods for pharmaceutical practice and policy*. London: Pharmaceutical Press; 2011. p. 143-157.
10. Miles MB, Huberman AM. *Qualitative data analysis: An expanded sourcebook*. London: Sage; 1994.

11. McCracken G. *The long interview*. Thousand Oaks: Sage; 1988.
12. Burton D. Design issues in survey research. In: Burton D. (ed.) *Research training for social scientists*. London: Sage Publications; 2000. p. 292-306.
13. Fox M, Martin P, Green G. *Doing practitioner research*. London: Sage; 2007.
14. Glaser B, Strauss A. *The discovery of grounded theory: Strategies for qualitative research*. New York: Aldine de Gruyter; 1967.
15. Strauss A, Corbin J. *Basics of qualitative research techniques and procedures for developing grounded theory (2nd edn)*. London: Sage Publications; 1998.
16. Bloor M, Frankland J, Thomas M, Robson K. *Focus groups in social research*. London: Sage; 2001.
17. Burnard P. A method of analysing interview transcripts in qualitative research. *Nurse Education Today* 1991;11: 461-466.
18. Abu-Omar SM, Weiss MC, Hassell K. Pharmacists and their customers: A personal or anonymous service? *International Journal of Pharmacy Practice* 2000;8: 135-43.
19. Seale C, Silverman D. Ensuring rigour in qualitative research. *European Journal of Public Health* 1997;7: 379-84.
20. Robinson S. Employ pharmacists in GP surgeries, urge leadership bodies. *Pharmaceutical Journal* 2015;294: 353.

21. Anon. NHS England launches £15m pilot to employ pharmacists in GP practices. *The Pharmaceutical Journal*. [Online] 2015; 295(7871). Available from: <http://www.pharmaceutical-journal.com/news-and-analysis/news-in-brief/nhs-england-launches-15m-pilot-to-employ-pharmacists-in-gp-practices/20068918.article> [Accessed: 19 July 2015].
22. Flynn D. Dual Degree Medical Programs. [Online] 2010. Available from: <http://www.studentdoctor.net/2010/05/dual-degree-medical-programs/> [Accessed: 4 September 2015].
23. Agomo C. Widening the UK pharmacy curriculum could help create jobs for pharmacists. *Pharmaceutical Journal* 2012;289: 627.
24. Agomo C. Let pharmacists not become worthless. *Pharmaceutical Journal* 2014;292: 638.
25. Agomo C. Telemedicine: Improving health services through technology. *Pharmaceutical Journal* 2008;281: 103-105.
26. Safdar A. Don't be scared to use social media. *Clinical Pharmacist* 2015;7: 26.
27. NHS Scotland and The Scottish Government. *Polypharmacy Guidance October 2012*. [Online] 2012. Available from: <http://www.central.knowledge.scot.nhs.uk/upload/Polypharmacy%20full%20guidance%20v2.pdf> [Accessed: 31 August 2015].
28. Scottish Government. *Prescription for Excellence: A Vision and Action Plan for the right Pharmaceutical Care through Integrated Partnerships and Innovation 2013*. [Online] 2013. Available from: <http://www.scotland.gov.uk/Resource/0043/00434053.pdf> [Accessed: 31 August 2015].
29. Pharmacists' Defence Association. *The PDA Road Map*. [Online] 2013. Available from: <http://www.the-pda.org/pdf/consultation/english-road-map.pdf> [Accessed: 04 August 2015].

30. American Pharmacists Association [APA]. *Independent MTM Pharmacist*. [Online] 2008. Available from: http://www.pharmacist.com/sites/default/files/files/mtm_developing_a_indie_practice.pdf [Accessed: 4 August 2015].
31. Bush J, Langley CA, Wilson KA. The corporatization of community pharmacy: Implications for service provision, the public health function, and pharmacy's claims to professional status in the United Kingdom. *Research in social & administrative pharmacy* 2009;5: 305–318.
32. AFPC/ADPC. *Position Statement and Joint Resolution on the Doctor of Pharmacy (PharmD) for the First Professional Degree at Universities in Canada February 2010*. [Online] 2010. Available from: https://www.afpc.info/sites/default/files/AFPC_ADPC_PharmD_Position_Statement_Resolution_Sept_2010.pdf [Accessed: 06 August 2015].
33. Editorial. New home for prescribing framework. *The Pharmaceutical Journal*. [Online] 2015; 295 (7872/3). Available from: <http://www.pharmaceutical-journal.com/opinion/editorial/new-home-for-prescribing-framework/20069021.article> [Accessed: 4 September 2015].
34. Cotter SM, McKee M. A survey of pharmaceutical care provision in NHS hospitals. *Pharmaceutical Journal* 1997;259: 262-268.
35. Anderson C. Health promotion by community pharmacists: Perceptions, realities and constraints. *Journal of Social & Administrative Pharmacy* 1998;15: 10-22.
36. De Young M. An inquiry into community pharmacists' views of patient communication. *Journal of Social & Administrative Pharmacy* 1996;13: 121-30.

