



ISSN (E): 2277- 7695

ISSN (P): 2349-8242

NAAS Rating: 5.03

TPI 2019; 8(7): 486-489

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www.thepharmajournal.com

Received: 13-05-2019

Accepted: 15-06-2019

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Role of community pharmacist in health care system

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Abstract

During the previous couple of years, the pharmacy profession has expand considerably in terms of skilled services delivery and now has been recognized as a very important profession within the multidisciplinary provision of health care. The paper highlights the current state of affairs The Pharmacy profession in health care system. Pharmacist is a backbone that strengthens to health care system. Different roles of Pharmacist in different sectors of pharmacy profession like Industrial, academics, community health, clinical research, drug design and discovery, developing NDDS etc. In shell pill roller play associate degree integral a part of health care system. "Physician provides drugs to the patients however life to drugs given by pharmacist".

Keywords: Health care, community pharmacy, NDDS, multidisciplinary

Introduction

The role of community pharmacists is increasing globally from simply dispensing medication to involving in several public health services and enjoying a key role in sickness state management. Several studies conducted elsewhere within the globe demonstrate that pharmacist's involvement in polygenic disorder management resulted in reduced value burden to the patient and improved overall treatment outcome and patient satisfaction. But, there are varieties of barriers that have hindered the availability of public health services in community pharmacy settings. Lack of data and skills, lack of confidence and adequate coaching, lack of policies, poor recognition among the health care system, patients' reluctance to use pharmacy services, and presence of inadequate range of pharmacy workers area unit a number of the factors that may contribute to the low level of pharmacy services uptake and public health initiatives [1-4].

Pharmacists in the community have been based at registered pharmacy premises, but there are now initiatives where pharmacists are working in new care settings, such as GP surgeries, care homes, and doing home visits. As experts in the actions, formulation and practical use of medicines, community pharmacists have an important role in advising on safe and effective use of medicines, providing services for medicines review, management of long-term conditions, and public health/screening services. Despite the increasing emphasis of community pharmacy on service provision, the dispensing workload for community pharmacy is increasing, possibly due to the increasing age of the population and the large number of specific medicines now available. Furthermore, service development takes time and resources, and there are challenges for pharmacists to ensure that they are adequately remunerated for the services they provide, and that their professional expertise in these areas is recognized, both by other healthcare professionals and by the public [5, 6].

The progress of connecting community pharmacy in England to the rest of the healthcare system has been slow but has gathered pace in recent years. In the early 2000s, pilots of electronic transfer of prescriptions (eTP) took place, and this led to the development of the Electronic Prescription Service (EPS), within the NHS National Programme (NPfIT) under the auspices of NHS Connecting for Health at the time. The transfer of prescriptions electronically has been facilitated by infrastructure IT systems in various countries, such as the United States, Sweden, and Italy [7].

The adoption of EPS has been slow. This has been, in part, due to the complexities of the total electronic prescribing environment and the challenges of evaluation of the system, as suggested by Lichtner *et al.* in their work on the EPS stakeholder map. In a survey of EPS use, Harvey note that, in the original adoption of EPS, community pharmacists faced two challenges. The first was concerning missing prescriptions, which was disruptive to the pharmacy workflow, but which pharmacists considered a temporary issue, which could be remedied by minor modifications and user familiarity with the system.

The second challenge was inherent design-related issues which could only be surmounted by users employing unintended system work-arounds. This included, for example, printing out dispensing tokens to dispense from in order to release monitors for other pharmacy tasks, doing all dispensing with just one Smartcard, and problems with prescription endorsement and reimbursement claims. Some respondents to the survey stated that these situations arose because real-world users had not been consulted in the initial development of EPS. Harvey *et al.* conclude that these unintended uses and barriers would not have occurred had more user input taken place at an earlier stage in the design and implementation of EPS, but that system design modifications could still take place to resolve these issues. In another study published in 2014, Harvey again note the challenge of missing prescriptions with the adoption of EPS but indicated that respondents still perceived EPS as helpful in streamlining pharmacy workflow. Many of the issues identified by Harvey *et al* have indeed been resolved as adoption of the system has progressed [8, 9].

Historically, a key issue for community pharmacy professionals is that they have not had the information about a patient that is available to the GP—for example, medicines prescribed, not just dispensed, information on diagnosis, reason for prescribing, allergies, and adverse events—and they have not been able to communicate medicines-related issues electronically to the GP system. This is borne out by international research on information held in pharmacy systems. A key issue identified in research is the incompleteness of the dispensing record, when compared to the prescribing record. For example, reviewing the Danish prescribing and dispensing system, Glinborg *et al.* (2008) found that 6% of the medicines prescribed for patients were not listed in the dispensing record at the pharmacy, 27% of prescribed medicines were not mentioned by patients when visiting hospital and 18% of prescribed medicines were not mentioned by patients during home visits. In conclusion, the authors argued that both dispensing and prescribing histories should be used to prevent clinical error due to medicines not being viewable in the record. (Mabotuwana *et al.*, 2009) compared the pharmacy dispensing record with the GP prescribing record and stated that a review of both records would be beneficial for the identification of medication adherence issues [10, 11].

At the current time, pharmacies may not capture large amounts of patient data on the patient medication record system at the point of consultation, other than details of prescriptions dispensed and the patient's allergies. (Floor-Schreudering *et al.*, 2009) looked at the content of the patient record in community pharmacies in Holland and noted that often the pharmacy record was not completed in any detail after the initial patient visit. As few as 67% of all prescription medicines and no OTC medicines were recorded. Furthermore, only 3.7% of allergies and drug intolerances were listed in the patient medication record in the pharmacy after the patient's initial visit. From this, they argued that pharmacists should try to collect as much of this information as possible at the outset [12].

In the past, health professionals have discussed “read-write” access to individual records—for example, with community pharmacy campaigns to access GP records. However, this approach may feel threatening to the health professionals who the data owner of the record—in this case, GPs. There is therefore a move away from this proprietorial approach

toward the approach of connectivity through interoperability. Rather than specific records being accessed and written to, information is routed appropriately between the different systems, and record information is identified and made available appropriately to different users. This approach would facilitate two-way communications between GPs and pharmacy professionals, which is an important objective of “read-write access.”

Standards for clinical record content and format provide the basis for standard datasets for electronic interoperability and, in Great Britain, the Professional Records Standards Body (PRSB) is facilitating the development of the clinical standards that will underpin this interoperability (Professional Records Standards Body, 2018a). PRSB has developed standard headings for the hospital to GP electronic discharge record, and these headings have been mapped to Fast Healthcare Interoperability Resources (FHIR), so that they can be incorporated into electronic systems in a machine-readable way, according to an international convention. This will enable the hospital discharge dataset to be set up in a range of computer systems, mobile phones and devices, employing various database structures [13].

The PRSB standardization and FHIR duration process is now taking place for information flows from the pharmacy to the GP, and ultimately elsewhere in the NHS (Professional Records Standards Body, 2018b). Standard datasets are being created to capture and transmit information on various pharmacy services, including vaccinations, emergency supplies, MURs, NMS, and other pharmacy services [14].

Expanding Roles

Delivery Over the past four decades, the role of the pharmacist has evolved from an individual who was primarily responsible for safely and accurately distributing a medication product to a patient, to an individual who works side-by-side with physicians, nurses, and other healthcare professionals in sophisticated, highly specialized practice settings to assure appropriate medication therapy management [15].

The implications on health care systems are enormous as patient readmissions linked to poor transitions of care have huge financial implications on the health care system. Since improper medication use is one of the most significant reasons for patient hospital readmissions, the importance of integrative pharmacy care that optimizes compliance and minimizes drug adverse events has created a vital opportunity for pharmacists to close the weak link in a highly vulnerable ecosystem [16].

Access

In addition to the expanding role of the pharmacist in the delivery of health care in a variety of practice settings, the community pharmacist has more opportunities to make a significant impact on the populations they serve. As the needs of society have changed in relation to the provision of health care, the pharmacist is positioned as one of the most accessible health professionals and his/her role has evolved to provide a variety of services for the health of both individuals and the community.

Pharmacists can enhance the health of individuals through the art and skill of compounding. Through compounding, the pharmacist partners with prescribers and patients to meet unique medication needs that are not met by commercially available products. Compounding is an age old art of the profession of pharmacy, which is utilized today to provide personalized medication therapies. In her commentary, Burch

[8] describes patient care needs that can be met by compounding as well as reviews some of the regulations and best practices governing pharmaceutical compounding [17].

Public Health

Beyond the care provided to individual patients, pharmacists have expanded their reach to influence the public health of communities. Trotta describes the increased access to immunizations and increased immunization rates as a result of pharmacist provided immunizations in North Carolina. The effect on public health through increased immunization rates is a function of the unparalleled access patients have to pharmacists within the community. More recently, the pharmacist has been at the forefront of addressing the public health crisis caused by opioid abuse. Muzyk *et al* discuss the various ways the pharmacist facilitates appropriate prescription opioid use as well as provides access to naloxone, an opioid antidote, through the state-wide standing order. Management of opioids is complex, and the pharmacist is a critical partner in the process of treating pain and mitigating adverse events and/or the risk of abuse [18, 19].

Benefits of the connected community pharmacy [20-24]

- The electronic prescription transmitted is complete, legible and accurate, which reduces the possibility of errors and omissions in the medicine supply process. Nevertheless, the accuracy of the electronic prescription will be to some extent determined by the design of the GP system and the pharmacy patient medication record system.
- The electronic prescription is transmitted securely. It must be recognized, however, that the security of the electronic prescription is affected by the way it is displayed and stored in the pharmacy system. The pharmacy information governance procedures should address this issue. A previous UK survey of public, prescriber and pharmacist perceptions of eTP has described the security and confidentiality of patient information in the pharmacy setting, as a possible cause for concern.
- Prevention of prescriptions that are unsigned, and therefore illegal.
- Workflow efficiencies in community pharmacies. An eTP system may be helpful to community pharmacies in managing their repeat dispensing workload so that, for most patients, medicines are ready to collect from the pharmacy in a timely manner.
- Convenience to the patient in not having to submit a paper prescription to a pharmacy, and not having to wait for the dispensing process at the pharmacy. However, pharmacists will need to ensure their processes are streamlined to minimize waiting times. The effect of eTP on waiting times may well be affected in future by development such as: (a) availability of electronic prescriptions downloadable from a patient's mobile phone, or (b) the use of citizen driven prescription ordering, such as the NHS App.
- Electronic transfer of prescriptions opens up a means of communication between the prescriber and the pharmacist. The development of a comprehensive two-way means of communication between the prescriber and the pharmacist, would enable pharmacists to participate more fully in clinical care of the patient. Unfortunately, at the current time, the EPS in England only replicates the paper-based prescription system and does not enable

significant two-way communication between pharmacists and prescribers, or between pharmacists and other clinical services.

- Electronic transfer of prescriptions has an effect on the medicines-related care processes in the health service, and therefore on professional roles and relationships in the system. In the United States, the eTP has affected the dynamics of the relationships between prescribers, pharmacies and health maintenance organizations (HMOs)

A number of potential benefits have been discussed in relation to the use of web-based pharmacy services systems for routing hospital discharge referrals to community pharmacy in order for the pharmacist to provide a clinical service (transfer of care, or community pharmacy clinical handover) [25].

1. Information about medicines for a patient discharged from hospital reaches their community pharmacy in a timely manner.
2. The pharmacist gets the discharge information at the same time as the GP.
3. Patients' questions about their discharge medicines are preempted.
4. Audit work has shown that 6–13% of discharge summaries sent to GPs are not actioned appropriately. Being able to resolve these through community pharmacy medicines reconciliation is a key benefit, and is likely to have a beneficial impact on patient safety.
5. Issues arising from (3) and (4) are resolved in the community pharmacy, thus saving the GP time and reducing their workload.
6. Pharmacy contractual services are targeted to those patients who need them most, so saving the NHS money.
7. The skills of pharmacists and GPs are appropriately utilized.
8. Quality of care and patient experience are enhanced.
9. Messages can be sent to prevent unnecessary dispensing of previous regular medicines whilst the patient is in hospital (saving dispensing time and reducing medicines waste).
10. A clear purpose can be provided to the community pharmacist as to what to do with the information in each instance e.g., NMS, MUR, or stop providing a dispensing service (e.g., if a patient is moving to a care home serviced by another pharmacy).

Conclusion

Community pharmacy-the hub of medicines optimization
Reviewing the systems currently available, and their perceived benefits, together with planned future developments, the connected community pharmacy has considerable potential benefits for patients, healthcare professionals and policy makers. Some progress is already being made toward connecting community pharmacy electronically into the wider local and national healthcare system and thereby contributing to the integration of the community pharmacy service into the wider NHS. Nevertheless, future developments will enable a greater level of connection and communication between the community pharmacy in England with the wider primary care system.

Recommendations

Domains of the connected community pharmacy

In terms of professional goals and aspirations for community

pharmacy, I propose five domains of activity that define the connected community pharmacy, and which should be supported by pharmacy interoperability technologies.

- Pharmacists provide a safe and effective supply chain for medicines.
- Pharmacists can receive referrals from other healthcare professionals.
- Pharmacists can assist patients and ensure appropriate medicines reconciliation following discharge from hospital and other transfers of care, for example between the person's home and a nursing/care home.
- Pharmacists can transmit details of their healthcare interventions and recommendations to other healthcare professionals.
- Pharmacists are able to interact with their patients to support pharmaceutical care and monitor therapy and adherence.

Work should continue to develop technologies that will support these five domains of professional activity for pharmacists. This will require input from, and communication between, health policy-makers and pharmacy professionals. An area of considerable development will be that of mobile technology and apps. At the time of writing, the use of these for medicines-related applications is at an early stage of development, yet these are likely to have considerable impact both on the working practices of health professionals and the empowerment of patients and citizens.

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