

An international overview of some pharmacist prescribing models

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This review aims to provide an overview of models of pharmacist prescribing outside and within the UK. Since pharmacist prescribing was pioneered in the US, most of the literature available originates within the US. Where little information was found in the literature, pharmacy societies were contacted to provide further information. Both the Australian and South African societies responded; however no information was obtained from Canada. Overall, little information is available from Canada and South Africa particularly since pharmacist prescribing in the latter case has been withdrawn. Table 1 accompanies the text below and aims to summarise different modes of pharmacist prescribing.

Pharmacist prescribing in the United States

Pharmacist prescribing has been driven by a necessity to improve health care delivery, with the inability of pharmacists to prescribe resulting in time and cost impediments to the delivery of patient care. There are two models of pharmacist prescribing in the United States (US) – dependent or independent prescribing authority.¹ Dependent prescribing authority implies that the pharmacist prescribing authority is delegated by an independent prescriber, usually a physician, on the basis that the pharmacist is capable of performing the delegated duties. The two have shared responsibility for the patient's overall outcome usually defined through a collaborative drug therapy management (CDTM) agreement where the physician diagnoses and makes treatment decisions and the pharmacist selects, monitors, modifies or discontinues drug therapy as indicated in the agreement. The CDTM may take various forms such as general written protocols, policies or procedures or protocols for each specific patient.² Independent prescribing authority implies that the prescriber is authorised to prescribe all drugs without the supervision of another health care professional.¹ The American College of Clinical Pharmacists (ACCP) argues that prescribing within current health-care systems can no longer be independent due to the complexity of drug regimens. It defines prescribing as encompassing a broader set of activities including selecting, initiating, monitoring, continuing, modifying and administering medications. The role of a pharmacist within a CDTM is consequently advocated since this makes use of the expertise of both the physician and the pharmacist.³

The extent of the pharmacist prescribing authority depends on whether the setting they are practising is within the remit of state or federal law. The state law, which changes from one state to another, usually favours a model where the pharmacist is a dependent prescriber and therefore prescribing is based on protocols or physician-defined care plans. Many states that have introduced pharmacy prescribing have opted for this model and include California, Kansas, Mississippi, Nevada,

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New Mexico, North Dakota, Oregon, South Dakota, Texas and Washington.¹ By the end of 2003, 38 states allowed pharmacist prescribing for various CDTM (compared to 14 states at the end of 1996).² This expansion in pharmacist prescribing has been due to further evolvement of the health-care system including greater awareness of patient safety, further data showing improved health-care outcomes with pharmacist participation, increasing age of the population and increased need for management of chronic diseases and increased patient self-participation and shared responsibility for their health care.² To ensure greater cohesiveness, it has been recommended that prescribing authority should be obtained on a national level, embracing all areas of pharmacy practice.⁴ Examples of dependent prescribing authority may be found in both primary and secondary care. In ambulatory care settings, pharmacists assume responsibility for the management of chronic conditions such as hypertension, asthma, diabetes, hyperlipidaemia and psychiatric disorders.⁵ Within a hospital environment, pharmacists

may adjust infusions of heparin therapy against a written protocol agreed by a physician or assume responsibility for in- and out-patient pain management, including prescribing of adjunct therapy such as anti-emetics, antihistamines, laxatives and benzodiazepines.⁶ Hospital pharmacists may also be involved in automatic therapeutic substitution to ensure that only drugs on the formulary are prescribed.⁶ The American Society of Health Care System Pharmacists (ASHP) has included pharmacist prescribing under CDTMs as one of its goals in the 2015 initiative. For hospital inpatients to achieve best use of medicines it aims to have 90% of hospitals having pharmacists manage medication therapy in collaboration with other members of the healthcare team. This also holds for non-hospital patients such as clinic and home-care settings.⁷ Independent prescriptive authority at state level is in place in Florida, though pharmacists may only prescribe from a limited formulary and against strict protocols including anti-emetic preparations, antidiarrhoeals and smoking cessation products.^{1,3,8} There has however been little updating of the

formulary and consequently many of the items on the formulary have become over-the-counter medicines.⁶

The federal government is keener to expand the prescribing authority of the pharmacist and move towards pharmacist independent prescribing. This may be implemented within a federal institution irrespective of the state laws and regulations.¹ A directive of the Veteran Affairs (VA) Department lays this down clearly ...*"Because states cannot regulate the activities of the federal government, or its employees when acting within the scope of their federal employment, except by congressional consent, state laws and regulations relating to medication orders and prescriptions do not affect scope of practice statements under this directive."*⁹ Within the VA department, clinical pharmacy specialists have worked as independent providers prescribing medicines, reviewing and ordering laboratory tests, performing venepuncture, analyzing lab and diagnostic test data, performing physical examinations and assisting in management of medical emergencies, adverse drug reactions, acute

Table 1. A summary of different prescribing models

Country	Prescribing model	Description
US	Dependent prescribing	Authority is delegated to the pharmacist by an independent prescriber (usually a physician). The shared responsibility is described through a collaborative drug therapy management. Model favoured by the state law.
	Independent prescribing	The pharmacist is allowed to prescribe all drugs without the supervision of another health care professional. Model favoured by the federal law.
South Africa	Providing prescription only medication at pharmacist's own discretion	Aimed at making medicine more accessible to rural communities. This model has been withdrawn and is not currently in place though its status is being reviewed.
Canada	Dependent or delegate prescribing	Prescribing based on a collaborative therapy agreement with a physician. Model favoured by most provinces.
	Independent prescribing	Prescribing outwith a collaborative agreement which is limited mainly to emergency contraception.
Australia	None	Still under development.
UK	Supplementary prescribing	The pharmacist may prescribe for a diagnosed condition, within the agreement set out with the independent prescriber and the patient in a Clinical Management Plan (CMP).
	Independent prescribing	The pharmacist may prescribe any drug independently, whether for a diagnosed or undiagnosed condition, without the need for a CMP or partnership with an independent prescriber.

and chronic conditions and administering medicines.¹⁰ Totally independent prescribing authority was pioneered by Florida VA pharmacists in outpatient clinics.¹¹ This expanded role of the pharmacy specialist has been used as a model for other federal agencies such as the US Army and the Indian Health Service.^{1,12} One of the main barriers to pharmacist prescribing in the US has been the pharmaceutical industry since pharmacists were perceived as more likely to prescribe generics than doctors.⁶ The American College of Physicians and American Society of Internal Medicine have issued a position statement on the expanding role of the pharmacist in which reference is made to pharmacist prescribing.¹³ This supports physician-directed pharmacist-physician collaborative practice agreements but limits these to the involvement of the pharmacist in patient education and hospital rounds. It categorically states, "...we need to ensure that physicians control prescriptive rights and have the final approval over all patient care decisions." It goes on to comment about pharmacist independent prescribing and does not support this, claiming that there is no evidence that this will benefit the patient and that pharmacists are not trained to initiate therapy. It again emphasises that "this is clearly an area that should remain under physician authority."

Prior to the expansion of this role of the pharmacist, in the early 1980s, studies were undertaken to prove the advantages of pharmacists to a clinical service. This extended role of the pharmacist within a clinical service is now generally accepted as an integral part of health care and looking into the cost effectiveness or cost benefit comparisons with physician prescribing is no longer seen as a priority in many institutions.⁶ Training for pharmacists to prescribe is not centralised and pharmacist prescribers need to be credentialed within their employing institution.¹⁴

Pharmacist prescribing in South Africa

Pharmacists working in rural communities in South Africa were previously issued with a permit 22A¹² allowing them to provide prescription only medicines based on their own discretion. This was issued

following completion of the Primary Care Drug Therapy Course (PCDT). The aim was to provide a service to patients in rural communities where most patients go to the pharmacy before seeing a doctor and usually have no prescription. At this point, the main barrier towards expanding the number of medicines that may be dispensed by the pharmacist was the medical profession who seemed to show "...fierce and organised resistance."¹⁵ More recently, the Department of Health in South Africa has withdrawn all these permits from pharmacists and the South African Pharmacy Council is now looking at ways to take the PCDT training forward. [personal communication]

Pharmacist prescribing in Canada

Pharmacist prescribing in Canada is limited and varies across provinces. Where pharmacist prescribing occurs, this is mainly dependent or delegated prescribing based on a collaborative prescribing model involving an agreement between a pharmacist and a physician.¹⁶ Some states such as British Columbia, Saskatchewan and Quebec, support independent pharmacist prescribing of emergency contraception.¹⁶ The Canadian Society of Hospital Pharmacists advocates collaborative prescribing within health care facilities arguing that this makes use of the diagnostic expertise of the physician and the pharmacotherapy expertise of the pharmacist.¹⁷ It also claims that this will provide improved patient outcomes and increases the successful and efficient delivery of pharmaceutical care.¹⁸

Pharmacist prescribing in Australia

Pharmacist prescribing has been a topic of discussion and debate in Australia with a perception that Australia has been slow to catch on to this approach to prescribing.¹⁹ The Society of Hospital Pharmacists of Australia supports extending prescribing rights to pharmacists provided that these are competency based.²⁰ Extension of the roles of and services provided by pharmacists are being proposed to make better use of the pharmacists' knowledge and improve consumer access to medicines without compromising patient safety.²¹

Pharmacist prescribing in the UK

The main drive towards the development of pharmacist prescribing in the UK, has been a desire to make greater use of the skills and specialisation of different health care professionals by creating a more flexible system to prescribe, supply and administer medicines. This was the focus of the final 'Crown Report' published in 1999 which made recommendations on the potential expansion of prescribing roles of health care professionals.^{22,23} This subsequently led to changes in legislation resulting in extending prescribing privileges to pharmacists.

There are two models of pharmacist prescribing in the UK: pharmacist supplementary prescribing (previously referred to as dependent prescribing in the 'Crown Report') and pharmacist independent prescribing. Legislation was amended in 2003 to permit pharmacist supplementary prescribing (SP); supplementary prescribing is defined as: "A voluntary partnership between the responsible independent prescriber and a supplementary prescriber, to implement an agreed patient specific clinical management plan with the patient's agreement, particularly but not only in relation to prescribing for a specific non-acute medical condition or health need affecting the patient."²⁴ The clinical management plan (CMP) is central to supplementary prescribing since it forms the basis for patient management within the agreed framework. It needs to be drawn up for each patient with agreement reached between the independent prescriber, the supplementary prescriber and the individual patient. The clinical management plan must make reference to the class(es) of drug(s) or drug(s) to be prescribed. Independent pharmacist prescribing (IP) was introduced in May 2006 following amendments to legislation; an independent prescriber is defined as: "...a practitioner responsible for the assessment of patients with undiagnosed or diagnosed conditions and for decisions about the clinical management required, including prescribing."²⁵

As may be expected, due to the novelty of the subject, there is not much evidence available around pharmacist

prescribing in the UK. This has been the subject of a recently published review²⁶ where the authors aimed to summarise the literature to date on pharmacist prescribing and to explore the main areas of care and practice settings including any benefits and limitations. Tonna *et al* report that the delivery of pharmacist SP and plans for service development were identified in different health care settings which may be divided into four models: community, hospital, primary care settings and the primary/secondary care interface.^{26,27} Narrative reports show that within secondary care, SP was being applied across various specialities including the adjustment of aminoglycoside dosages as part of therapeutic drug monitoring, to facilitate patient discharge on a cardiac unit, and as part of a clinical nutrition team. Reports of pharmacist-led prescribing clinics also emerge from primary care with pharmacist involved in hypertension and clinical risk reduction clinics.

Initial research reports that almost 50% of pharmacist supplementary prescribers self-reported prescribing with pharmacists reporting both benefits of and barriers to implementing SP.^{28,29}

Research involving other health care professionals has indicated that

Practice Points

- Pharmacist prescribing was pioneered in the US. Recent developments within the UK also allow pharmacist prescribing.
- The main driving force has been a need for greater patient access to medication and a better use of the pharmacist's skills.
- There are two main forms of pharmacist prescribing: dependent or supplementary prescribing, where collaboration or agreement with a physician is essential, and independent prescribing without the need for formal collaboration with another health care professional.
- To be registered prescribers, pharmacists need to complete accredited training programmes. Accreditation is nation-wide in the UK while this varies between states and institutions in the US.

encroachment of traditional roles likely to occur due to the advent of pharmacist prescribing may also be a barrier.^{30,31} A small scale study has concluded that patients are likely to favourably accept pharmacist prescribing³², with another study showing potential favourable outcomes of pharmacist prescribing.³³ There is no research yet available about practices involving pharmacist independent prescribing.

Most of the literature from the UK focuses on pharmacists' perceptions of supplementary prescribing, with little information referring to other stakeholders, including patients. There is also limited published research focusing on clinical and economic outcomes of pharmacist SP.

Conclusion

With the exception of the US, where pharmacist prescribing has been pioneered, this is a rapidly changing aspect of pharmacy practice. This is particularly so in the UK, where the recent advent of pharmacist IP is likely to create more opportunities for pharmacy involvement and expansion of the pharmacist role. It is likely that the research and the body of evidence around pharmacist prescribing will therefore expand over the coming years.

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Prescribing and dispensing checklists

As issued by Director General Public Health Regulation - Malta

MSOC/HEC Circular No. 7/08 DH File No.1211/08

Prescriber's Prescription Checklist

- Writing must be in ink
- Writing must be legible
- Name and signature of prescriber
- Address and contact details of prescriber
- Medical Council registration number
- Full name and age of patient
- Locality of patient
- Name, dose and dosage form of medicine
- Quantity of medicine
- Duration of treatment
- Instructions on how to take medicine
- Period of duration for a repeat prescription
- Instructions to indicate when the patient can only be administered a branded product

Pharmacist's Prescription Checklist

- Prescription is in ink and legible
- Date of issue of prescription
- Name, address and other details of prescriber
- Medical Council registration number
- Signature of prescriber
- Full name, age and locality of patient
- Name, dose, dosage form of medicine
- Quantity of medicine and duration of treatment
- Instructions on how to take medicine
- Period of duration for a repeat prescription
- Expiry of 10 days for antibiotics
- Expiry of 6 months unless repeat prescriptions
- Indications of use or exhaustion of prescription
- Possibility or necessity of substitution