



AN RIALTÓIR CÓGAISÍOCHTA
THE PHARMACY REGULATOR

Supporting Paper C

Innovation Paper

Summary of submissions received via the Innovation Portal for the Future Pharmacy Practice in Ireland - Meeting Patients' Needs Report, 2016

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1. Introduction

The key objective of the Future Pharmacy Practice Project is to explore how pharmacists can most valuably contribute to the health and wellbeing of patients in an evolving healthcare sector.

An important part of this project is to identify innovative practice that is already being provided by pharmacists on a local or individual level, in community and hospital pharmacy in Ireland, to improve patient care and safety. To gather information and real time evidence of current innovative pharmacy practice and services an online “Innovations Portal” was created. The purpose of this was to capture current examples of best practice and ‘grey literature’ in pharmacy practice and provide experiences and learnings that will give useful insights to inform the potential future direction of the pharmacy sector as a whole.

Pharmacists were asked to provide submissions to the Innovation Portal about their experience and findings from initiatives they are involved in, or projects or research they have recently undertaken that is innovative in the pharmacy setting. They were asked to describe the patient and pharmacist/pharmacy outcomes achieved from them, any barriers to implementation and lessons learned that could inform the expansion of the practice or service.

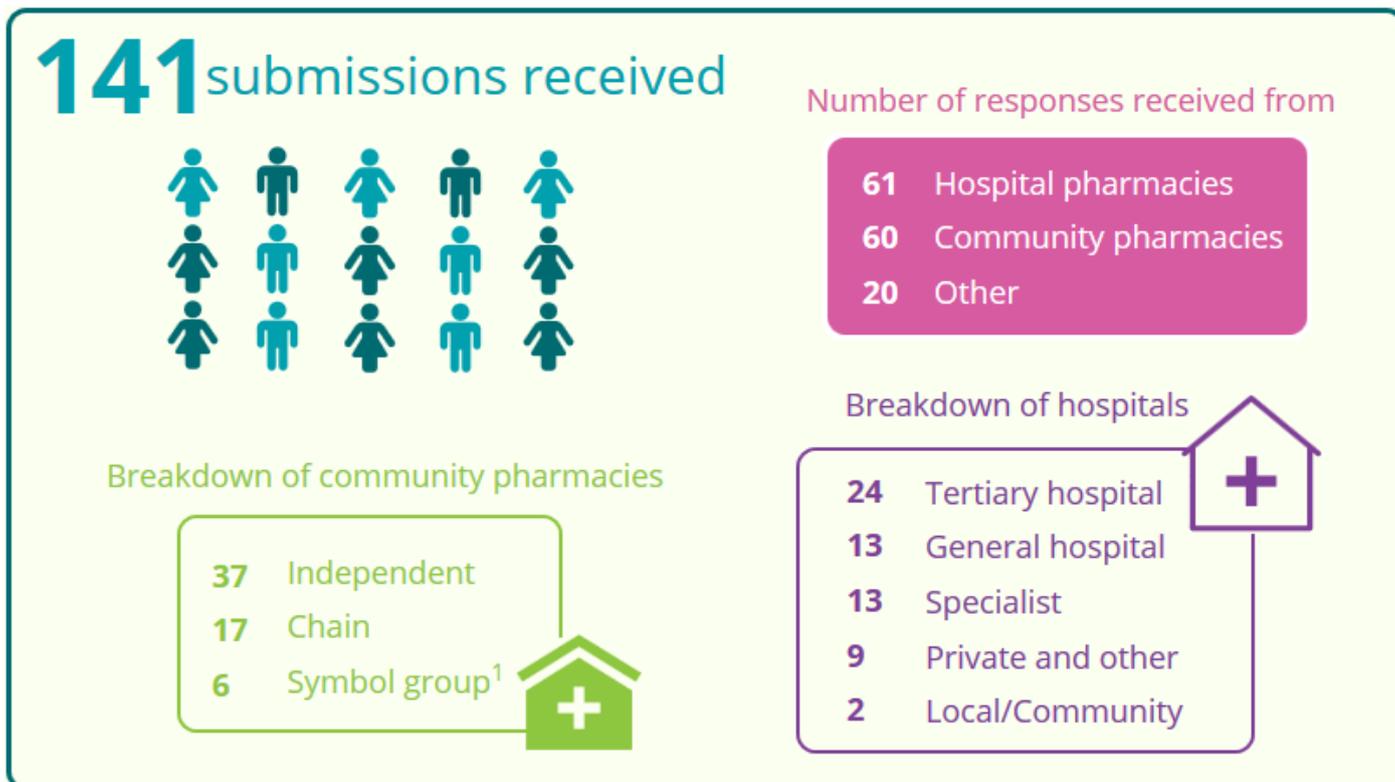
Pharmacists were also asked for their ideas on what community and hospital pharmacy practice should look like in the future.

The portal was open for submissions from the 10 September 2015 until the 25 September 2015. This report provides a summary of the 141 submissions received.

PricewaterhouseCoopers(PwC) consulting and the Pharmaceutical Society of Ireland (PSI) would like to thank all who took the time to provide submissions to the innovation portal.

1.1. Profile of Respondents

In total, 141 submissions were received over the 15 day period from pharmacists who worked in various settings as set out below.



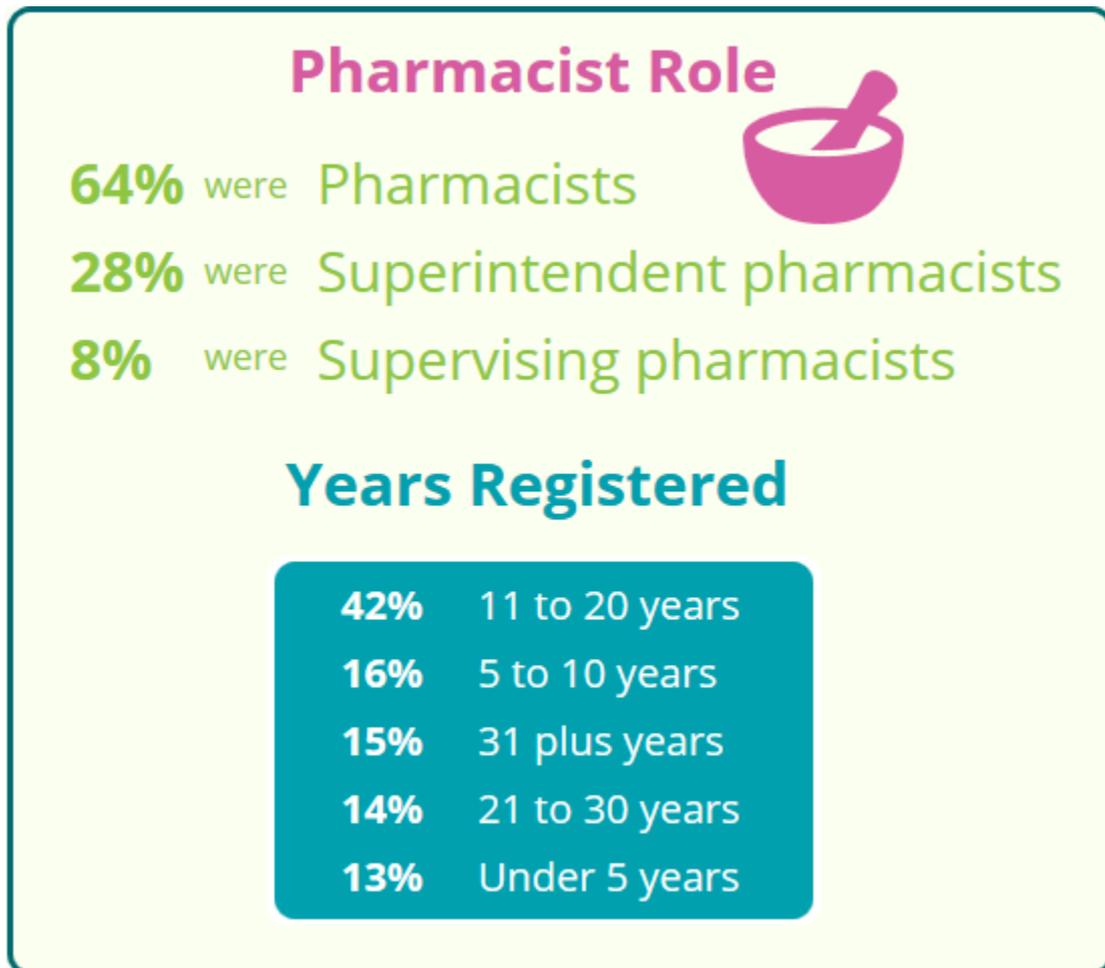
The portal received almost equal responses from pharmacists in both community and hospital practice, 60 and 61 respectively. The remainder of responses (20) came from pharmacists practicing in “other” areas, for example guidance and monitoring nationally, representative bodies, long-term care, research and academia, pharmaceutical industry, training and continuing professional development (CPD), homecare and regulation.

The 61 hospital pharmacists that responded, were based across a variety of settings including General, Private, Tertiary and Specialist hospitals. Tertiary hospitals (for example university teaching hospitals) made up the highest percentage of respondents with 39%. Specialist Hospitals (21%) included specialties in Mental Health, Paediatric, Hospice, Palliative care, Rehabilitation, Maternity, Palliative Care, and Rheumatology.

The 60 community pharmacists that responded were mainly working in independent pharmacies (37 submissions), with 17 working in a pharmacy chain and 6 working in a symbol group¹.

¹ Symbol group describes independent community pharmacists who have joined together under one brand to differentiate the services they provide locally.

The role of the pharmacist who submitted to the innovation portal and the number of years they have been registered varied, and is set out below.



64% of responses were from individual pharmacists, 28% of responses were from superintendent pharmacists², and 8% were from a supervising pharmacist³. The number of years registered as a pharmacist, ranged from under 5 years to over 31 years, with the largest cohort of respondents having between 11-20 years' experience practicing as a pharmacist.

² The superintendent pharmacist is the pharmacist in overall control of the management of a retail pharmacy business.

³ The supervising pharmacist is the pharmacist responsible for the day-to-day running of the retail pharmacy business.

1.2 Key Themes and Innovation areas

Key themes were identified in the submissions to the innovation portal and are shown below. These have been categorised into community and hospital pharmacy practice. Many of the innovations received from pharmacists practicing in “Other” areas also related to community and hospital pharmacy practice and therefore are also included in the key themes below.



The key themes were then grouped into innovation areas; the response rate for each innovation area is shown below. Submissions in each innovation area are discussed in detail in the following sections.

Response rate by innovation area



2. Key Areas for Innovation

2.1. Medicines Optimisation (23% of Innovations)

Innovations that improved the management of medicines for the patient were prevalent across all practice settings. This included services to improve medicines adherence in the primary care setting such as Medicines Use Reviews (MURs), solutions to improve the transition of care for patients moving between care settings, and clinical pharmacy input in the hospital sector. Improvements such as these fall under the term 'medicines optimisation'.

A number of MUR pilots were submitted to the portal and this was highlighted as an area that community pharmacists can provide benefit to patients. One submission detailed a pilot carried out in conjunction with a local medical centre. Patients receiving 6-8 regularly prescribed medicines for longer than two months were identified and asked if they wished to avail of this service. The MUR

appointment would address the patient's understanding of what their medicine was for, when they take it, if they are compliant and any side effects they had experienced. An action plan was then completed, which addressed issues such as discarding out of date medicines, compliance, synchronising medicines to run out at the same time and anything that may need a GP follow up.

Improving medicines adherence in the primary care setting



→ Medicine Use Reviews

Submissions highlighted significant work being done locally to improve the transition of care and patient movement between hospital and community settings. These included the use of summary sheets for discharge prescriptions from hospital, and communication strategies to ensure the patient is moved to the community setting without the loss of information about their medication and care. One submission highlighted a project which has been initiated in their hospital to improve the discharge medication reconciliation and supply process for patients, using ward based clinical pharmacy and IT supports. The clinical pharmacy service carries out a medicines reconciliation with the patient and prepares the discharge prescription which, once verified by

a doctor, is transferred securely to the patient's GP. This project was initiated due to evidence of medication errors at transitions in care and to improve the quality and timing of the discharge prescription. Another submission provided an analysis on the positive impact of hospital pharmacists on the paediatric discharge process. A hospital pharmacist contacted the community pharmacist prior to patient discharge to

ensure the required medication was in stock, this ensured little interruption to medication supply for the patient and the community pharmacist also reported a high level of satisfaction with this service.

Improving safety at transitions of care



→ Communication strategies

→ Summary sheets for discharge prescriptions from hospitals

Pharmacist's involvement in medication reconciliation when patients are admitted to hospital was also seen to provide benefit. One submission outlined a cost and impact analysis that had been conducted on a pharmacist medication reconciliation service. The pharmacist followed patients from completion of medication reconciliation to seven days' post admission, or until the patient was discharged (if sooner). Over a 12 month period 8,611 medication reconciliations were carried out and the estimated cost saving associated with this for general medical inpatients was €1.3million. Another submission highlighted the benefits of collaborative pharmaceutical care (PACT) services versus standard ward based clinical pharmacy for adults receiving acute medical care. PACT involved pharmacists being team based with doctors, leading admission and discharge medication reconciliation and undertaking prescription reviews. The advantages of this service were decreased rates of medication errors at admission and discharge, more contributions to patient care by the pharmacist, increased acceptance of the pharmacist's contributions by the responsible team and increased quality of prescribing. Another

submission highlighted the pharmacist's participation in a multidisciplinary atrial fibrillation clinic to review medicines, offer advice on treatment optimisation as well as education to patients. The pharmacist was considered to be a key member of the multidisciplinary team with cardiologists usually implementing their recommendations and patients reporting positive feedback and a greater sense of ownership of their treatment.

Pharmacist medication reconciliation service



- over 12 months, 8,611 medication reconciliations carried out
- estimated cost saving of €1.3 million

2.2. Health and Wellbeing (16% of Innovations)

A large proportion of submissions from community pharmacists related to the area of health and wellbeing. These innovations included smoking cessation and exercise and nutrition programmes. In most cases, these innovations were confined to individual pharmacies with relatively small patient cohorts. One pharmacy chain carried out an alcohol awareness campaign, stating that a brief intervention with those identified as being risky drinkers has been shown to be effective at reducing alcohol consumption. Over an eight-week period 5,707 health promotion conversations were conducted across 78 pharmacies.

Alcohol awareness campaign



- 5,707 health promotion conversations conducted over 8 week period

A number of submissions also highlighted how pharmacies were providing blood pressure and cholesterol monitoring services.

As health and wellbeing relates to prevention of illness, a number of innovations were associated with the influenza vaccination service, which is a nationwide community pharmacy service and has shown significant success in helping to increase the uptake of the influenza vaccine.

2.3. Chronic Disease Management (6% of Innovations)



Innovations relating to chronic disease management included services to improve the management of many different chronic conditions. A number of community pharmacies had implemented a 24-hour ambulatory blood pressure monitoring (ABPM) service which was run in collaboration with the local GP practices. Feedback from both the patients and GPs on these services was reported as being very

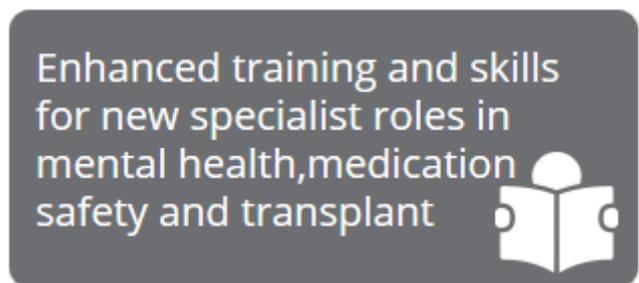
positive. One submission detailed an anticoagulation (International Normalised Ratio (INR) measurement) service in a community pharmacy that was very successful. The pharmacy manages over 95 patients with approximately 3,200 INR checks performed since 2010 when the service was started. Independent audits have shown 100% patient satisfaction with the service and having the service delivered locally in a community pharmacy has reduced costs to both the State and the patient.

Hospital practice has seen innovations regarding pharmacist involvement in out-patient clinics, for example a pharmacist led asthma clinic for children where training on proper inhaler technique is provided.

2.4. Advanced Practice and Specialisation (40% of Innovations)

There were a large number of submissions which related to advanced practice and specialisation. The majority of these innovations are in the area of hospital pharmacy.

A number of submissions highlighted the success of a dedicated antimicrobial pharmacist in Irish hospitals. It was shown that significant cost savings were achieved when a strategy of antimicrobial stewardship was introduced, reducing the level of antibiotic prescribing dramatically. This role is now mandated and there are approximately 24 positions in the country.



Specialist roles were also seen in other areas including a Hepatitis C Virus Specialist Pharmacist, Medication Safety Pharmacist, Mental Health Specialist Pharmacist, Transplant Pharmacist and Emergency Department Pharmacist, all have enhanced training and skills relevant to their role.

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One submission described a national advice service for health professionals on palliative care which is provided by Specialist Palliative Care Pharmacists. The service has dealt with over 2000 enquiries in 5 years. This service also provides specialist resources and a newsletter which is sent to practitioners.

It was noted in one innovation that hospital pharmacists often complete UK-based accredited programmes relevant to their role.

2.5. Technology (15% of Innovations)

A number of submissions involved advances in technology, in both community and hospital pharmacy settings. It was found that innovations in technology within hospital were mainly done on an individual basis, with very few nationwide programmes.

Pilots in hospitals for electronic-prescribing systems and electronic health records were seen positively.

There was a submission regarding the use of pharmacy robots which highlighted their efficiency, including a decrease in picking errors, stock shortages, and time saving benefits; it was estimated that one stock-robot saved up to 12 hours of staff capacity per week.

Innovations seen in electronic prescribing, electronic health records, automation and medication reconciliation service



Electronic tools to facilitate pharmacy services and improve medication safety were also seen positively. For example, Smart Pump Technology calculates the volume of drug to be infused by the patient, by inputting their weight, selecting a pre-programmed drug and concentration, and then selecting the dose to be infused.

Smartphone/iPad apps were also being used within the hospital setting for prescribing guidelines and formularies which could be downloaded locally onto the practitioner's device. The benefit of real time updating and availability across the hospital was highlighted for these apps.

One submission highlighted an electronic tool for medication reconciliation which allowed the generation of a discharge summary and a discharge prescription for the patient's GP and community pharmacist. Both contained identical information, with clarity around medication changes made during hospitalisation.

→ Smart phone apps for healthcare professionals for prescribing guidelines and formularies

→ Apps for patients to help with medical conditions and healthy living



Community pharmacy innovations were seen to improve care and facilitate patient convenience. One innovation involved an appointment based system for patients with cognitive difficulties who were on complex or unstable medication regimes. This was used to assess their needs and whether having their medicines dispensed in a monitored dosage system (MDS) would be of benefit. The service involved an IT platform and paper based monitoring system that allowed the pharmacist to provide weekly checks on the patient's medication and respond quickly to changes during the monthly cycle.

Pharmacists were also promoting the use of smartphone apps to help with medical conditions and healthy living.

3. Future of Pharmacy

As well as providing submissions about expanded services and innovations in their own practice, pharmacists were asked for new ideas for future pharmacy services, both in hospital and community settings.

3.1 The Future of Hospital Pharmacy

Respondents' main points of focus for the future of hospital pharmacy were:

- The introduction of pharmacist prescribing.
- Electronic-prescribing and electronic health records.
- Dedicated specialist pharmacists on all clinical teams.
- Medication reconciliation for all patients being admitted and discharged.
- Pharmacist-led outpatient clinics, for example in asthma, diabetes and anticoagulation.
- Adequate staffing levels to allow clinical pharmacists to add value to the delivery of care.



3.2 The Future of Community Pharmacy

Respondents' main points of focus for the future of community pharmacy were:

- Medicines Use Review Service.
- Expansion of vaccination services into other areas, including travel vaccines.
- More medicines reclassified from Prescription Only Medicines to Pharmacy-Only Medicines.
- Introduction of a Minor Ailments Scheme.
- Community pharmacy anticoagulation clinics.
- Electronic-prescribing and electronic health records.
- Pharmacists working in GP practices in a supportive capacity.
- Increased care for patients with chronic conditions.
- Extending prescriptions, dose adjustment and pharmacist prescribing.
- Robust communication pathway for transferring patients from hospital to the community.
- Information and awareness campaigns regarding patients' medicines, common illnesses and healthy living.



4. Findings

Sub-Group findings

The Community and Hospital Pharmacy Subgroups reviewed the innovation portal material and reflected the following comments.

4.1 Community Pharmacy Innovations

The Community Pharmacy Subgroup agreed that the flu vaccination service, which is part of the HSE's annual influenza vaccination campaign, is proving that pharmacists can provide a clear benefit to national healthcare in a structured and competent manner. This is further proven by the recent amendment to legislation SI 449/2015 (October 2015) to authorise pharmacists to administer two additional vaccines, namely pneumococcal and herpes zoster vaccines.

It was highlighted that other innovations by community pharmacists are on a local or individual level (e.g. anticoagulation clinics), therefore there is no formal structure for these services, and in the majority of cases these are being paid for directly by patients.

The Subgroup indicated that any technological advancements would be easy to integrate into pharmacies and would provide patient benefit with more efficient sharing of relevant information across settings.

The Subgroup concluded that there was evidence of many innovations occurring in community pharmacy, many in response to an identified patient need, and that new services are most useful if done in collaboration with other healthcare colleagues, who pharmacists can work alongside for the benefit of the patient.

4.2 Hospital Pharmacy Innovations

The Hospital Pharmacy Subgroup highlighted the benefits of the structured investment in antimicrobial pharmacists both in terms of patient care and cost savings. There are over 20 antimicrobial and 6 Hepatitis C Virus pharmacists now employed in Irish Hospitals. It was highlighted that barriers to specialisation for hospital pharmacists include:

- Lack of career structure.
- Capacity constraints resulting in pharmacists spending too much time dispensing and not enough time in patient facing roles.
- Lack of alignment to academic institutions.
- Lack of research and audit, which is seen in medical specialties.

The Subgroup concluded that specialisation is a necessary step for hospital pharmacy, and ultimately will have a positive patient impact which has already been proven in the antimicrobial area.

When pharmacists have worked in multidisciplinary teams (MDTs) they have worked well and their expertise and interventions are well received by other healthcare professionals. However, capacity constraints do not allow pharmacists to be as active in MDTs as they and their colleagues would like. The

patient benefits of a pharmacist carrying out medicines reconciliation was seen in many innovations, the Subgroup agreed that this should be standard in all hospitals.

The Subgroup indicated that there are valuable links with universities which are not necessarily being effectively utilised. The advancement of specialisation would allow pharmacists to carry out and be involved in more research like their medical colleagues.

The Subgroup concluded that the work being undertaken by hospital pharmacists' is impressive. The patient benefit can be seen in these innovations, although it seems to be hard to move past pilot stage for a larger scale roll out.

5. Conclusion

A principle of the Future Pharmacy Practice Project is to “be evidence based, outcome focused and practice informed”. This principle promotes the use of good research practice, which encompasses the following requirements for good services:

- Focused clear need.
- Large patient cohort.
- Resources in place to enable delivery.
- Patient satisfaction.
- Other healthcare professionals’ confidence in the service.
- Cost savings.
- Health benefits.
- Pharmacist competency.

The innovation portal had a high level of response from both hospital and community pharmacists demonstrating a healthy appetite for innovation and expanded services in Irish pharmacy. Many innovations were seen in the area of health and wellbeing, improving patient’s medication adherence and advanced practice/specialisation, and many were in response to local patient need. The most successful innovations contained the elements shown in the table below.

Elements of successful innovations submitted to the Innovation Portal:

- Focused clear patient need.
- Clear systematic plan of action.
- Embraced a large patient cohort providing for more meaningful/robust evaluation.
- Demonstrated patient satisfaction.
- Demonstrated confidence in the pharmacist by both patients and other healthcare professionals.
- Delivered cost savings.
- Delivered improved health outcomes.
- Demonstrated pharmaceutical competency.
- Collaboration with academic institutions.

The innovation portal showed a strong appetite amongst pharmacists to participate in pilots and research projects to expand and improve current practice. There is potential to build on these innovations and strengthen the evidence submitted, in order to inform policy decisions for viable roles and services on a national scale.

There is also scope to improve pharmacist skills, with regard to collecting and presenting data for services and innovations, and for their involvement in research, through Continuing Professional Development (CPD) and co-ordination of pharmacy research nationally. With a stronger focus on specific research initiatives and national data collection this could be aligned with research initiatives agreed with the Department of Health and HSE. Through this approach, robust evidence could be presented to enable the evaluation of the safety, efficacy and cost effectiveness of new pharmacy practice initiatives.

Specialisation in the hospital setting could also promote pharmacist's involvement in research and through the establishment of the Hospital Groups structure⁴, will enable collaboration with other colleagues to coordinate large scale research opportunities.



⁴Six Hospital Groups are being established to provide greater autonomy for providers of hospital care and allow hospitals to be more responsive to the needs of their locality. This structure places an accountable person as responsible for actual service delivery to a defined local population.

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