Vision for community pharmacy in Ireland
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Introduction

This report has been commissioned by the Irish Pharmacy Union (IPU) to emphasise the benefit community pharmacy can deliver to the patient and to the wider health system in Ireland. It builds upon recent reports in relation to the pharmacy profession and Irish health policy:

- In June 2016, the Dáil established the ‘Committee on the Future of Healthcare’ with the goal of achieving cross-party, political agreement on the future direction of the health service, and devising a ten-year plan for reform. In May 2017, the committee published its report, Sláinte Care. The report outlined the severe pressures on the Irish health service and the requirement for health services to be reoriented towards primary care.
- In November 2016, the Pharmaceutical Society of Ireland published a report; ‘Future Pharmacy Practice in Ireland Meeting Patients’ Needs’, which outlined the future role pharmacists could play as part of an integrated health system.

This report will outline the rationale for the funding of enhanced pharmacy-based services. It is based on successful international and domestic implementation of these services, demonstrating the benefits in terms of patient outcomes, reduced total care costs and, crucially, the additional capacity which can be released in more complex healthcare settings such as General Practice and Emergency Departments.

There is a need for change in how community pharmacists are utilised, which is determined by:

- The changing patient and population needs for healthcare, in particular the demands of an ageing population with multiple long term conditions;
- Emerging models of pharmaceutical care provision from the UK and further afield;
- The need to improve value through integration of pharmacy and clinical pharmaceutical skills into primary healthcare;
- The need for service redesign in all aspects of care for a financially sustainable health service.

In September 2017, the Department of Health undertook a public consultation as part of a review of health service capacity to the year 2030, which took into account factors such as current utilisation, unmet demand, demographic and non-demographic factors and future policy. The review will attempt to quantify the scale of the shortfall of healthcare professionals given the projected requirement. There is great untapped potential to bridge this gap in capacity and to improve care through the better use of the skills of the community pharmacy team.

1 NHS, Community Pharmacy Contractual Framework, Advanced and Locally Commissioned Services
2 ESRI: Projections of demand for healthcare in Ireland, 2015-2030: First report from the Hippocrates Model
Executive Summary

Irish people, as with populations in most developed countries, are living longer, with an average lifespan of 81.4 years.\(^3\) This phenomenon radically affects the demographic profile of the population with 88% growth in the 80+ years age category forecast over the next 15 years. This will have a profound impact on the demand for healthcare services, with the average cost of care for older persons being two to three times that of the average Irish person.

These growing health needs will be exacerbated by the high and growing prevalence of chronic diseases such as Cardiovascular Disease, Hypertension and Diabetes. By 2020, it is expected that 40% of the entire population will be diagnosed with one or more chronic diseases. Currently, management of chronic diseases accounts for 80% of all GP consultations and 75% of hospital bed days. This continued growth in their prevalence has ultimately resulted in a number of high profile crises in the public health service, and comes at a time when pressured public finances cannot sustain indefinite capacity increases.

Department of Health and Government policy approaches to tackling the rising demand for healthcare have determined that Ireland’s current reliance on acute hospital services to treat such conditions is neither in patients’ best interests nor financially sustainable in the medium term.\(^4\) In response to this, successive government policies have indicated that a radical change is needed in our approach to healthcare, with greater collaboration amongst a multi-disciplinary team of healthcare professionals practising to the top of their licence,\(^5\) and with the vast majority of this care delivered in the community. If these policies are to be implemented, primary care will require significant expansion in the coming years. Currently, GP services are undergoing significant strain largely caused by two key factors: 1) demand increases following the expansion of access to free GP care and 2) capacity constraints within the profession, caused by an ageing workforce profile.

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3 OECD Life Expectancy, 2015

4 HSE, Planning for Health, 2017

5 Houses of the Oireachtas, Committee on the Future of Healthcare, Sláintecare Report, May 2017

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Figure 1: Projected shortfall of GPs in Ireland based on forecast demand and supply

Note: the figure above shows the shortage that is expected if the expansion of free GP care is extended to the under 6’s and over 70’s by 2025, with no emigration of staff

Source: HSE, Medical Workforce Planning, Future Demand for Medical Practitioners, 2015 – 2025, PwC Analysis
A solution to this system-wide demand growth and constrained supply lies in the under-utilised network of Irish community pharmacies. The network of over 1,900 (PSI Annual Report 2016) community pharmacies provides an unparalleled opportunity to meet Ireland’s future healthcare demands within existing healthcare capacity and infrastructure. Pharmacists are highly trained, strictly regulated healthcare professionals who are trusted by the Irish public and have demonstrated success in providing new services such as the flu vaccination among other initiatives. They are experts in medicines, the most common healthcare intervention throughout the health system.

Modest investment in pharmacy-based services carried out in collaboration with GPs and within the professional scope of the pharmacist would free up crucial capacity in GP surgeries and achieve cost-efficient treatment across the continuum of care.

Such potential enhancements of the pharmacy service would include:

1. Improving equality of access to care;
2. Treating GMS patients for common ailments with non-prescription medication;
3. Supporting better use of medicines for those newly starting a medicine for a long-term condition;
4. Supporting people with long-term conditions, such as cardiovascular disease or asthma;
5. Improving the public’s health through helping to deliver screening programmes as part of a national health promotion strategy;
6. Provision of ‘stop smoking’ services.

Outlined below are five summaries of proposed services which could be implemented in Irish pharmacies. Evidence from domestic pilot projects and international case studies has been used to indicate the estimated cost of national implementation, outline the patient benefits and demonstrate the cost savings across the health system.

6 Behaviours and Attitudes Survey, Irish Pharmacy Union, 2017
### 1. Treatment of Minor Ailments

This service would allow identical access to medication for minor ailments as is currently enjoyed by private patients for forty different conditions such as headache, indigestion, constipation, diarrhoea and hayfever.

Patients would pay the standard existing €2.00 levy, without the need for a GP consultation.

- Equitable access to healthcare for both public and privately funded patients;
- Saves patients’ time because they do not have to attend surgeries which take them more time (e.g. GPs, GP out of hours (OOHs), walk-in-centres or A&E departments);
- Leads to a faster recovery and improved quality of life if they avoid having to wait for a GP appointment.

An estimated total of 947,806 GP consultations (approximately 91 GP WTE) are saved throughout the health system as well as significant unnecessary ED attendances.

### 2. New Medicine Service

A new medicine service is a structured pharmacist-led intervention, delivered within the community pharmacy setting, consisting of advice and support on medicine taking for a newly prescribed medicine for a specific chronic disease state, delivered within two weeks of commencing the medicine. Patients would be referred to the service by a GP or Pharmacist.

There is an initial consultation and follow up 7-14 days after where the patient can discuss medicine related issues, side effects and other queries. Patients are referred back to the prescribing GP where issues are observed.

This service is initially for conditions with a high rate of avoidable hospitalisation, such as asthma, COPD, Type 2 diabetes, hypertension, antiplatelet/anticoagulant therapy and statin therapy. The service can be further expanded to other conditions where non-adherence is an issue.

- Significant increase in the probability of adherence to the medication regime and thus better disease control throughout the population.
- Improved quality of life, and longer life expectancy.
- Decreased adverse events and hospitalisations.
- Reduction of medicines wastage.
- Improvement in quality of life.

Net saving of over €500,000 per year.

Estimated savings over a five year period amount to €2.5m.

Further HSE cost savings could be achieved as a result of the service identifying ineffective prescribed medicines, decreased hospitalisations due to adverse events and reducing medicine wastage.

### Figure 2: Overview of proposed enhanced pharmacy services

<table>
<thead>
<tr>
<th>Summary of proposed service</th>
<th>Patient benefits of service</th>
<th>Health system benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>This service would allow identical access to medication for minor ailments as is currently enjoyed by private patients for forty different conditions such as headache, indigestion, constipation, diarrhoea and hayfever.</td>
<td>• Equitable access to healthcare for both public and privately funded patients; • Saves patients’ time because they do not have to attend surgeries which take them more time (e.g. GPs, GP out of hours (OOHs), walk-in-centres or A&amp;E departments); • Leads to a faster recovery and improved quality of life if they avoid having to wait for a GP appointment.</td>
<td>An estimated total of 947,806 GP consultations (approximately 91 GP WTE) are saved throughout the health system as well as significant unnecessary ED attendances.</td>
</tr>
<tr>
<td>A new medicine service is a structured pharmacist-led intervention, delivered within the community pharmacy setting, consisting of advice and support on medicine taking for a newly prescribed medicine for a specific chronic disease state, delivered within two weeks of commencing the medicine. Patients would be referred to the service by a GP or Pharmacist.</td>
<td>• Significant increase in the probability of adherence to the medication regime and thus better disease control throughout the population. • Improved quality of life, and longer life expectancy. • Decreased adverse events and hospitalisations. • Reduction of medicines wastage. • Improvement in quality of life.</td>
<td>Net saving of over €500,000 per year. Estimated savings over a five year period amount to €2.5m. Further HSE cost savings could be achieved as a result of the service identifying ineffective prescribed medicines, decreased hospitalisations due to adverse events and reducing medicine wastage.</td>
</tr>
</tbody>
</table>
### 3. Blood Pressure Management

A pharmacist led blood pressure (BP) monitoring service is initiated by a GP and involves the pharmacists monitoring the patient up to six times a year over a 12 month period.

The pharmacist assesses the patient; counsels on CV risk; monitors BP; reviews medication and adjusts dosage where necessary.

- Reduction of systolic blood pressure by up to 18.3 mmHg.
- Lower systolic blood pressure ensuring lower risk of cardiovascular event.
- Reduction in admissions to hospital for a variety of issues arising from hypertension.
- More frequent contact with a healthcare professional to monitor wider health issues.

An estimated 71,600 cardiovascular events avoided in Irish population and an estimated saving of €1.36 billion over a 30 year period.

### 4. INR Testing

System-wide drug cost reduction is achieved by supporting and managing new patients using warfarin, rather than a reliance on high cost DOACs.

New and existing patients prescribed warfarin would attend a clinic in their local pharmacy for testing and monitoring rather than in a hospital outpatient setting.

- Large, immediate cost reduction due to patients currently being on warfarin compared to DOACs.
- Less invasive than venous blood test.
- Limits any increased burden on already overcrowded hospitals.
- Convenient and flexible access to testing in pharmacy.

Saving to health system by switching all patients to Warfarin from DOAC is €23.1m per year including costs of providing service.

### 5. Health Promotion and Smoking Cessation

Pharmacists would provide structured national health monitoring and awareness campaigns. A specific implementation case is that of smoking cessation services available for both private and public patients.

- Equitable access to healthcare for both public and privately funded patients.
- Ensures greater capacity utilisation of GP time.
- NRT with structured behavioural support is 10-25% more likely to increase the chance of success.

Over 35,780 GP hours saved per year. Which represents 17 GP WTEs. Significant long term savings due to the elimination of smoking related illness.
The vision for community pharmacy in Ireland proposed in this report is one whereby the network of community pharmacies act as healthcare hubs to achieve the following goals:

- Providing equal access to care for all Irish patients in the location that is most convenient for the patient;
- Supporting the prevention of illness and maintenance of health and wellness throughout the population;
- Utilising the most frequent patient touch-point across the healthcare continuum, collaborating with other healthcare professionals in an interdisciplinary way;
- Enabling the treatment of low-complexity illness in the appropriate setting;
- Freeing up strained capacity in higher complexity settings, in particular in General Practice;
- Making the most of limited financial resources.

The implementation and funding of the enhanced services outlined in this report would be a strong practical step forward in solving current health system crises and creating a platform for a new model of Irish healthcare built on community care, and with patient interests at its heart.

Source: Behaviours & Attitudes, Self Care in Perspective, January 2018

Note: May not add to 100% due to rounding
1. Ireland’s ageing population and growing chronic disease problem

In 2017, the public healthcare budget in Ireland is approximately €15 billion. This covers a broad spectrum of care across primary, hospital and social care. Over 46% of the population is covered by Medical and GP visit cards. Some examples of the estimated volume of care in 2017 are shown below.\(^7\),\(^8\),\(^9\)

<table>
<thead>
<tr>
<th>Hospital Care</th>
<th>Description</th>
<th>2017 Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Department</td>
<td></td>
<td>1.16 million</td>
</tr>
<tr>
<td>In-patient and day case</td>
<td></td>
<td>2.3 million</td>
</tr>
<tr>
<td>Outpatient</td>
<td></td>
<td>2.4 million</td>
</tr>
<tr>
<td>Primary Care</td>
<td>Medical &amp; GP Visit Cards</td>
<td>2.2 million cards</td>
</tr>
<tr>
<td>GP Consultations (2016)</td>
<td></td>
<td>23.3 million</td>
</tr>
</tbody>
</table>

Demand for healthcare in Ireland has seen significant changes over the last decade. The most significant driver of increasing demand over the coming years will be the rapid growth in Ireland’s ageing population, creating a radically changed demographic profile.\(^10\)

![Figure 5: Cumulative growth in population by age category in Ireland 2016 - 2030 and growth in pharmacy activity, 2015 - 2030](image)

![Figure 5](image)


<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2030</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCRS prescription items</td>
<td>73 million</td>
<td>106 million</td>
<td>44.4%</td>
</tr>
<tr>
<td>Pharmaceutical consultations</td>
<td>5.9 million</td>
<td>7.3 million</td>
<td>22.9%</td>
</tr>
</tbody>
</table>

Of this older population (i.e. those over 65 years), the largest growth over the next 15 years is expected to be in the 80+ years category, which will increase by approximately 88% from 2016 – 2031.

7 HSE, National Service Plan 2017
8 ICGP, 2014
9 NAGP, Pre budget submission, 2017
The impact of these dynamics in Ireland will be significant given that high growth age cohorts have a significantly higher requirement for healthcare services. The average cost of care for patients over 65 is more than twice that of the average Irish patient, and the average cost of care for patients over 80 years is more than three times; with these cohorts forecasted to grow significantly, this will have major and long lasting demand and cost implications for the Irish health system.\(^{11}\)

Another major driver of healthcare demand is the prevalence of chronic diseases. Chronic diseases are broadly defined as long-term, life-limiting conditions that are not acquired from someone else, which can be treated and controlled but not cured.\(^ {12}\) Chronic diseases include Arthritis, Asthma, Cancer, COPD, Cardiovascular Disease and Diabetes among others. These conditions are costly and time consuming to treat, and account for a significant proportion of healthcare budget and activity. In hospitals, chronic disease accounts for 40% of admissions and 75% of bed days,\(^{13}\) and overall it is estimated that three quarters of total healthcare expenditure is allocated to the management of chronic diseases.\(^ {14}\)
Vision for community pharmacy in Ireland
Prevalence of chronic diseases is rising rapidly in Ireland; by the year 2020, 40% of the Irish population will have at least one chronic disease. In terms of older patients, their prevalence is even higher at 62%, with many having multiple chronic diseases.\(^{15}\)

The growth in the prevalence of chronic diseases is driven by a number of factors, most notably increasing obesity and overweight prevalence in Ireland. Ireland’s obesity prevalence has grown by 342% in the last 40 years; the World Health Organisation (WHO) predicts that only one in ten Irish people will have a healthy weight by 2030 if no interventions are made.

In light of the scale and cost of the challenge of chronic disease in Ireland, there is growing consensus that the continued reliance on reactive hospital treatment is unsuitable for patients and unsustainable for the health service. The growing prevalence of chronic diseases coupled with growth in older patients with higher healthcare requirements will require a different approach to healthcare delivery to be implemented quickly, encompassing prevention and proactive management of these conditions.\(^{16}\)

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**Figure 9: Ireland’s growing obesity problem – a driver of chronic disease**

<table>
<thead>
<tr>
<th>1975</th>
<th>2014</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obese</td>
<td>Obese</td>
<td>Obese</td>
</tr>
<tr>
<td>Overweight</td>
<td>Overweight</td>
<td>Overweight</td>
</tr>
<tr>
<td>Healthy</td>
<td>Healthy</td>
<td>Healthy</td>
</tr>
</tbody>
</table>

Source: WHO: Nutrition, Physical Activity and Obesity, Ireland 2013, PwC Analysis

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\(^{15}\) HSE, Healthy Ireland – A Framework for Improved Health and Wellbeing 2013 – 2025, 2013

\(^{16}\) HSE, Medical Workforce Planning, Future Demand for Medical Practitioners, 2015 – 2025
2. Capacity constraints in the Irish health system

Ireland’s public health system is experiencing numerous crises related to capacity constraints, with wider public spending pressures resulting in:

- Successive hiring freezes;
- Limited capital budgets; and
- Healthcare professional recruitment challenges.

Aforementioned demographic growth exacerbates this problem, with older patients’ care accounting for 54% of inpatient bed days, despite them being just 13% of the population. The bed day demand growth forecast as a result of the growth in this cohort comes at a time when procedure waiting lists are at an all-time high. As of the 8th of August 2017, there are a record 687,000 people waiting for treatment in public hospitals, almost 15% of the total population of the country. The combination of health service demands and capacity constraints has led to crises in the system, most visibly in crowded Emergency Departments, with patients frequently waiting long periods on trolleys before being admitted.

The care setting and associated costs are inherently linked, with acute hospitals representing the highest cost, and community settings representing the lowest cost. International healthcare policy has reached a consensus which advocates that patients should be treated in the setting with the lowest complexity, usually closest to their home, with only high-complexity cases treated in hospitals. This policy has also been shown to be more cost effective and improve patient outcomes.

In line with this, health policy development in Ireland seeks to solve health system constraints by treating patients in community settings where possible. Policies have been consistent through the years, highlighting the issues in the Irish healthcare system and the need to treat patients at the lowest level of complexity:

- A larger ageing population with greater healthcare needs is an eventuality for the health system;
- Current care models will not be able to cope with current budget and capacity;
- Treatment should to be moved to a lower level of complexity and closer to the patient’s home where appropriate;
- Demand for GP care will continue to grow rapidly;
- A broader range of healthcare professionals will need to manage the health of patients in an integrated and multidisciplinary manner.

Figure 10: Indicative Illustration of Complexity of care and its cost

<table>
<thead>
<tr>
<th>Setting</th>
<th>Treatment</th>
<th>Associated Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute hospitals</td>
<td>Highly complex chronic patients</td>
<td>High cost</td>
</tr>
<tr>
<td>Secondary hospitals / General Practice</td>
<td>Moderate complexity Disease management</td>
<td>Moderate cost</td>
</tr>
<tr>
<td>Pharmacies and community care supports</td>
<td>Low complexity / self management of care</td>
<td>Low cost</td>
</tr>
<tr>
<td>Prevention</td>
<td></td>
<td>High cost treatment in complex settings is creating budgetary strain</td>
</tr>
</tbody>
</table>

Source: PwC Analysis
While enhanced and integrated primary care services have been identified as the solution to growing demand and capacity issues, primary care itself is witnessing large growth in demand due to demographics and policy changes. Older patients visit their GP on a more frequent basis; with this cohort expected to rise, this is likely to further strain GP capacity.

Since 2015, the Government has provided free GP Visit Cards (GPVC) to all children under six years and all adults 70 years and older. The introduction of these free GP services resulted in a notable increase in demand in the periods afterwards, with fees to GPs for out-of-hours services doubling for children under six years.

<table>
<thead>
<tr>
<th>Policy</th>
<th>Higgins report 2013</th>
<th>Future Health</th>
<th>Healthy Ireland</th>
<th>DOH statement of strategy</th>
<th>Slainte care</th>
<th>Rationale for expanded pharmacy services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater health equality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Where private patients access highly convenient and effective treatment in pharmacies currently, GMS / public patients should have equal opportunity to access these services, if needed.</td>
</tr>
<tr>
<td>Greater emphasis on illness prevention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Members of the public should receive information and support to maintain their health. Pharmacists are the healthcare professionals with the highest frequency of contact with the public and therefore uniquely positioned to execute health and wellness initiatives.</td>
</tr>
<tr>
<td>Re-orientation of care from hospitals into the community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ireland has a high number of pharmacies which are already embedded throughout Irish communities. This low-complexity setting already delivers proven low-cost care for private patients. If more primary care were delivered in pharmacies, it could allow a cascade of care to lower settings across the rest of the health service.</td>
</tr>
<tr>
<td>Achieving greater value for money for care delivery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pharmacies are the lowest-cost setting for healthcare delivery and represent underutilised healthcare capacity with no additional capital spend or recruitment challenges to overcome to activate services.</td>
</tr>
</tbody>
</table>

Primary Care – An increasingly important role in the future of Irish Healthcare

Figure 12: Primary Care facts and figures

- **Scale of primary care**
- **Primary Care Budget**: €3.6 billion
- **Medical Cards and GP Visit Cards**
  - Medical Cards: 1.67m
  - GP Visit cards: 528,593
- **Incremental budget required in 2017**: €75.2m needed for demographic change alone
- **6.5% increase 65 years +**
- **GP Consultation demand for children under 6 years will rise by 66% in 2017**

Note: PCRS = Primary Care Reimbursement Service
Source: HSE Planning for Health 2017, Primary Care Reimbursement Service, PwC Analysis

Figure 13: Trends in Out of hours payment fees after the introduction of free under 6 healthcare

- **0-4 years**
- **5-9 years**
- **10-14 years**
- **15-19 years**

Source: HSE Planning for Health, 2017 (Note: 0-4 years is HSE classification, no data available for 0-6 years).
This increasing pressure is having a negative effect on the service and profession.17

- GP list sizes of public and private patients are growing due to aforementioned healthcare demands;
- Waiting times are increasing for patients, with the National Association of General Practitioners (NAGP) reporting that GP waiting times had tripled from 2010 to 2015;
- Recently, only 30% of GPs were able to provide an urgent appointment in less than three hours, compared to 60% in 2015;
- Morale is seen as declining in the profession, with three times the number of GPs reporting morale as ‘poor’ or ‘very poor’ in 2015 compared to 2005;
- GP consultation demand for children under 6 years is expected to rise by 66% (843,000 additional consultations) in 2017, and increase by 42% further in 2022 (563,000 additional consultations).18

General Practice also has inherent constraints due to the ageing demographic of the profession throughout the country. The average age of a GP has increased to 49 years, with over a third of GPs over the age of 55 years.19

With this ageing workforce, there is also evidence of a significant ongoing undersupply of GPs in Ireland. By 2025, the predicted shortage of GPs in Ireland will be 1,121, (which can rise to 1,380 with high emigration) as a result of increased levels of access to free GP care, and shortfall in the numbers of GPs.

It is proposed by Government to extend free GP care to under 12’s and eventually to all under 18’s, with proposals for the gradual extension of free GP care to the entire population of Ireland. Implementation of proposed steps towards universal access to primary care will be critically dependent on GP capacity and wider support services in primary care.20

18 HSE Planning for Health 2017
19 HSE, Medical Workforce Planning: Future Demand for General Practitioners, 2015-2025
20 Healthy Ireland Survey, HSE Planning for Health 2017, Primary Care Reimbursement Service, PwC Analysis
Figure 15: Projected deficit of GP headcount, 2015 - 2025

Note: the figure above shows the shortage that is expected if the expansion of free GP care is extended to the under 6’s and over 70’s by 2025, with no emigration of staff.

Source: HSE, Medical Workforce Planning: Future Demand for General Practitioners, 2015-2025

Irish Independent

Shortage of trainee GPs adds to fears over ‘crisis’

Workforce planning is underway, but addressing skills shortages will take time to add the necessary supply. Therefore, reorientation of healthcare delivery is required to optimise the existing complement of health professionals. Community pharmacies can play a key role in this optimised health delivery immediately, particularly with regard to medicine related issues.

21 DoH, Health Service Capacity Consultation, 2017
3. Medicine as the predominant intervention in Ireland

Medicines are recognised as the most common intervention in health care. There are many complexities and risks associated with the use of medicines, both in relation to the dispensing of the correct dosage and adherence to medicine regimes. With their expert knowledge of the use and effects of medicines, pharmacists have a critical role to play in maximising benefits and minimising harm from medicine usage.

Medicines usage has increased worldwide and in Ireland at a steady pace, with over 75.1 million prescription items dispensed by pharmacists under Irish state medicines schemes in 2016. This volume of consumption is expected to grow. As more patients take a larger number of medicines, it is estimated that demand for medicines dispensed under the community drug schemes could increase by up to 44% by the year 2030. This demand is especially prevalent in older cohorts where 26% of patients already take more than five medicines a day.

With increased medicines usage, there has been an increase in adverse events resulting from incorrect medicine usage, with over 8% of all Emergency Department admissions being medicine-related. Risks are particularly apparent in cases of chronic disease, where non-adherence frequently leads to hospitalisation and, in the case of conditions such as asthma, even death.

Due to their frequent patient contact and depth of knowledge, pharmacists are best placed to manage, advise and monitor patients and their medicines usage, while working collaboratively with other healthcare professionals to ensure that their patients receive the best possible care.

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**Figure 16: Medication non-adherence rates for selected illnesses**

- COPD: 33%
- Schizophrenia: 52%
- Asthma: 67%
- Diabetes: 78%

*Source: Elliot R et al. Cost Effectiveness of Support for People Starting a New Medication for a Long-Term Condition Through Community Pharmacist: An Economic Evaluation of the New Medicine Service (NMS) Compared with Normal Practice, PwC Analysis.

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22 WHO, The Worlds Medicines Situation, 2004
23 HmR Data
24 ESRI: Projections of demand for healthcare in Ireland, 2015-2030: First report from the Hippocrates Model
4. Pharmacy services as a solution to health sector constraints

According to the PSI Annual Report 2016, there are 5,908 pharmacists on the register and over 1,900 community pharmacies. The combination of pharmacists’ knowledge of medicines coupled with the existing community pharmacy infrastructure offers a viable solution to the large and growing capacity crises in primary care. The pharmacy profession in Ireland is a highly qualified, strictly regulated profession with a young demographic profile, with over 75% being under the age of 45.\(^2^6\)

Pharmacy already plays a significant role in the local community, with over 1.6 million touchpoints between patients and community pharmacy per week.\(^2^7\) Ireland has an average of 3.9 pharmacies per 10,000 people, with pharmacies located in most communities in Ireland. The accessibility of pharmacy in Ireland is one of the highest internationally compared with other developed countries.

![Figure 17: No of GPs and pharmacists in Ireland](chart)

Health systems with a greater focus on primary care and / or a highly dispersed population typically demonstrate a high number of GPs and pharmacists per capita; Ireland however, has a large number of pharmacists per capita but a comparatively low number of GPs per capita. With the projected deficit of GP capacity in 2025, pharmacists are ideally positioned to take some pressures off the acute and primary care sector.

The combination of the widespread infrastructure of pharmacies, each with consultation rooms, combined with the high prevalence of under-utilised pharmacists is an ideal opportunity to free up capacity in primary care by treating lower complexity patients.

“Community pharmacists are enthusiastic to do more, to manage patients as well as dispense prescriptions, and we should help them to do more – to manage minor ailments, administer more vaccines, and do more medicine management and monitoring.”

Leo Varadkar, Minister for Health, 2015

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26 PSI Pharmacy usage and attitudes report 2016 Behaviours and Attitudes, PSI Register Data (August 2017), IPU Review of the Irish Community Pharmacy Sector 2015/2016: Measuring the contribution, PwC Analysis

27 Behaviours and Attitudes Survey, Irish Pharmacy Union, 2017
5. Patient attitudes to new services in Irish pharmacies

Pharmacists are recognised as the experts in medicines by the public and other healthcare professionals with pharmacists named as the most likely healthcare professional the public will consult for information and advice on medicines.

The Health Service Executive’s (HSE) campaign of “Making Every Contact Count” is an effort to capitalise on the contacts that patients have with frontline staff in the health service. It also attempts to ensure that all patients make healthy lifestyle choices and supports patients with chronic diseases, ensuring that every contact made is meaningful.

Recent survey results have shown the significant benefit that pharmacists provide to their patients, and how they are well trusted and perceived to be highly accessible.

Survey question:
When did you last visit a Pharmacist and when did you last visit a GP
N = 1014

<table>
<thead>
<tr>
<th></th>
<th>The Pharmacist</th>
<th>The GP</th>
</tr>
</thead>
<tbody>
<tr>
<td>within the past 2 weeks</td>
<td>64%</td>
<td>28%</td>
</tr>
<tr>
<td>within the past month</td>
<td>17%</td>
<td>52%</td>
</tr>
<tr>
<td>longer than a month</td>
<td>19%</td>
<td>52%</td>
</tr>
</tbody>
</table>

Source: Behaviours and Attitudes Survey, Irish Pharmacy Union, 2017, PwC Analysis

81% of patients visit a pharmacy at least once a month, compared to 48% of patients visiting a GP; these frequent patient contacts represent a huge opportunity for intervention and, with approximately 78 million patient touch-points per year, pharmacy could be used in a more structured and beneficial manner to alleviate issues in the health service.
Figure 20: Patient perception of Pharmacy

Survey question: Reason for such a high public perception of regular pharmacy (N = 1006)

- 97% Quality of Professional Service Received
- 96% Convenience for you
- 89% Quality of medical advice I get there

Source: Behaviours and Attitudes Survey, Irish Pharmacy Union, 2017, PwC Analysis

Figure 21: Patient views on healthcare professionals

Survey question: Thinking about your GP, your pharmacist, and hospital, which would you see as being… N = 1014

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>The Pharmacist</th>
<th>The GP</th>
<th>The hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Very accessible”</td>
<td>93%</td>
<td>61%</td>
<td>18%</td>
</tr>
<tr>
<td>“Easy to talk to about healthcare problems or issues I am facing”</td>
<td>78%</td>
<td>62%</td>
<td>10%</td>
</tr>
<tr>
<td>“Capable of managing day-to-day healthcare issues I may have”</td>
<td>83%</td>
<td>46%</td>
<td>7%</td>
</tr>
<tr>
<td>“Available at a time that suits me”</td>
<td>90%</td>
<td>42%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Source: Behaviours and Attitudes Survey, Irish Pharmacy Union, 2017, PwC Analysis

It is clear that patients trust pharmacists for their day-to-day healthcare issues and, where possible, use their services for advice associated with minor ailments and management of conditions. Accessibility means that patients can easily access information and direction without having to attend General Practice or Hospital unless absolutely necessary, alleviating strain in these settings.

Private patients already avail of many enhanced pharmacy services. However, for the 1.7 million patients who have a medical card, such services are unavailable to them, representing inequality of access to health services. Medical card patients must attend the GP surgery or other centres in order to avail of these services, whereas a private patient can directly attend their nearest pharmacy.
Irish patients have been receptive to previous expansion of community pharmacy services and there have been great success stories so far in the form of Influenza Vaccination, Emergency Hormonal Contraception and the involvement of community pharmacy in “Operation Transformation”.

**EHC Legislation**

The reclassification of Emergency Hormonal Contraception (EHC) in 2011 allowed private patients to purchase this medicine directly from pharmacists. From 2017, this service was also made available to Medical Card holders.

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Pharmacist Influenza Vaccination

Pharmacist vaccination services have been available in Ireland since 2011. As of the 2016/17 flu season, 78,945 people were vaccinated across 762 pharmacies. This is an increase of 26% on the previous season. A study has shown pharmacist led vaccination services leads to a higher vaccination rate, and services members of the public that had not received vaccination before.

Operation Transformation

In January 2015, the Irish Pharmacy Union (IPU) partnered with the popular RTÉ television programme “Operation Transformation”, to encourage viewers to “KnowYour Numbers”. This initiative involved recording BMI, waist circumference and weight measurements of the public, which took place in 670 participating pharmacies nationwide. 2,500 members of the public took part in the initiative, with 80% of these being female. 77% of participants were given lifestyle advice to improve their health, with nearly a third of these patients advised to return for follow-up health checks.

Survey results comparing Irish patients with 25,000 others globally indicated that the Irish public is more amenable to pharmacy services than other countries as demonstrated in global comparisons below.

- 59% of Irish patients would get a minor ailment diagnostic from a non-traditional healthcare provider compared to 44% globally
- 49% of Irish patients would get a blood or urine test from a non-traditional healthcare provider compared to 37% globally
- 41% of Irish patients would get stitches removed or wound treatment from another healthcare provider outside of a Doctor or Nurse compared to 31% globally.

Would you trust a non-traditional healthcare provider to: Note: percentage who said Yes

<table>
<thead>
<tr>
<th>Service</th>
<th>Ireland</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get a minor ailment diagnostic</td>
<td>59%</td>
<td>44%</td>
</tr>
<tr>
<td>Get a blood or urine test</td>
<td>49%</td>
<td>37%</td>
</tr>
<tr>
<td>Provide over-the-counter medicine</td>
<td>45%</td>
<td>42%</td>
</tr>
<tr>
<td>Provide immunisations or injections</td>
<td>45%</td>
<td>34%</td>
</tr>
<tr>
<td>Get stitches removed or wound treatment</td>
<td>41%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Source: Pharmacy usage and attitudes report 2016 Behaviours and Attitudes, PwC Irish Total Retail 2017 Study, PwC Analysis

Irish public and private patients have been shown to have a high level of trust in pharmacists and are more receptive to enhanced services delivered in the pharmacy, even more so than benchmark international countries, such as Australia, UK, USA and Denmark, to name a few.
And while Irish patients are more receptive to more treatment carried out in the pharmacy compared to their international counterparts, these counterparts have utilised their pharmacy profession and infrastructure far more effectively than Ireland. These examples are shown below:

**Figure 24: Examples of Community Pharmacy Services in other countries**

<table>
<thead>
<tr>
<th>Service</th>
<th>Canada</th>
<th>Australia</th>
<th>Netherlands</th>
<th>New Zealand</th>
<th>UK</th>
<th>Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Monitoring and Awareness</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✗</td>
</tr>
<tr>
<td>New Medicine Services</td>
<td>✔️</td>
<td>✗</td>
<td>✗</td>
<td>✔️</td>
<td>✔️</td>
<td>✗</td>
</tr>
<tr>
<td>Minor Aliment Scheme</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✗</td>
</tr>
<tr>
<td>Chronic Disease Management</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✗</td>
</tr>
<tr>
<td>INR Testing</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✔️</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

*Source: International Pharmacy Regulators, PwC Analysis*

Investment in specific services delivered by pharmacists in collaboration with patients’ GPs has been shown to alleviate pressures throughout the health system while delivering a cost effective service in a setting embedded in patients’ communities providing greater health outcomes.
Population health / self care
- The most effective way of tackling the rapidly rising level of chronic illness in Ireland is by preventing illness through structured awareness and education.
- Pharmacy’s high number of touch points and network embedded in the communities of Ireland means they have an important structural role to play in raising the level of overall health and wellness in Ireland and empowering patients to care for themselves.
- A key component of this is to allow equal access for all patients to the diagnostic knowledge, experience and skills in pharmacy, this can be achieved through the implementation of the Minor Ailment Scheme.

Primary Care
- In order for Ireland to meet the health demands of its rapidly ageing demographic, up to 95% of care will need to be delivered in Primary Care settings. This will require capacity-strained GPs to take on a greater share of care delivery, including more complex caseloads.
- Achieving this goal will require all health professionals to practice to the top of their licence to reduce this burden, with Pharmacy working in collaboration with GPs to help patients manage chronic illnesses such as hypertension and diabetes with structured monitoring and intervention.
- Rising levels of chronic illness, and thus medicine consumption, will exacerbate existing issues associated with high levels medicine non-adherence. Implementation of a New Medicine Service, will ensure greater adherence levels, improving medicines efficacy, patient outcomes and thus reducing the number of ED admissions and associated GP visits.

Acute Care
- Vital capacity in our acute sector can be freed up by shifting some routine services to pharmacies. INR testing and dose adjustment in collaboration with a GP’s care plan could achieve this while providing better patient experience and outcomes in rural and disadvantaged areas.

Specific examples of these services and the benefits they could achieve are outlined in the following section.
6. New pharmacy services propositions

Case Study 1: Treatment of Minor Ailments

Context / background:

Many conditions treated in primary care are low complexity in nature and can most effectively be treated with non-prescription medicines. Private patients access these medicines every day throughout Ireland supported by the knowledge and expertise of the pharmacist.

GMS patients, however, are required to make an appointment and visit a GP to receive a prescription to access the same treatment. This represents an inequality of access to convenient, low complexity care and also exacerbates existing capacity strains in primary care by generating an estimated 947,806 unnecessary GP consultations per year.

Proposed Service:

The proposed service would allow identical access to medication for minor ailments as is currently enjoyed by private patients for forty different conditions such as headache, indigestion, constipation, diarrhoea and hayfever. The service is structured as follows:

1. A patient presents at a pharmacy with one of the low complexity conditions listed below:

<table>
<thead>
<tr>
<th>Minor Ailments proposal in MAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Acne</td>
</tr>
<tr>
<td>• Allergic Rhinitis</td>
</tr>
<tr>
<td>• Athlete’s food</td>
</tr>
<tr>
<td>• Atopic dermatitis</td>
</tr>
<tr>
<td>• Chesty cough</td>
</tr>
<tr>
<td>• Cold sore</td>
</tr>
<tr>
<td>• Celiac</td>
</tr>
<tr>
<td>• Constipation</td>
</tr>
<tr>
<td>• Cough</td>
</tr>
<tr>
<td>• Cystitis</td>
</tr>
<tr>
<td>• Dandruff</td>
</tr>
<tr>
<td>• Diarrhoea</td>
</tr>
<tr>
<td>• Dry cough</td>
</tr>
<tr>
<td>• Dry eyes</td>
</tr>
<tr>
<td>• Dry skin</td>
</tr>
<tr>
<td>• Dysmenorrhoea</td>
</tr>
<tr>
<td>• Dyspepsia</td>
</tr>
<tr>
<td>• Ear wax</td>
</tr>
<tr>
<td>• Eczema</td>
</tr>
<tr>
<td>• Haemorrhoids</td>
</tr>
<tr>
<td>• Hay fever</td>
</tr>
<tr>
<td>• Head lice</td>
</tr>
<tr>
<td>• Headache</td>
</tr>
<tr>
<td>• Insect bites</td>
</tr>
<tr>
<td>• Migraine</td>
</tr>
<tr>
<td>• Mouth ulcers</td>
</tr>
<tr>
<td>• Nappy rash</td>
</tr>
<tr>
<td>• Nasal congestion</td>
</tr>
<tr>
<td>• Nausea/vomiting</td>
</tr>
<tr>
<td>• Oral thrush</td>
</tr>
<tr>
<td>• Pain</td>
</tr>
<tr>
<td>• Ringworm</td>
</tr>
<tr>
<td>• Scabies</td>
</tr>
<tr>
<td>• Teething</td>
</tr>
<tr>
<td>• Temperature</td>
</tr>
<tr>
<td>• Threadworms</td>
</tr>
<tr>
<td>• Travel Sickness</td>
</tr>
<tr>
<td>• Vaginal thrush</td>
</tr>
<tr>
<td>• Verucca</td>
</tr>
<tr>
<td>• Warts</td>
</tr>
</tbody>
</table>

2. Following consultation with the pharmacist, the patient is either a) referred to a GP or to a higher complexity setting such as an Emergency Department or; b) is supplied with a non-prescription medicine by the pharmacist to treat the illness, and is advised on the appropriate regime to manage the condition.

3. The patient either pays privately for the medicines (as happens at present) or pays a €2.00 prescription levy if they are a public patient.

Cost of service per patient | Benefits to patients and public | System Benefits
---|---|---
No additional cost. | • Equitable access to healthcare for both public and privately funded patients; • Saves patients’ time because they do not have to attend surgeries which take them more time (e.g. GPs, GP OOHs, walk-in-centres or A&E departments); • Leads to a faster recovery and improved quality of life if they avoid having to wait for a GP appointment. | An estimated total of 947,806 GP consultations (approximately 91 GP WTE) are saved throughout the health system as well as significant unnecessary ED attendances.

30 HmR Analysis 2017

IRISH PHARMACY UNION
Case Study 2: New Medicine Service

Context / background:
Medication adherence is a major global problem with non-adherence to medicines causing reduced quality of life, increased hospitalisations and, in some cases, premature death. A recent estimate sets the global economic impact of non-adherence at €270 billion. A high proportion of patients (up to 50%) in Ireland and worldwide do not take their prescribed medicines as directed; this is typically because patients often do not fully understand their medicine regime.  

The Pharmaceutical Society of Ireland (PSI) report, Future Pharmacy Practice in Ireland – Meeting Patients’ Needs, makes the following recommendations in regards to chronic disease management in the community setting:
- Pharmacists should be integrated into building the capacity for patients’ self-care and self-management of chronic diseases, including helping patients manage their medicines;
- Pharmacists should provide a structured patient education and adherence programme for newly diagnosed chronic disease patients to improve adherence and their health outcomes.

Pharmacists are best placed to deal with this issue, due to their expertise in medicines and their frequency of contact with patients, with 1.5 million touch-points between patients and community pharmacy per week. While all medicine should be taken as required, some conditions have a higher risk of serious events when medicines are not taken correctly, such as Diabetes, Asthma, COPD, anticoagulants, high cholesterol, and high blood pressure among others.

Currently, at-risk patients are given new medicines and counselled by their GP and pharmacist, but are not supported with a structured service through the crucial first weeks of their medicine, a time where uncertainty and confusion can cause many to take their medicines incorrectly. Pharmacists can be utilised for their knowledge and lead medicine adherence initiatives, leading to fewer adverse events and reduced requirement for complex and expensive treatment options.

The New Medicine Service (NMS) was first introduced in England in 2011. The concept for the NMS is based on findings from research showing that problems with newly-prescribed medicines appeared rapidly and were widespread, and that a significant proportion of patients on a long-term medication quickly become non-adherent. A review of this service conducted in 2016 found that, from the scheme’s introduction in 2011 to the end of August 2016, community pharmacists carried out 3.6 million NMS consultations, resulting in a 10% improvement in adherence to medicine regimes. In the long-term, the authors of the research suggest that £517.6 million cash savings to the NHS can be made, and 179,500 quality-adjusted life years will be gained from the NMS.

The Irish Pharmacy Union (IPU) conducted a NMS pilot in 2017 which demonstrated a 9% improvement which found that for 85% of all patients in the pilot, the pharmacist-led intervention resulted in a positive effect on medicines adherence. The number of patients achieving optimal adherence showed a 9% improvement from 68% to 77%, with 8% being referred back to their GP.

32 Pharmaceutical Society of Ireland, Future Pharmacy Practice in Ireland – Meeting Patients’ Needs, 2016
33 IPU pre-budget submission for 2018 Budget
34 Elliot R et al. Cost Effectiveness of Support for People Starting a New Medication for a Long-Term Condition Through Community Pharmacist: An Economic Evaluation of the New Medicine Service (NMS) Compared with Normal Practice, PwC Analysis
Proposed Service

When a patient is first prescribed a new medicine the patient is automatically referred to the “New Medicine Service” by their GP or pharmacist. The New Medicine Service is a structured service with the following steps:

1. The patient has an initial consultation with the pharmacist, where the pharmacist outlines all the issues and common questions regarding the medicine.

2. The patient has a follow up consultation with the pharmacist 7-14 days later, either face to face or by telephone where the patient can discuss any issues they are having, potential side effects, and device technique among others.

3. At any point if the pharmacist observes adverse patient outcomes or persistent non-adherence, they may refer the patient back to the prescribing GP.

This service is initially for conditions with a high rate of avoidable hospitalisation, such as asthma, COPD, Type 2 diabetes, hypertension, antiplatelet/anticoagulant therapy and statin therapy. The service can be further expanded to other conditions where non-adherence is an issue.

Figure 26: New Medicine Service

Review of impact of service

<table>
<thead>
<tr>
<th>Cost of service per patient</th>
<th>Benefits to patients and public</th>
<th>System Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>€30 per patient</td>
<td>• Significant increase in the probability of adherence to the medication regime and thus better disease control throughout the population.</td>
<td>• Net saving of over €500,000 and fee costs of €740,000 per year.</td>
</tr>
<tr>
<td></td>
<td>• Improved quality of life, and longer life expectancy.</td>
<td>• Gross savings of €1.24m per year.</td>
</tr>
<tr>
<td></td>
<td>• Decreased adverse events and hospitalisations.</td>
<td>• Cost saving for the HSE due to decreased adverse events and hospitalisations.</td>
</tr>
<tr>
<td></td>
<td>• Reduction of medicines wastage.</td>
<td>• Further HSE cost savings could be achieved as a result of the service identifying ineffective prescribed medicines and reducing medicine wastage.</td>
</tr>
<tr>
<td></td>
<td>• Improvement in quality of life.</td>
<td></td>
</tr>
</tbody>
</table>

*PwC Analysis

System wide costs

Estimated at €741,150 per year*
Figure 27: Estimated potential five year costs versus benefits of NMS for Irish patients

Cumulative in year benefits

Cumulative in year costs

€0m €1m €2m €3m €4m €5m €6m €7m

Year 1 Year 2 Year 3 Year 4 Year 5

+€2.5m
Case Study 3:
Blood Pressure Management

Context / background:
Worldwide, hypertension is the number one risk factor for disease and premature mortality. In Ireland, it is estimated that more than 950,000 (62.2%) adults aged 45 years and older have hypertension and its prevalence is growing. Hypertension is a leading modifiable risk factor for cardiovascular disease and estimated to be responsible for at least 45% of ischaemic heart disease mortality and 51% of total stroke mortality globally. Cardiovascular disease is the most common cause of death in Ireland; it is currently the cause of one-third of all deaths and one in five premature deaths, with about 10,000 people dying each year from cardiovascular disease at a treatment cost to the state more than €925 million a year.

According to recent studies, the risk of death from ischemic heart disease and stroke doubles with every 20 mmHg systolic or 10 mmHg diastolic increase among people from ages 40 to 89.

Proposed Service:
Pharmacist-led blood pressure management is initiated by the patient’s prescribing GP, with the pharmacist managing the patient over a 12-month cycle. The service will include the following roles, all of which are carried out in the pharmacy’s private consultation room:

- Patient assessment;
- Counselling of cardiovascular risk;
- Monitoring the blood pressure in pharmacy;
- Review of medications;
- Change and adjustment of medication (within a range set by prescribing GP);
- In the case of complications or adverse events, referral can be made to the GP or Hospital at any point where this is required.

Patients will visit the pharmacy up to six times a year in order to have their blood pressure monitored, medication reviewed, and dosage changed where required. They will only be required to visit a GP once every 12 months (once a patient has had no complications), and all dosage changes will be communicated to the prescribing GP.

This service in Canada has been shown to reduce systolic blood pressure by 18.3 mmHg resulting in a 21% reduction in risk of cardiovascular events such as Stroke, Myocardial Infarction, Angina and Heart Failure and an estimated saving of €1.36 billion over a 30 year period.


40 Euroheart II: European Cardiovascular Disease Statistics, 2012 edition


Review of impact of service

<table>
<thead>
<tr>
<th>Cost of service per patient</th>
<th>Benefits to patients and public</th>
<th>System Benefits</th>
</tr>
</thead>
</table>
| €30 per patient            | • Reduction of systolic blood pressure by up to 18.3 mmHg.  
• Lower systolic blood pressure ensuring lower risk of cardiovascular event.  
• Reduction in admissions to hospital for a variety of issues arising from hypertension.  
• More frequent contact with a healthcare professional to monitor wider health issues. | An estimated 71,600 Cardiovascular events avoided in Irish population and a saving of €1.36 billion over a 30 year period. |
Case Study 4: INR Testing

Context / background:

This service proposes pharmacy-based management of patients with Atrial Fibrillation who are at risk of venous thromboembolism, which is when a blood clot forms in the vein. These blood clots can result in serious cardiovascular events such as strokes and heart attacks. To prevent this, certain drugs, known as anticoagulants or “blood thinners”, are given to prevent such serious events from occurring. Warfarin is the most cost effective means of managing these patients; however, warfarin patients need constant monitoring. Where monitoring services are not easily accessible, they can be managed safely by their local pharmacy. Pharmacies are available in all areas including rural Ireland.

Newer, more advanced drugs, known as Direct Oral Anticoagulants (DOACs) are also available, but have significantly higher cost and also higher risks of mortality,43 with patients on these medicines having higher risks of irreversible bleeding events causing death.

Patients and the State therefore have to bear the brunt of these high cost medicines when it has been shown that patients can be managed stably if kept on the lower cost warfarin option.

Proposed Service

INR tests required for warfarin patient monitoring are currently performed in hospitals using venous methods. Tests can now be performed by using newer and less invasive technology in community pharmacy, a setting based in patients’ communities. Pharmacies therefore provide a valuable opportunity for all new patients to be tested and receive their medication in one location, whilst allowing cost savings to patients and the health service.

Over 8,800 new patients take blood thinners every year. By using a pharmacy-led service, new and existing patients would not have to attend hospital clinics for warfarin monitoring, nor be put at risk of irreversible bleeding from the more expensive DOAC medicines. It has been shown in Ireland44 and other countries45 that pharmacy-led INR testing is more effective and patients’ time in therapeutic range is higher, meaning they are at less risk of clots forming and serious cardiovascular events compared to traditional treatment.

The patient will attend the pharmacy at a scheduled time for their meeting with the pharmacist, undergo an INR test, receive their INR result and leave with their medication, all within the private consultation area of the pharmacy. This service would also be run in conjunction with the prescribing GP and, where issues arise, patients will be immediately referred back to their prescriber.

Review of impact of service

<table>
<thead>
<tr>
<th>Cost of service per patient</th>
<th>Benefits to patients and public</th>
<th>System Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>€30 per patient</td>
<td>• Large, immediate cost reduction due to patients being on warfarin compared to DOACs.</td>
<td>Saving to health system by switching all patients to Warfarin from DOAC is €23.1m per year including costs of providing service.</td>
</tr>
</tbody>
</table>

**System wide costs**

Yearly cost of patient on Warfarin service: €438.48 per year
Yearly cost of patient on DOAC service: €945.60 per year


45 Community Pharmacist-led Anticoagulation Management Service, Final Report, University of Auckland, 2011
Case Study 5: Health Promotion and Smoking Cessation

Context / background:
Healthy Ireland, A Framework for Improved Health and Wellbeing 2013-2025 sets out a comprehensive range of policies and strategies to address the major lifestyle risks that lead to chronic disease, such as tobacco use, physical inactivity and obesity. Pharmacy can help achieve these policies in three separate roles:

1. Information and awareness;
2. Prevention and early intervention;

Figure 29: Prevalence of smoking in Ireland compared to other selected nations, 2015

It is estimated that nearly 6,000 people are killed each year in Ireland by smoking with treatment costs more than €1.6 billion per annum and societal & welfare loss of more than €7 billion per annum.\(^46\) In total 41 conditions have a causal relationship with smoking, most notably cardiovascular disease, stroke, diabetes, and cancer. While there has been a 20% reduction in smoking prevalence between 2007 and 2015,\(^47\) Ireland still has a high prevalence compared to similarly developed regions such as North America, Australia, New Zealand and European countries such as the United Kingdom, Denmark and Sweden.\(^48\)

The Health Information and Quality Authority (HIQA) published a report on Health Technology Assessment of Smoking Cessation Interventions in January 2017. The report highlighted that there are inequalities in smoking cessation, such as smoking prevalence being highest and successful quit attempts lowest for smokers in the lowest socio-economic groups. The proposed service will address this inequality.

Overview of Service
The proposed service will provide information to all smokers and also allow medical card holders to access nicotine replacement therapy (NRT) and smoking cessation counselling from their community pharmacy, just as private patients currently do.

The safe supply of NRT requires significant professional input from the pharmacist, who, when supplying these medicines without prescription, conducts a private consultation with the patient in order to assess their reasons for smoking, their reasons for wanting to quit and also determining the appropriate NRT for that person.

The procedure for recording and documenting the service and claiming reimbursement of the fee and ingredient cost would be similar to the newly-introduced emergency contraception service, which is being performed to great success. It would involve the submission of Unified Claim Forms carrying the patient’s GMS number and signed by both the pharmacist who provided the service and the patient who received it.

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46 Department of Health, An assessment of the economic costs of smoking in Ireland, 2016.
47 HSE Smoking Prevalence Tracker 2016
48 WHO, Prevalence of tobacco smoking: Age-standardized prevalence of current tobacco smoking among persons aged 15 years and older, 2015.
49 HIQA, Health Technology Assessment of smoking cessation interventions, 2017
**Review of impact of service**

<table>
<thead>
<tr>
<th>Cost of service per patient</th>
<th>Benefits to patients and public</th>
<th>System Benefits</th>
</tr>
</thead>
</table>
| €11.50                      | • Equitable access to healthcare for both public and privately funded patients  
                              • Ensures greater capacity utilisation of GP time  
                              • NRT with structured behavioural support is 10-25% more likely to increase the chance of success* | 35,780 GP hours saved which represents 17 GP WTEs. |

System wide costs

€2.06 million

* Stead LF, Koilpillai P, Lancaster T. Does more support increase success amongst people using medications to quit smoking? Cochrane Review, October 2015
Conclusion

The population of Ireland is growing rapidly, particularly so in older age groups, such as over 65s, which can require as much as three times the healthcare provision as the average Irish citizen. These older populations coupled with the increasing prevalence of chronic diseases, and a severe overcrowding of hospitals and GP surgeries will put great strain on Ireland’s already pressurised health system.

In line with recent government policy, some healthcare services can be provided in the community by suitably trained healthcare professionals. As General Practice is predicting a deficit of up to 1,121 GPs by 2025, other healthcare professionals will need to support General Practice and reduce pressure on hospitals and primary care.

Investment in certain pharmacy services has been shown to be beneficial to patients and also cost saving to governments, and are well embedded in other countries such as the UK and Canada. These pharmacy services all involve the use of medicines, the predominant healthcare intervention used and of which pharmacists are the most experienced in this field. Modest investment in these services can lead to improved access of care, reduction in GP working time, prevention of future health events (many of which can result in mortality), and provide a cost saving to the health budget.

These modest investments have been shown to have the potential to save costs in the Irish Health system, both immediately (through Minor Ailment and INR testing) and into the future (through New Medicine Service, Nicotine Replacement and Blood Pressure Monitoring). All of these initiatives involve the Pharmacist working closely with the GP in a multidisciplinary manner, in order to provide a superior level of care to patients and a cost saving to the governments providing the healthcare.
## Appendix: Case Study Calculations

### Case Study 1: Treatment of Minor Ailments

**Calculation summary:**

**GP Capacity Release:**

- Number of one item Minor Ailment Prescriptions pa, per HMR data\(^1\) & 947,806 & \\
- Average GP consultation time, per ICGP average consultation time of 12 minutes\(^2\) x 0.2 & \\
- GP Hours avoided = 189,561 & \\
- GP WTE time, (8 hours per day, 5 days per week at 52 weeks) / 2080 & \\
- GP WTE avoided = 91 & \\

1. HMR data
2. ICGP

### Case Study 2: New Medicine Service

**Calculation summary:**

<table>
<thead>
<tr>
<th>Health system cost reduction of NMS Service (per Elliot et al, UK study)</th>
<th>Per Patient</th>
<th>Number of patients</th>
<th>All Irish NMS Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Care (e.g. GP, Nursing)</td>
<td>+ €10.32</td>
<td>X 24,705 =</td>
<td>€255,002</td>
</tr>
<tr>
<td>Secondary Care (e.g. Outpatient, A&amp;E, Day case)</td>
<td>+ €37.59</td>
<td>X 24,705 =</td>
<td>€928,781</td>
</tr>
<tr>
<td>Allied HCPs (In-person, home, telephone visit)</td>
<td>+ €2.17</td>
<td>X 24,705 =</td>
<td>€53,599</td>
</tr>
<tr>
<td>Total health system reduction per year</td>
<td>= €50.09</td>
<td>X 24,705 =</td>
<td>€1,237,381</td>
</tr>
</tbody>
</table>

**Cost of service delivery in pharmacy:**

| NMS Service Cost per year | €30 | X 24,705 = | €741,150 |

**Cost avoidance:**

| Net cost avoidance – short term per year (per Elliot et al, UK study)\(^3\) | €20.09 | X 24,705 = | €496,231 |

Note: This calculation is then made for all patients receiving the structured introduction programme over the five year period, to include all of the cost within the period but only the benefit accrued within those five years.

3. Elliot R et al. Cost Effectiveness of Support for People Starting a New Medication for a Long-Term Condition Through Community Pharmacist: An Economic Evaluation of the New Medicine Service (NMS) Compared with Normal Practice
Case Study 3: Blood Pressure Management

Calculation summary:

<table>
<thead>
<tr>
<th>Avoided Cardiovascular Events (as per Canadian Pharmacists Association BP Study)⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke                          + 17,567</td>
</tr>
<tr>
<td>Myocardial Infarction           + 34,781</td>
</tr>
<tr>
<td>Angina                          + 10,046</td>
</tr>
<tr>
<td>Heart Failure                   + 9,207</td>
</tr>
<tr>
<td>Total avoided CV events         = 71,600</td>
</tr>
</tbody>
</table>

Total cost avoidance over 30 year period = €1,362,630,418

Note: Avoided Cardiovascular events are over a 30 year period


Case Study 4: INR Testing

Calculation summary:

<table>
<thead>
<tr>
<th>Price of providing Service</th>
<th>Warfarin</th>
<th>Direct Oral Anticoagulants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly Ingredient Cost (as per M. Barry Report)⁵</td>
<td>+ €6.54</td>
<td>€73.80</td>
</tr>
<tr>
<td>Monthly Pharmacy Fee</td>
<td>+ €30</td>
<td>€5</td>
</tr>
<tr>
<td>Total cost of service per month</td>
<td>= €36.54</td>
<td>€78.80</td>
</tr>
<tr>
<td>Total cost of service per year</td>
<td>= €438.48</td>
<td>€945.60</td>
</tr>
</tbody>
</table>


Case Study 5: Health Promotion and Smoking Cessation

Calculation summary:

GP Capacity Release:

Number of one item GMS Nicotine Replacement Therapy Prescriptions pa, per hMR data⁶ 179,350

Average GP consultation time, per ICGP average consultation time of 12 minutes⁷ x 0.2

GP Hours avoided = 35,870

GP WTE time, (8 hours per day, 5 days per week at 52 weeks) / 2,080

GP WTE avoided = 17

Cost of service delivery in pharmacy:

Number of one item GMS Nicotine Replacement Therapy Prescriptions pa, per hMR data 179,350

Cost of service per patient x €11.50

Overall cost to provide all interventions nationwide €2,062,525

⁶ HMR Data
⁷ ICGP