



Greater Expectations

Pharmacy Based Health Care – The Future for Europe?





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Summary and Recommendations

Europe's network of 140,000 community pharmacies provides easy access to medicines to the entire population. It should be seen as an important health care asset for the future.

Primary care doctors and nurses are becoming more involved in treating people with complex needs in community settings. Community pharmacists in many parts of Europe are starting to provide extended pharmaceutical care services. As more effective medicines become available as pharmacy only products, pharmacists will play a more significant part in directly supporting self management and improving public health through preventive interventions.

Factors driving change include population ageing; rising public health expectations and health care costs; health service reforms; more transparent pharmacy payment systems; new diagnostic and allied tests; the mechanisation of dispensing; and the ongoing development of electronic prescribing and patient record systems.

Wider use of computer based information systems should in time enable pharmacists – with appropriate European patient permission – to see and contribute to integrated health records. This will help further to facilitate the provision of high quality care and support in community pharmacies.

Across six European countries – France, Germany, Greece, Poland, Sweden and the UK – half the general population is in favour of extending community pharmacists' freedom to supply people without prescription medicines without patients having to go to a doctor. Particularly strong support for this concept was found in Poland and the UK.

Two thirds of the European public believe that community pharmacies should be developed as alternatives to doctors' clinics, to allow people more choice about getting advice and treatment for common conditions. There was majority support for this in all of the countries where surveys were carried out, with the exception of France.

French patients have easy access to specialist doctors in the community, and normally carry both public and private health insurances. These permit them extensive use of both prescription and pharmacy medicines, with low experienced costs. French health and service user satisfaction statistics are amongst the best in the world. But the European Commission has recently challenged pharmacy ownership rules in both France and Germany.

In France (as in Greece and Germany) only pharmacists can own pharmacies, and chains are not permitted. In Greece there are about 1100 people per community pharmacy, compared around 2,500 in France, a little under 4,000 in Poland and Germany, 5,000 in the UK and 10,000 in Sweden.

Sweden has low prescription medicine distribution costs relative to the size of its market. The nationalised pharmacy chain Apoteket has provided relatively good pharmaceutical care services. However, the Swedish public's access to non-prescription medicines has been criticised. Plans are presently being drawn up to end Apoteket's monopoly and to introduce a more diverse system. To retain some of the key advantages of the present system, this could be based on competing chains of managed pharmacies.

In Germany pioneering attempts have been made by insurance companies to incentivise closer working between primary care doctors/general medical practitioners and community pharmacists. It is unlikely that public interests can be served efficiently and effectively in the absence of good working relationships between community pharmacists and other primary care providers. Maintaining and improving standards of collaborative working between medical practitioners and community pharmacists should be seen as a key developmental goal.

Poland is characterised by low overall health spending, and high patient payments for medicines. The public service mainly supplies generic medicines. Pharmacists in Poland can already supply many prescription medicines directly via protocol based arrangements, provided the purchaser pays the full cost.

Greece has relatively low medicine prices, and is a key 'parallel exporter' of pharmaceuticals to other parts of the EU. Greek community pharmacy appears to be highly valued by the public. But internally, Greece has not encouraged generic prescribing or given pharmacists powers to substitute low cost generics for more expensive brands. The research undertaken revealed fragmented primary care arrangements, and claims that questionable payments to doctors are commonplace.

Overall, 71 per cent of the European public interviewed agreed that there is a growing risk from counterfeit medicines. This concern should be more effectively addressed than presently appears to be the case. Otherwise it will further undermine trust in regulatory authorities, pharmacists and the medicines they supply.

Almost 70 per cent of the total European population expressed agreement with the view that pharmaceutical companies should be able to communicate directly with the public about medicines via regulated websites. As people become more educated and affluent they are likely to want freer access to information, and more equal relationships with health care professionals. European authorities should review inappropriately paternalistic and outdated regulatory approaches.

The UK has a strong system of clinical pharmacy in hospital settings. The NHS is seeking to build on this in the community, in part through options such as independent pharmacist prescribing. This may in time open up radical new service delivery opportunities. But in the immediate future developing better community pharmaceutical care in contexts such as repeat dispensing and the supply by pharmacists (where necessary via protocols) of medicines for common conditions are more important priorities. It is in the latter areas that British experience is most likely to have pan European relevance.

There are a wide range of opportunities for pharmaceutical companies and community pharmacy to work together to extend and improve pharmacy based care. Such partnerships should be explicitly aimed the improving public's health. They may primarily relate to the development of 'disease management' models that will help to ensure that community pharmacy can play a better integrated role in the overall process of health care delivery. But other opportunities exist in areas such as enhancing professional education, strengthening European medicines supply chain integrity, and strengthening doctor/community pharmacist working partnerships.

Contents

Introduction	7
A model for the future?	8
European public opinion on pharmacy's potential to deliver health care	9
Complementary data	12
Pharmacists' views	13
Community Pharmacy in the United Kingdom	13
Community Pharmacy in France	17
Community Pharmacy in Germany	19
Community Pharmacy in Greece... ..	23
Community Pharmacy in Poland	25
Community Pharmacy in Sweden	27
Partnerships for better care	30
Complementary business models?	30
Conclusion	35
References	36

Introduction

Across the European Union a total of some 140,000 community pharmacies, employing around a million pharmacists and other staff, dispense annually 5 billion prescription items and supply some 30 billion Euros (£20 billion) worth of non-prescription pharmacy treatments. They provide highly accessible medicines supply and health care advice and support services, in both rural and urban areas. Europe's pharmacy network contributes significantly to the safety and wellbeing of the public, and to prescribing quality. It is provided at an estimated cost (including pharmacy fees and product sales margins) of between 0.3 and 0.4 per cent of the Union's GDP.

The scale and value of this achievement, and that of the medicines wholesalers and manufacturers that efficiently underpin European community pharmacy, deserves recognition. As the European population's medicines related needs and health care expectations continue to evolve, the community pharmacy base represents an important asset for the future. It has the potential to deliver convenient and timely access to an increasing range of pharmaceutical products and health services designed to keep as many people as possible healthy for as long as possible, while also allowing pharmaceutical care for established conditions to be delivered safely and conveniently (Figure 1).

An extended provision of pharmacy based care and where appropriate pharmacist supported patient self management will further free the time of doctors and other primary care professionals to deliver relatively complex support for people living with difficult health and allied social care problems in the community. This should in turn enable hospital stays to be minimised and overall health care efficiency and effectiveness to be optimised. The ideal endpoint is greater consumer independence, coupled with enhanced health outcomes.

Pharmacists have typically acted as agents for health care funders. Their role has in large part been to buy medicines as cost effectively as they can and then to supply them at approved prices to patients. Across the Union overall pharmacy incomes have been derived from dispensing and professional service fees, together with the margins taken from both reimbursed prescription medicines and other goods purchased directly by pharmacy customers (Huttin 1996). Historically, the latter have been the dominant component of the community pharmacists' financial 'incentivisation', and even today there are parts of Europe where community pharmacy is totally reliant on this income source.

However, community pharmacists throughout Europe – like the pharmaceutical wholesalers supplying them and the pharmaceutical companies which discover, develop and make medicines – today face a number of challenges that threaten their 'traditional business model'. The forces now promoting changes in pharmacy include:

- **the emergence of managed health services**, which are in some contexts shifting responsibilities for assuring care standards away from health professionals. They are also seeking to drive down costs by not only moving care provision out of more expensive facilities, but pressing for better value for money throughout systems. As both public and private sector management capacities develop, so pressures have grown to make the earnings of community pharmacists more transparent and directly related to work done. Similarly, demands to minimise costs through supplying lowest possible overall price generic and other medicines are becoming progressively more intense. While some commentators see this as promoting the 're-professionalisation' of community pharmacy, many pharmacists may feel under increasing threat;

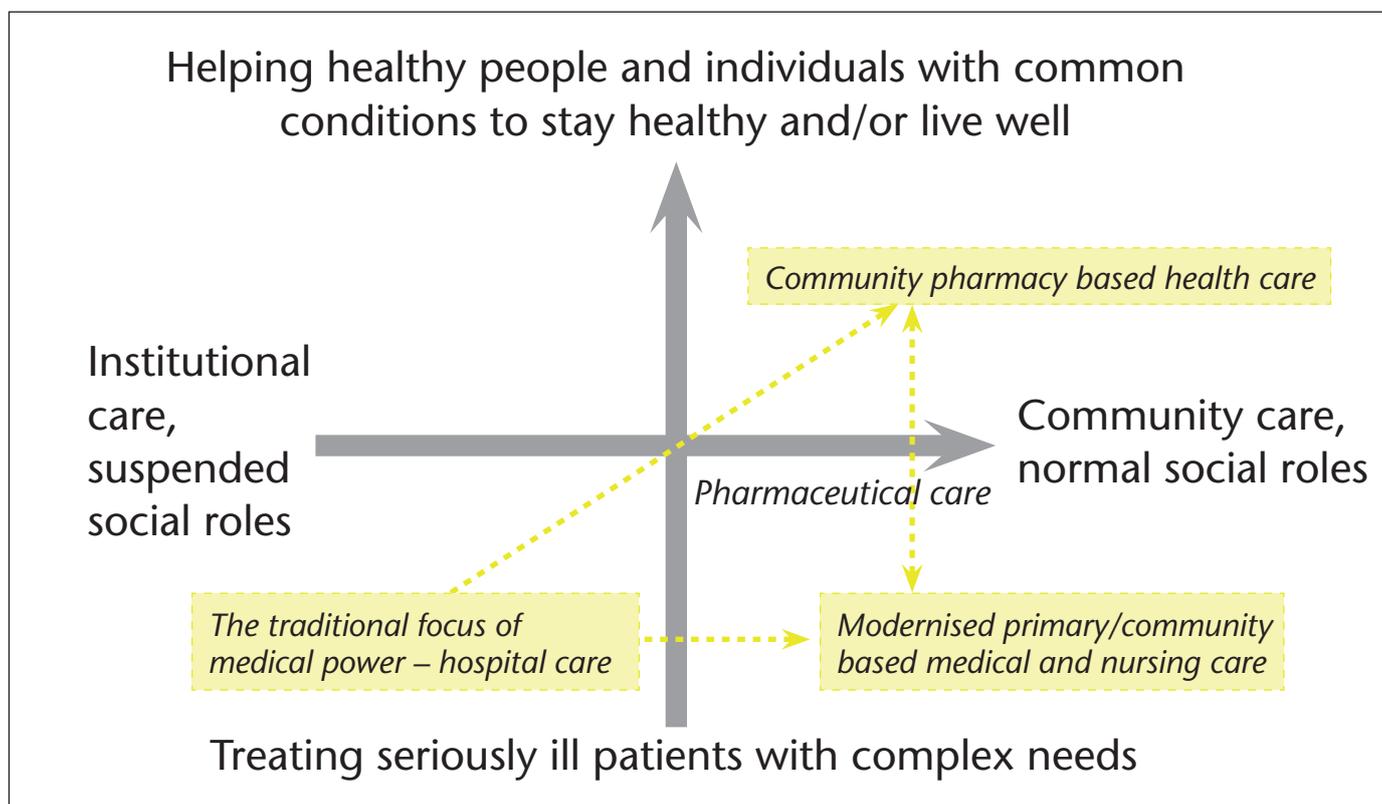


Figure 1. Twenty First Century Community Pharmacy Opportunities

- **pressures for ‘deregulation’ in areas such as pharmacy ownership.** Exceptions such as the UK have long allowed non-pharmacists to own pharmacies, and for chains of pharmacies to be established. But this is atypical. In major EU member states such as France the ownership of pharmacies remains confined to pharmacists, and the formation of chains (as distinct from federations of independently owned pharmacies) is prohibited. Organisations representing community pharmacists in such countries have argued that deregulation would in the ownership context undermine professional values and autonomy, and replace them with unwanted commercialism and managerialism. Norway is sometimes quoted as an example of a country where deregulation may from a pharmacy perspective have had some undesirable consequences (Vogler et al 2006). Yet some policy makers and sections of the public tend to see traditional community pharmacists as ‘merely shopkeepers’ (Coulter and Magee 2003);
- **the ongoing development of computer systems capable of supporting the automation of many aspects of medicines dispensing** and the electronic storage and transmission of not only prescriptions, but also medicines information and patient/customer health records. For instance, companies such as Medco in the United States – which claims to be the world’s most advanced pharmacy – operate centralised dispensing facilities, and supply made up prescriptions directly to patients’ homes and other locations. At the same time Medco employs some 700 expert pharmacists, whose roles include giving support to medicine users via telephone and the internet. Such options are now being actively explored in parts of Europe, including both Sweden and the UK;
- **pharmaceutical science and allied technical advances**, ranging from the introduction of new high cost treatments (which are today most likely to benefit relatively small numbers of people receiving hospital care) and innovative forms of risk factor and diagnostic testing. As the proportion of overall medicines spending associated with major therapeutic innovations designed for the use in the community declines, so opportunities for the provision of older pharmaceutical products in new formats, such as pharmacy only medicines, may increase; and
- **the emergence of new consumer requirements**, and changed health care needs at both the individual and the population levels. Europe’s population continues to age and – on average, at least – to become better educated and more used to affluence, while also more diverse. As a result, expectations of health and health care professionals are altering, sometimes in conflicting ways. Required standards of medicines and other forms of care safety are higher than ever before. Yet many people also want more personal autonomy with regard to selecting and accepting care, and greater service convenience. This presents new opportunities for service provision, alongside pressures to ‘modernise’ professional behaviours and concepts of professionalism.

The immediate pace of change in pharmacy should not be exaggerated. As experiences in fields such as, say, customer uptake of ‘over the counter’ (OTC) treatments for raised cholesterol levels in the UK (where simvastatin has been available as a pharmacy medicine since 2004), the public’s behaviour may be slower to alter than is sometimes expected.

But there can nevertheless be no doubt that European pharmacy is facing new circumstances.

In the context of British pharmacy, the actions being taken to respond to the changing environment range from reforms intended to strengthen regulation and accountability and to further develop pharmacy’s leadership, through to the introduction of pharmacist prescribing and the provision by NHS community pharmacists of medicines use reviews (MURs – see Box 1). It may broadly be said that UK pharmacy is – following the successful development of a clinical role in the hospital setting – moving to adopt a clinical care and public health improvement role in the community. It is also striving to retain a pivotal part in the safe supply of prescription and OTC medicines, partly through the more flexible use of non-pharmacy labour and technologies relevant to dispensing.

Box 1. Medicine Use Reviews (MURs)

Pharmacy delivered MURs were introduced as a nationally funded part of a new community pharmacy contract in England, first implemented in 2004. After a relatively slow start, over 14,000 community pharmacists have now been accredited to provide them. Current figures indicate that in the order of a million community pharmacy MURs will be conducted in the coming year.

Broadly defined, medication reviews can involve anything from evaluations of patients’ problems in medicine taking to much more detailed analyses of clinical care strategies and/or the delivery of complex behavioural support programmes. The English MUR model presently being purchased via PCTs (in Scotland, MURs are not directly funded) is aimed at the former rather than the latter. This is not always clearly understood.

Questions have been raised in relation to the practical value of MURs (as they are currently conducted) to general medical practitioners and patients. As yet it is uncertain how much they are contributing to medicines waste reduction and better therapeutic outcomes. However, there is evidence that in individual cases they are beneficial, and can even be life saving (Newbould and Taylor 2007). The introduction of MURs serves as a robust demonstration that community pharmacies and pharmacists can respond to new incentives, and acquire new skill sets.

A model for the future?

Against this background this report reviews the development of community pharmacy in five purposively selected EU member states – France, Germany, Greece, Poland and Sweden – relative to the UK’s experience. Drawing on additional information about community pharmacy elsewhere in Europe, it discusses the extent to which the British community pharmacy ‘experiment’ is likely to offer a model for the future which other European countries will adopt. It seeks to identify features of other pharmaceutical and wider health care systems that the UK might beneficially seek to emulate.

This study also considers the quality of the partnerships existing between community pharmacists and other primary care professionals such as family doctors and community based specialists, and the pharmaceutical companies which develop and supply medicines. With regard to this last area

the research question addressed was *'what do community pharmacists believe that research based pharmaceutical companies could and should do in the future to help them adapt to their changing environments?'*

The first section below describes the findings of quantitative research undertaken in the autumn of 2007 into public attitudes relating to pharmacy and European medicines supply. Following that, the next presents the findings of qualitative research undertaken amongst a total of 30 European pharmacists and pharmacy policy makers during the summer and autumn of 2007, together with information derived from a structured literature review.

The final section offers an analysis based on the aggregated findings of this study. It considers the future of European community pharmacy, and factors which could enable it successfully to build on its existing contributions to health and wellbeing in order to provide more convenient clinical care and better health outcomes in the twenty first century. However, before this, two final sets of introductory points deserve further emphasis.

First, community pharmacy cannot adequately be understood in isolation from the communities it exists to serve, and the funding, regulatory and organisational contexts in which it operates. Previous studies have highlighted characteristic differences between northern and southern European pharmacy, and between the models characteristic of the English speaking world as opposed those that typify central and eastern Europe. For instance, British pharmacy, like community pharmacy in the US and Australia, has throughout its history been less precisely defined in terms of its professional responsibilities than have its Germanic counterparts. UK community pharmacies typically offer what is in some European pharmacists' eyes a disturbingly wide range of non-medical goods and services. By contrast, German community pharmacies provide a more extensive range of 'natural' herbal and homeopathic treatments than that usually available British pharmacies. These differing traditions are accompanied by a degree of mutual disapproval.

Commentators such as van Mil and Schulz (2006), in their review of pharmaceutical care provision in Europe, also contrast the relatively large populations served by Scandinavian pharmacies as opposed to the much smaller ones served by French/Mediterranean model community pharmacies (Figure 2). However, pharmacy practice research has not always fully reflected the importance of sociological and economic variables defining not only pharmacy's wider environment, but also specific professional attitudes and activities. The approach taken in this report seeks to place community pharmacy within a wider context.

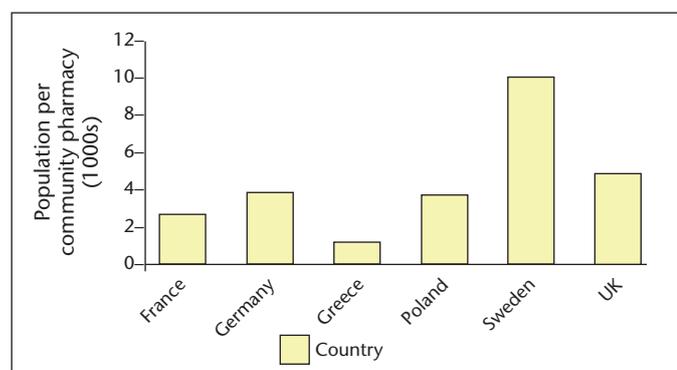


Figure 2. Estimated Population per Pharmacy, 2007

A second introductory point is that the opponents of community pharmacy 'deregulation' sometimes argue that its advocates

are motivated simply by 'commercialism', rather than by a wish to improve health. Yet criticisms of current professional arrangements have mainly stemmed from the OECD, the EU and national level competition authorities. (See, for example, Paterson et al 2003, Hameleers et al 2004). It has in the main been action taken at European level which has been the source of challenges to the pharmacy ownership regulations currently in place in France and Germany. Similarly, it was a judgement of the European Court of Justice (Neroth 2005) on the legality of Sweden's nationalised pharmacy monopoly Apoteket which led to plans for introducing new forms of competition there.

This is a complex area, which cannot be discussed in detail here. But it may be suggested that in sophisticated modern economies public interests are best protected by a judicious balance of regulatory control and consumer led competition. This is especially so in areas such as health care and medicines supply, where inappropriate patterns of consumption are likely to be harmful and in which service users are often unusually dependent on advice from 'agents' – the providers of the services they are directly or indirectly (through taxes or insurance) purchasing. Just as health service users are sometimes at risk of over-using treatments, the funders and providers of the latter are often at an at least equal and opposite 'moral hazard' of inadequately caring.

It would be misleading to suggest that it would ever be in the public's interest fully to deregulate a professional field such as pharmacy. Pharmaceutical products will always require licensing, and pharmacies and pharmacy systems demand appropriate levels of quality assurance. Yet as patterns of ill health and patient and consumer autonomy change such functions will require re-regulation. The aim of this should be to permit the most effective, convenient and affordable possible public access to information and medicines, and to ensure that goals such as ensuring public safety are not being pursued to a degree which is in reality undermining public health.

European public opinion on pharmacy's potential to deliver health care

The research reported here was aimed at providing up-to-date insight into European public beliefs about the potential of community pharmacists to act as medicines prescribers. A linked aim was to assess the degree to which there is support for the concept of developing community pharmacies as alternative places to general practitioners' surgeries and formal clinics for people to obtain advice about, and treatments for, common conditions. Following initial piloting in the UK, four questions were selected for use in surveys undertaken in each of the six EU member states examined during this research – France, Germany, Greece, Poland, Sweden and the UK. The survey work undertaken was commissioned from ICM Research – see Box 2.

A total of over six thousand members of the public were asked about the extent to which they agreed or disagreed with the following test statements:

1. *Assuming no extra patient costs, it would be a good thing if community pharmacists could prescribe a wide range of prescription only medicines without people having to go to a doctor.*
2. *I believe there is a growing risk from counterfeit medicines in Europe.*

Box 2 – ICM’s European public opinion research

ICM Research was commissioned by the School of Pharmacy, University of London, to interview random samples of at least 1000 adults in each of the following EU member states: France, Germany, Great Britain, Greece, Poland and Sweden. Interviews took place between August and November 2007. The survey in Greece was delayed because of the impact of the major fires that took place during the earlier part of this period. In all but the case of Poland a telephone based methodology was employed. But achieving a nationally representative sample of adults in Poland is not possible via telephone. For this reason a face to face approach was used. Interviews were conducted across all regions within each market and the results shown have been weighted to the profiles of adults within each country. ICM is a member of the British Polling Council and abides by its rules. Further information at www.icmresearch.co.uk

3. *In the United States pharmaceutical companies can provide information about prescription medicines directly to the public through regulated websites: personally, I believe this should be permitted in Europe.*
4. *Community pharmacies should be developed as alternatives to doctors’ clinics, so people have more choice about getting advice and treatment for common conditions.*

Their responses are shown in Figures 3-6 and Tables 1a-d. Support for permitting more pharmacist prescribing of prescription medicines stood at 49 per cent in the overall population of European respondents interviewed. Overall 20 per cent strongly agreed, and 28 per cent of respondents strongly disagreed, with the view that ‘*assuming no extra patient costs, it would be a good thing if community pharmacists could prescribe a wide range of prescription only medicines without people having to go to a doctor.*’

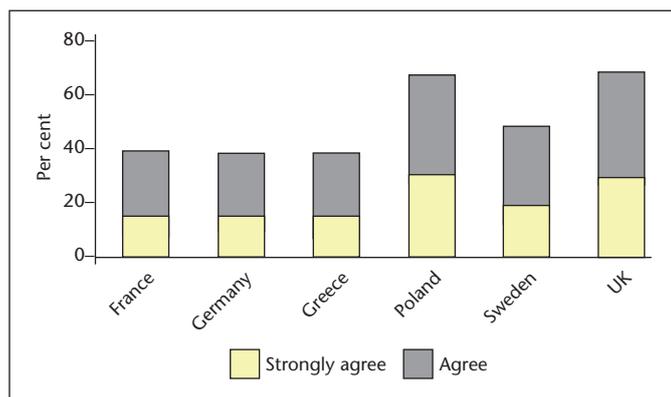


Figure 3. Levels of agreement with the statement ‘*assuming no extra patient costs, it would be a good thing if community pharmacists could prescribe a wide range of prescription only medicines without people having to go to a doctor.*’

At the national level only 38 per cent of Germans and Greeks and 39 per cent of French respondents agreed with this statement, as opposed to 47 per cent of Swedes, 66 per cent of Poles and 68 per cent of British respondents. These disparities may in part relate to levels of dissatisfaction with existing primary care arrangements. Barriers to access include factors such as charges

in the case of Poland and waiting times in the case of the UK. In the latter instance (as also so in Sweden) respondents were also more likely to have had prior exposure to the concept of pharmacists adopting an extended clinical role.

It is of note, however, that the Swedish population appears to be the most polarised in this context, with 44 per cent expressing strong disagreement with statement 1 (Table 1a). The reasons for this apparent division within Sweden are uncertain. Amongst the overall sample, men appeared to be marginally more likely to favour pharmacist prescribing of prescription only medicines than women. People aged over 65 were significantly less likely to agree with pharmacist POM prescribing than members of the working age population.

Turning to statement 4 – ‘*community pharmacies should be developed as alternatives to doctors’ clinics, so people have more choice about getting advice and treatment for common conditions*’ – the overall level of agreement is significantly higher, at 65 per cent (Figure 4). Once again British and Polish respondents were most likely to agree (at 78 and 75 per cent respectively). The French were least likely to agree (at 44 per cent). In the case of the German, Swedish and Greek populations approaching two thirds of the overall population expressed agreement with the idea of developing pharmacies as alternative centres for accessing health care and promoting public health improvement.– see Table 1b.

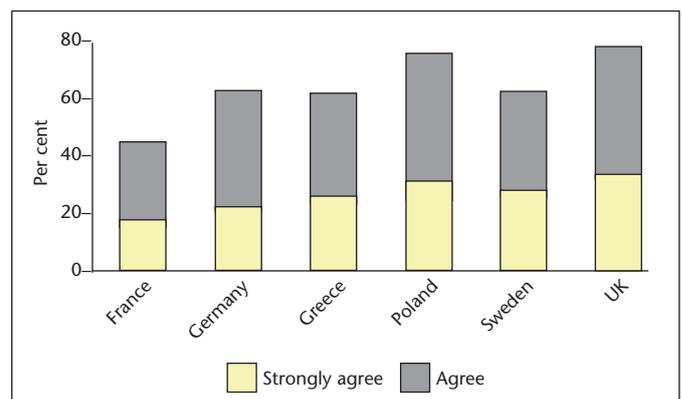


Figure 4. Levels of agreement with the statement ‘*community pharmacies should be developed as alternatives to doctors’ clinics, so people have more choice about getting advice and treatment for common conditions*’

People aged over 65 years appear, despite their relative lack of enthusiasm for pharmacist prescribing, to support this less radical development almost as strongly as their younger contemporaries. The probable implication of this is that providing they still have the assurance of doctor led diagnosis and prescribing when required, older people are content with the idea of obtaining more day to day care via pharmacies.

Figures 5 and 6 illustrate findings relating to the statements ‘*I believe there is a growing risk from counterfeit medicines in Europe*’ and ‘*in the United States pharmaceutical companies can provide information about prescription medicines directly to the public through regulated websites: personally, I believe this should be permitted in Europe.*’ Overall, 71 per cent of the Europeans interviewed believe that there is a growing risk from counterfeit medicines. Notably, 54 per cent of Germans strongly agreed with this statement, compared to only 19 per cent of UK respondents (Table 1c). This finding may reflect differing levels of trust in policing and regulatory agencies, together with other factors related to history, geography and the experienced freedom of movement across internal Union borders.

Table 1a. Percentages agreeing and disagreeing with the test statement ‘Assuming no extra patient costs, it would be a good thing if community pharmacists could prescribe a wide range of prescription only medicines without people having to go to a doctor.’

	France (No = 1005)	Germany (No = 1007)	Greece (No = 1250)	Poland (No = 1013)	Sweden (No = 1005)	UK (No = 1016)	Total No = 6296)
Strongly agree	15	15	15	30	19	29	20
Agree	24	23	23	37	29	39	29
Disagree	23	34	28	21	9	18	22
Strongly disagree	37	29	34	13	44	12	28

Table 1b. Percentages agreeing and disagreeing with the test statement ‘Community pharmacies should be developed as alternatives to doctors’ clinics, so people have more choice about getting advice and treatment for common conditions.’

	France (No = 1005)	Germany (No = 1007)	Greece (No = 1250)	Poland (No = 1013)	Sweden (No = 1005)	UK (No = 1016)	Total No = 6296)
Strongly agree	18	22	26	31	28	34	26
Agree	27	41	36	45	35	44	38
Disagree	20	22	24	18	9	13	18
Strongly disagree	35	14	14	7	28	7	17

Table 1c. Percentages agreeing and disagreeing with the test statement ‘I believe there is a growing risk from counterfeit medicines in Europe.’

	France (No = 1005)	Germany (No = 1007)	Greece (No = 1250)	Poland (No = 1013)	Sweden (No = 1005)	UK (No = 1016)	Total No = 6296)
Strongly agree	32	53	35	29	37	19	34
Agree	29	33	47	43	46	36	39
Disagree	17	11	14	23	8	18	15
Strongly disagree	20	3	4	6	9	5	8

Table 1d. Percentages agreeing and disagreeing with the test statement ‘In the United States pharmaceutical companies can provide information about prescription medicines directly to the public through regulated websites: personally, I believe this should be permitted in Europe.’

	France (No = 1005)	Germany (No = 1007)	Greece (No = 1250)	Poland (No = 1013)	Sweden (No = 1005)	UK (No = 1016)	Total No = 6296)
Strongly agree	28	25	34	35	33	26	30
Agree	36	39	34	47	31	41	38
Disagree	15	22	18	14	7	16	16
Strongly disagree	21	14	13	4	28	12	15

Finally, 68 per cent of the total population agreed with the statement suggesting that Europe should permit pharmaceutical companies to communicate directly with potential customers via their websites. In Poland just over 80 per cent of the population surveyed supported this view, while only 4 per

cent strongly disagreed with it (Table 1d). The country with the highest rate of strongly expressed disagreement is once again Sweden, with 28 per cent strongly opposing the proposition that pharmaceutical companies should be allowed more freedom to communicate directly with the public.

As with pharmacy prescribing, older people are less likely to approve of pharmaceutical companies being empowered to provide information about their products directly to the public than younger persons. On average, 73 per cent of the total population aged under 55 years favoured obtaining access to pharmaceutical company websites, with almost half of this group indicating that they strongly support such progress. Yet in the population aged over the 55 year threshold the proportion supporting European access to (regulated) pharmaceutical company information was in aggregate just under 60 per cent. This observed variance may in part be accounted for by age related differences in computer literacy rates, rather than variations in attitudes related to personal rights to information access.

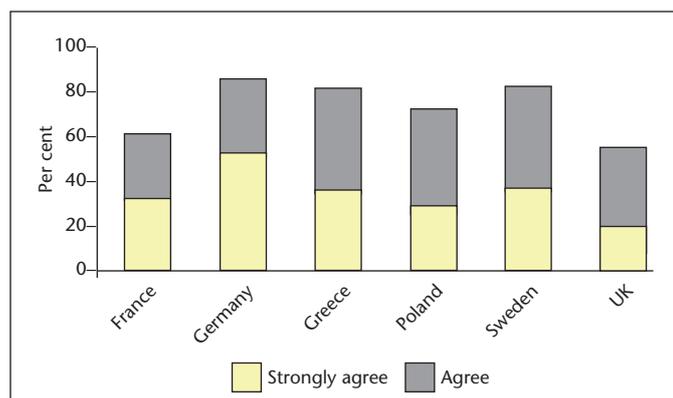


Figure 5. Levels of agreement with the statement 'I believe there is a growing risk from counterfeit medicines in Europe'

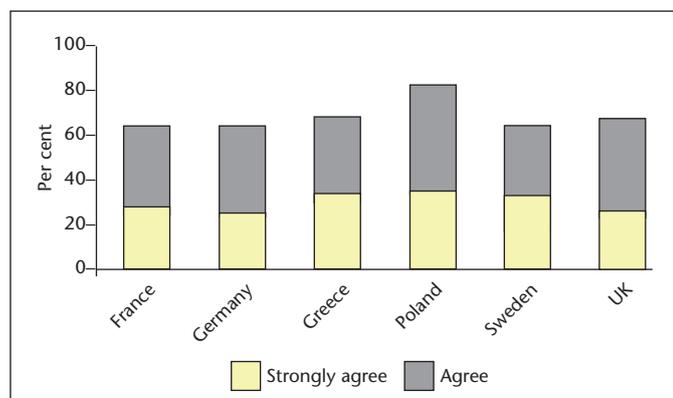


Figure 6. Levels of agreement with the statement 'in the United States pharmaceutical companies can provide information about prescription medicines directly to the public through regulated websites: personally, I believe this should be permitted in Europe.'

Complementary data

These findings could be taken to question the public acceptability of some aspects of current EU wide policy on controlling public exposures to pharmaceutical care related information which might influence treatment demand, or challenge aspects of traditional authority. It would require further research to explain why, for instance, the Swedish community (which may amongst certain sections of its population have a particularly 'collectivist' culture) contains a significant minority who are strongly opposed to both pharmacist prescribing of prescription medicines and enhanced public access to pharmaceutical company website

based advice and support. But it can be confidently concluded that the British and Polish populations are already very open to the idea that pharmacists should play an extended role in providing health care, and that this direction of future progress is, with the possible exception of France, generally favoured in all the nations surveyed.

As already indicated, the reasons why the UK and Poland seem to be especially in favour of extending pharmacists' roles may differ significantly. In Britain, for instance, there has been an extensive policy debate dating back to the 1980s, and the publication of reports such as the Nuffield Foundation's *Pharmacy* (Nuffield Foundation, 1986). This highlighted the potential benefits of professional change. Poland had yet to emerge from communist control in the 1980s, and even today health care provision there remains in a number of important respects unsatisfactory. Many Polish people have relatively limited access to newer medicines, and are more concerned about costs as a barrier to health care access than most of their peers elsewhere in the EU. Further, as described later in this report, a proportion is already used to purchasing prescription medicines directly from pharmacists working on a protocol basis.

Research published by the Picker Institute (Coulter and Magee 2003) offers further insight. For example, Figures 7 and 8 show that UK doctors were (when this investigation was undertaken in 2000/01) rated higher than others in Europe with regard to factors like listening to patients and explaining treatments. Yet both Polish and British patients were unusually dissatisfied with the choices available to them within their health care systems.

The Picker Institute in addition found that in countries such as Germany pharmacists are widely regarded as excellent information providers, and seen as providing an important safety check. There are some concerns about pharmacists being 'shopkeepers' influenced by commercial rather than professional incentives. Nevertheless, the belief that pharmacists should offer an independent check on prescribing safety could well, perhaps paradoxically, be one of the main reasons why a proportion of Europeans are as yet unwilling to accept that they should more frequently act as independent health care practitioners. Magee and Coulter concluded that 'European patients tend to react conservatively to suggestions that professional roles might change, but they readily adapt to these changes when they occur.'

In conclusion, the quantitative research findings presented above support the view that an increasing proportion of Europeans want pharmacists and pharmacies to play a more central role in health care provision. Given appropriate leadership, and informed support from other health care providers, community pharmacy is well placed to offer people innovative forms of pharmaceutical care as the twenty first century progresses.

The most significant opportunities for this presently seem to relate to meeting the needs of working age people who are seeking wider choice in, or easier access to, health care, and to tests and treatments in contexts where the perceived risk of iatrogenic illness is relatively low. But as new generations of older people with better health and a greater desire for personal autonomy emerge, they too may develop raised expectations of what can and should be delivered via pharmacy. The latter may increasingly offer clinical care alongside medicines supply, information and support for prescribing doctors and other professionals seeking to optimise medicinal therapy.

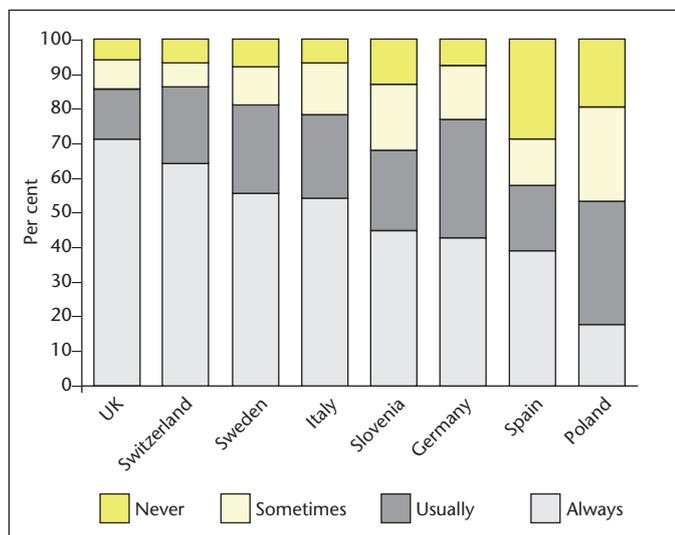


Figure 7. Responses to the question 'how often did the doctor involve you as much as you wanted in decisions about your care?'

Source: Coulter and Magee 2003

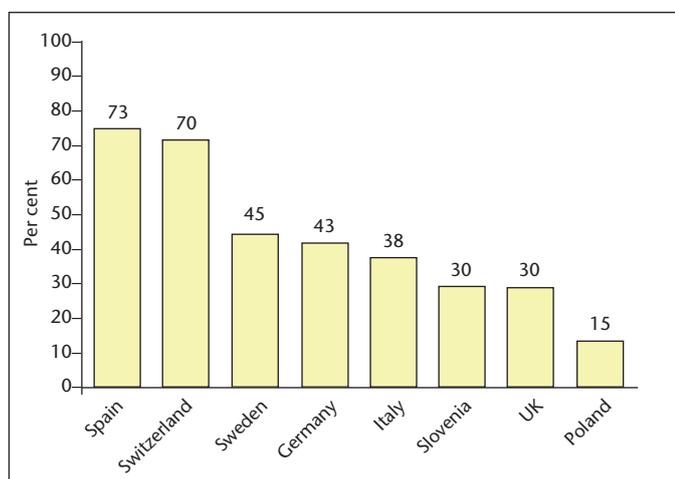


Figure 8. Proportions of adult communities rating opportunities for health care choice as good or very good in selected European countries.

Source: Coulter and Magee 2003

Pharmacists' views

The findings of a qualitative survey of 30 European pharmacists and pharmacy policy makers conducted during the Summer and Autumn of 2007 are reported below. This research was supported by a structured literature review, aimed primarily at identifying recently reported pharmacy practice developments in the five selected comparator countries – France, Germany, Greece, Poland and Sweden. An overview of UK developments is presented first. This offers an outline against which the views expressed and developments described by pharmacists working in other European settings can be considered. During the analytical process a large number of specific topics were identified. But for the purposes of this report the research findings and observations made are presented under five thematic headings:

1. The health care context in which community pharmacy services are provided. (This includes

topics such as health service funding, and patterns of primary care provision.)

2. Structural and regulatory dimensions of community pharmacy. (Payment systems, numbers of community pharmacies, ownership regulations, e-pharmacy developments etc.)

3. Pharmacy practice and patient care developments. (Including pharmacy prescribing of OTC and other medicines, the provision of health promotion and advice, the development of electronic care records and the impact of new dispensing technologies.)

4. Pharmaceutical cost controls. (Pharmaceutical price and spending controls, regulation of marketing and allied activities)

5. Future opportunities. (Including professional leadership issues; likely directions of professional role change; educational, professional and industry partnership opportunities.)

Community Pharmacy in the United Kingdom

The health care context

The United Kingdom is divided into four devolved administrations – England (covering approaching 90 per cent of the population of 60 million), Scotland, Wales and Northern Ireland. NHS structures and funding levels vary between the UK nations. But for the purposes of this report the remarks offered here will refer to the NHS in England, unless otherwise stated.

Following mounting concern about NHS funding limitations in the 1990s, public spending on health rose rapidly in the UK. In 2006 it accounted for 9.4 per cent of GDP. NHS spending was the main element of this total, at 8.2 per cent of GDP (OHE 2007). The NHS is the largest single health care organisation in Europe, employing well over one million people. However, the number of doctors employed and hospital beds provided is significantly below the equivalent figures for countries such as Germany and France. The limited availability of medical manpower may be one of the variables underpinning British efforts to extend community pharmacists' roles.

The NHS is (notwithstanding the existence of a nominal national insurance scheme) funded by central taxation. Services are purchased/commissioned from providers via (in England) Primary Care Trusts. PCTs are via the Strategic Health Authorities ultimately accountable to central government. They typically serve geographically defined populations of about 300,000. Despite some popular confusion about the significance of national insurance payments, the NHS is not an insurance system: there is no defined set of individual service entitlements. It was created in the late 1940s as a universally available service for the equitable delivery of (implicitly rationed) health care in relation to need. PCTs still often place emphasis on their duty to reduce inequalities in health, as distinct from optimising service user satisfaction.

A little over 10 per cent of the UK population also has private health insurance. Social care provision in England is means tested, although arrangements in Scotland and Northern Ireland differ. In England there have been recurrent tensions regarding what elements of care and support for older and other people with long term conditions such as dementia(s)

should be provided 'free' by the NHS or charged for, because they are provided via local government funded social services.

Most of the institutional providers of health care used by NHS PCTs remain publicly owned. However, newly established NHS 'Foundation Trusts' have a relatively high degree of independence. Within the traditional NHS culture there is often antagonism towards private sector service providers, and permitting additional 'top up' personal payments for services not regarded as adequately cost effective for mass provision.

Primary care doctors (general medical practitioners - GPs) and community pharmacists are contracted to the NHS at the individual practice and (independent or chain) pharmacy levels. Community pharmacists are regarded as working in the private sector, while GPs are more widely seen as integral to the NHS. It is not normally possible for NHS (or private) service users to access specialist care in the UK without referral by a primary care doctor/GP. Patients must be registered with their GP practices, but may choose any community pharmacy. General practitioner control of the gateway to secondary care provision is often regarded as significant strength in care management terms. But at a political level it has been criticised. It is on occasions seen as a cause rather than a reflection of restricted consumer choice within the NHS system.

Important changes to the national community pharmacy and GP contracts were made in 2004. The GP contract contains a Quality and Outcomes Framework (QOF), which means that a large element of practice income is dependent on being able to show evidence of good practice. Despite attempts to make community pharmacy incomes more transparent, and the introduction of three different levels of national and local payment in the 2004 community pharmacy contract, no provision equivalent to the QOF exists to promote pharmaceutical care development (APPG 2007). There are also no contractually based mechanisms for incentivising GPs and community pharmacists to work together in a complementary fashion. Levels of GP/pharmacy collaboration in the UK were described by one well placed respondent as '*variable, and down to personality and luck as much as anything else.*'

PCTs are not generally regarded by pharmacists (or other observers) as having prioritised a robust and comprehensive strategic approach to community pharmacy service commissioning. However, significant progress has been made in areas such as smoking cessation support (Brock et al 2007) and the employment of pharmacist prescribing advisors and allied staff in PCTs. These last are increasingly involved in promoting community pharmacy service developments. (See also Silcock et al 2004, Noyce 2007, Newbould and Taylor 2007.)

Structural and regulatory dimensions

Community pharmacy incomes in the UK remain largely dependent on NHS fees linked to dispensing volumes, coupled with the profit margins obtained from medicines supplied to NHS patients and OTC users. Community pharmacists in the UK are incentivised to obtain the largest discounts they can on medicines supplied to NHS users via an earnings claw-back scheme, the closest equivalent to which elsewhere in the EU exists in Holland. This has helped to make the UK (along with Germany) one of the two largest importers of parallel traded (patented) medicines in Europe.

Additional NHS community pharmacy fees have recently been introduced (in England and Wales) for conducting Medicine Use Reviews, and for local services aimed at public

health improvement. But these are not as yet a major source of income. In the Autumn of 2007 the reimbursement price levels for generic medicines were cut, and some professional fees were also reduced because community pharmacy NHS related profits had risen above target levels. This action can be linked to a more general European trend towards making pharmacy incomes more transparent, and less dependent on factors such as high discounts on generic and branded medicines. (Pharmacists said that generic medicine margins are often in the order of 100 per cent.)

In the UK (and the Republic of Ireland, where medicines wholesaling/distribution margins were cut sharply in the Autumn of 2007) anyone can own any number of pharmacies, and there are no restrictions on the opening of new ones. Yet to obtain an NHS contract in England an application must be made to the local PCT. Despite some regulatory relaxation in 2005, the latter normally has the power not to grant a contract if it is felt that a new pharmacy is not locally required.

There are in the order of 12,000 community pharmacies in the UK, each on average serving some 5,000 people. The total number of active (full and part time) community pharmacists is approaching 30,000, and the total additional workforce employed in UK community pharmacies is in the order of 80,000 (Patel 2007). These include both counter assistants and dispensing technicians: the latter are now registered and gaining increased dispensing responsibilities. There are considerable variations in the number of prescriptions dispensed by smaller as opposed to larger pharmacies. The 20 per cent of smallest volume pharmacies in Britain dispense 2,000 or less NHS prescription items per month, at which level their financial viability may be challenged. The largest 20 per cent of pharmacies (which are more often owned by chains, and are typically found in 'high footfall' locations) dispense 10,000 or more prescription items per month.

Internet sales of medicines are permitted in the UK. Legally, prescription and pharmacy products should only be supplied via registered pharmacies and with an appropriate medical prescription. In the context of over-the-counter medicines supply, the UK operates a three level licensing system of Prescription Only (POM), Pharmacy (P) and General Sales List (GSL) medicines, with the latter being available from any retail outlet. This again makes the UK different from much of the rest of Europe, where almost all medicines are supplied via pharmacies. OTC medicines in the UK account in total (including NHS funded supply) for 16 per cent of all community pharmacy medicines sales by value. Self purchased OTC medicines represent 12 per cent of the UK medicines market outside hospitals (AESGP 2007).

It is relevant to note that Holland (where patients are registered with pharmacies, and pharmacists are more clinically focussed than in many other countries – Box 3) provides an example of another exception to the more common rule, that medicines are normally only available via pharmacies. In The Netherlands separately located druggists have traditionally supplied over-the-counter products, although recent reforms are changing this arrangement.

It is also important to record that in the US there is presently no P medicines category. This underlies some significant prescribing and medicine pricing variations between America and Europe. A British pharmacist with an interest in this area commented '*they (US authorities) are beginning to wake up to what they are missing by not having pharmacy only medicines – the FDA has recently made some proposals. It has all been rather slow (with respect to recent PoM to P classification switches in the UK) but if the Americans come in it could really drive it.*'

Box 3. Pharmacy in The Netherlands

Pharmacists in Holland have traditionally had six years of pre-qualification training and education, to a level of expertise comparable to – and in some ways superior to – that of medical graduates. Despite relatively high levels of GP dispensing in Holland, pharmacists there play an important role in setting and assuring therapeutic standards in community settings. They are also empowered to make generic substitutions for branded medicines, when this is not specifically prevented by the prescribing doctor. Key characteristics of Dutch community pharmacy include:

- high levels of ‘extemporaneous’ dispensing – around 6 per cent of all prescribed medicines are made in the pharmacy;
- high populations served per pharmacy. There are about 8,000 people per pharmacy in The Netherlands, compared with 5,000 in the UK and about 2,500 in France; and
- an extensive use of qualified technicians in dispensing and allied roles, leaving pharmacists free to contribute to clinical care.

There are few large primary care medical practices in Holland – there are still significant numbers of single handed primary care doctors. Recent Dutch reforms have permitted the ownership of pharmacies by non-pharmacists and corporate bodies. Other regulatory changes have also served to reduce the discount levels pharmacists are able to enjoy on medicine purchases. Such developments suggest that pharmacists in Holland must, like their professional peers elsewhere in the Union, continue to extend their roles in ways that add increased value to medicines taking, and serve cost effectively to improve the public’s health.

Pharmacy practice developments

The established tasks of community pharmacists in the UK centre, as in the rest of Europe, on supplying medicines safely to the public. This is in part done by identifying possible contra-indications and correcting medical prescribing errors. Pharmacists also have a generally accepted diagnostic and therapeutic role in the context of recommending over-the-counter medicines and other non-prescription treatments, and supporting self care.

The perceived social status of community pharmacists in the British social and health care environment is below that of GPs. This can create communication difficulties. But most pharmacists say that they are normally able to communicate concerns about patient safety and wellbeing effectively to doctors.

With regard to extending pharmacists’ health care roles, it has been officially recognised (as it has in other EU countries) that one major way forward lies in extending the range of P medicines available. However, additional NHS community pharmacy practice innovations promoted during the past decade include:

- **new repeat dispensing arrangements.** The initial impact of the changes made in this area was limited. But they are leading to a more convenient pharmacy

led process for supplying and monitoring patients with long term conditions, which may also effectively reduce medicines wastage;

- **Patient Group Directions (PGDs) and supplementary pharmacist prescribing.** These are variants of protocol prescribing (Emmerton et al 2004), which (like the practice of clinical pharmacy in ward and other hospital settings) is relatively advanced in the UK as opposed to most other parts of Europe. In essence both permit pharmacists to provide POM medicines directly to patients within frameworks agreed locally with doctors;
- **independent pharmacist prescribing (IPP).** This involves community pharmacists acting – as do already some community based nurses in the UK – as autonomous health care practitioners, capable of diagnosing conditions and authorising patient access to prescription drugs. Independent prescribers work in parallel with, rather than under the supervision of, the medical profession. IPP is therefore a potentially important innovation, although as yet it has not been introduced on a significant scale;
- **extended provision for technician dispensing** in the community context. This has been a controversial area, and in certain respects Britain has lagged behind EU states such as Holland and Sweden in respect to permitting non-pharmacists to take on increased responsibilities for dispensing within pharmacist managed systems. However, there is now progress in this direction;
- **electronic prescribing, and the electronic transmission of prescriptions (ETP)** and, in future, patient’s electronic care records from doctors’ surgeries to community pharmacies or large scale ‘dispensing warehouses’. The UK primary care system is already highly computerised, compared to primary care medicine in countries such as the United States and Germany (The Commonwealth Fund/Health Affairs 2006). The NHS is now midway through a major centrally directed information technology programme. This will eventually link all hospitals, medical practices and other NHS facilities in order to allow the instant transmission of patient records and test results of all types, and provide a better inpatient care booking system. ETP is already partially in place, although the extent to which and terms upon which community pharmacists will have access to patient care records remains uncertain; and
- **other developments relevant to the further development of pharmacist provided health care in the community.** These include ‘minor ailments’ schemes (designed to allow pharmacists to relieve GP workloads without imposing additional costs on service users); CVD risk factor, diabetes, Chlamydia and other screening programmes; emergency hormonal contraception supply programmes; services for drug misusers, including supervised methadone supply and needle exchanges; smoking cessation support; and out-of-hours care services.

The latter provisions are almost all locally funded, on a highly variable basis. But for the purposes of this summary description the point to stress is that they are becoming more widely available. NHS policy on community pharmacy is aimed at developing what has sometimes been regarded as ‘an under-used resource’ into a more clinically oriented ‘front line’ primary/public health care provider (see, for instance, *A Vision for Pharmacy in the New NHS – DoH 2003* – and *Choosing Health through Pharmacy – a Programme for Pharmaceutical*

Public Health – DoH 2005). UK pharmacists interviewed for the purposes of this research recognised and in the main approved of this direction of travel. Nevertheless, some respondents also expressed concerns about the continuing financial viability of community pharmacy, were its main income base to shift away from medicines supply. They also questioned the ability of a proportion of the profession to take on a significantly extended health care role without further investment in education and training.

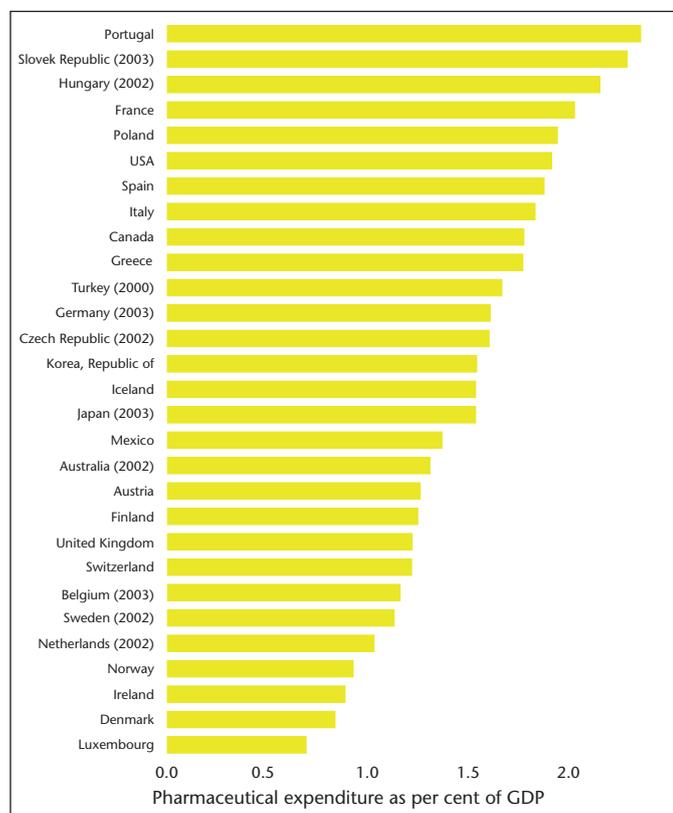


Figure 9. Spending on Prescription and OTC Medicines at Manufacturers' Prices, expressed as a percentage of GDP, circa 2004

Source: OHE 2007

Pharmaceutical cost controls

In manufacturers' price terms, total UK spending on medicines (including OTC products) stands at 1.2 per cent of the GDP (OHE 2007). This is low in European terms (Figure 9). About 12 per cent of NHS outlays are accounted for by community pharmacy costs, including medicine purchases and professional fees. This proportion has fallen in recent years.

All EU member states have different approaches to controlling pharmaceutical prices and spending. In the UK the Pharmaceutical Price Regulation Scheme (PPRS), which is internationally unique, limits pharmaceutical company profits on medicines supplied to NHS to given ceilings, after allowable research, marketing and other costs have been deducted. It has effectively allowed for free pricing of new products, partly balanced by downward price pressures on companies' other products.

The official prices of patented pharmaceuticals in the UK have often been higher than the European average level. But this has been accompanied by high levels of parallel importing, low rates of new product prescribing and high (80 per cent plus) levels of generic prescribing by family doctors (OFT

2007). The voluntary acceptance by British doctors of generic prescribing (and frequently molecular substitution, when significant savings can be made) explains why the UK has not moved to permit generic or other forms of substitution by community pharmacists.

The high use of pharmaceutical parallel imports from European countries with lower officially defined medicine prices has in part been facilitated by a highly concentrated and professional wholesaling system. (Wholesaling companies can own pharmacies, and have arguably become increasingly dominant 'players' in the pharmaceutical sector.) This is supplemented by the activities of smaller licensed traders. A proportion of community pharmacies are also licensed parallel traders.

British pharmaceutical price and cost controls are in part supplemented by prescription charges. About 80 per cent of NHS prescriptions issued are exempt from charges because of factors such as patients' ages. But for the remainder a flat rate charge of around 10 Euros per item is applied, and collected via community pharmacies. In instances where the cost of the medicine concerned is below that of the charge patients can elect to purchase privately, if in the case of POMs a private prescription can be obtained.

The impact of the PPRS has also been augmented since the end of the 1990s by the creation of NICE (now the National Institute for Health and Clinical Excellence) and similar bodies. NICE is an NHS agency that conducts health economics based analyses, and makes recommendations as to whether given products supplied at given (PPRS permitted) prices should be regarded as cost effective by NHS purchasers and providers. Its recommendations are not legally binding. But NICE judgements may effectively block the introduction of, or stop NHS prescribing of, products not thought to offer sufficient 'value for money'.

Future opportunities

Alongside the changes outlined above, the UK government has (in part because of recent scandals involving poor professional practices and in one unique case – the 'Shipman murders' – large scale crime) introduced a series of reforms aimed at changing the powers of health sector professional bodies. Observed against the background of new forms of consumer representation in the English NHS, these may be seen as consistent with other reforms aimed at creating a more robustly managed, centrally directed yet locally responsive, national health care system.

In the case of pharmacy, proposed changes have included creating a new General Pharmaceutical Council to undertake regulatory and disciplinary functions outside the ambit of the established professional body, the Royal Pharmaceutical Society of Great Britain. There has also been controversy about the future of the latter body, with some state linked and independent interests calling for a movement away from 'sectional representation' towards 'altruistic professionalism'.

Such developments have added an extra dimension to the UK policy debate about the future of pharmacy. To the extent community pharmacy in England is leading European change, this is in large part because NHS and related government authorities are trying to establish new patterns of practice. This positive external pressure may overcome barriers to change based on understandable professional fears.

The relationship between community pharmacies and pharmaceutical companies has traditionally been based on

shared business and health values. Some pharmacists (in the UK and elsewhere) say that they see regulations surrounding areas like pharmacy ownership and prescription (as opposed to OTC) medicines advertising restrictions as having been put in place to prevent pharmaceutical companies from undermining their professionalism. But there are examples of disease management and allied initiatives funded by the pharmaceutical industry that have successfully involved pharmacists, and contributed to the development of their clinical skills. British pharmacy respondents identified this area as a possible way forward for companies seeking to build new links with community pharmacy.

Community Pharmacy in France

The health care context

The French health care system was recently named by the World Health Organisation as the best in the world in terms of access to and choice of specialists for patients, clinical quality and public satisfaction. There is notably rapid access to specialist care. Total health spending in France stands at about 11 per cent of GDP (OECD 2007), of which 80 per cent is accounted for by public expenditure. (The equivalent figures for Sweden and the UK are closer to 90 per cent. In Germany the public share of health spending is roughly the same as that in France, while in Poland it is 70 per cent. In Greece little more than 40 per cent of health outlays are classified as public spending.)

Like the UK, France has a total population of about 60 million. Average life expectancy for women is the longest in the EU, at 84 years. The French National Health Insurance system (NHI) was first established in the 1930s, and now (notwithstanding the recent removal of funding for unemployed non-nationals of working age) covers all French residents. Revenue is primarily raised via compulsory employment linked contributions, levied on both employers and employees. The approach to health care adopted by policy makers in France can be seen as bridging the divide between the British (universally available and equitable, but also centrally managed and arguably too tightly rationed) NHS and the American (liberal and individual choice focused, but also costly and inequitable) health system (Rodwin and le Pen 2004).

Over the past 20-30 years various reforms have been introduced to enhance cost control. For instance, a family doctor system similar to that in the UK has been encouraged, although pharmacists interviewed during this research said that there are shortages of medical practitioners in some areas. It is also of note that in the order of a quarter of all French physicians do not accept NHI reimbursement levels as payment in full. Important elements of the health care insurance system in France include:

- the maintenance of citizens' rights to access the health care provider of their choice. French patients can elect to bypass primary care and see a specialist directly, although this entails lower reimbursement rates. Within primary care individuals are not restricted to having to register with a single practice/practitioner; and
- the use of 'Mutuelles' – private coinsurance schemes – to complement NHI coverage. These typically cover additional charges, and have had the important effect of keeping total out-of-pocket French health care expenditures down to (proportionately) one of the

lowest relative levels recorded anywhere in the OECD (see Figure 10). This is one of the factors that explains the relatively high levels of prescription and OTC medicines use recorded in France. While critics argue that the combined effect of French medicines reimbursement and co-insurance arrangements has undermined the willingness of French people to take responsibility for their own care and encouraged the excessive use of (often low cost) medicines of questionable value, the system's performance appears to be relatively robust.

Several pharmacists interviewed for this survey said that there are high levels of public satisfaction with community pharmacy services as they are currently provided. One individual with robust knowledge of the French Ordre National des Pharmaciens (ONP) commented '*people do not want a change – the pharmacy is a central part of their local community.*' Another pharmacist said '*the new government may support it (reform to pharmacy ownership regulations), I can see that. But they will have a lot of resistance. We have written to the European Commission to say we do not accept this.*' Respondents also expressed strong support for a clear separation between the role of the doctor and pharmacist while also saying that closer communication between

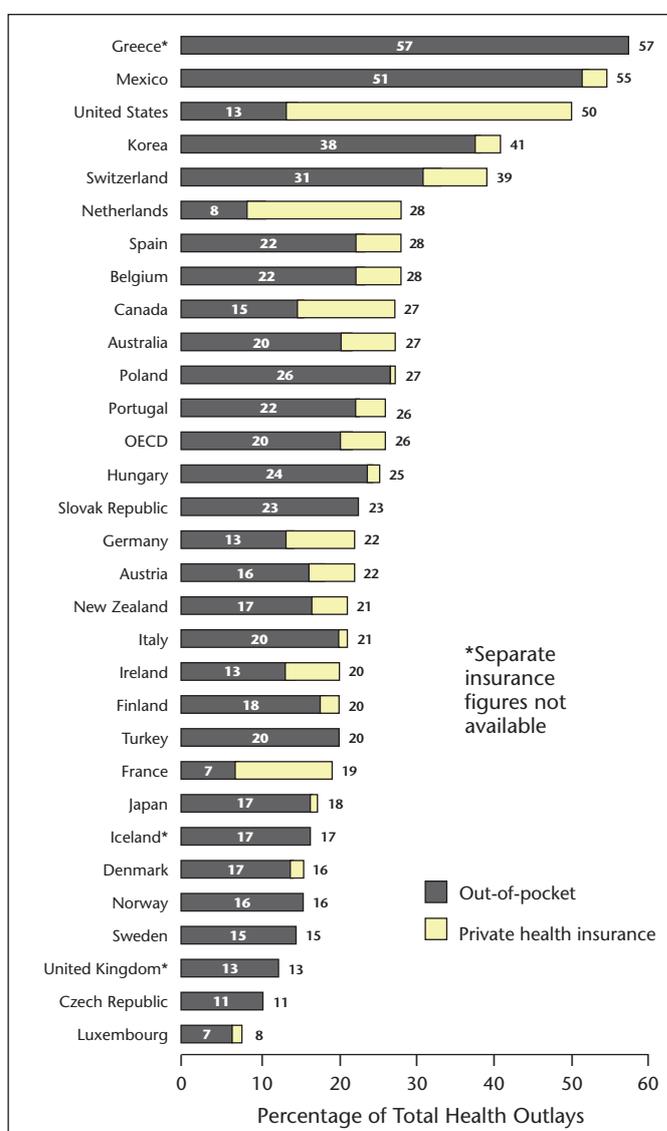


Figure 10. Out of Pocket and Private Health Insurance Spending as a Percentage of Total Health Outlays, OECD countries 2005

Source: OECD 2007

such professionals would be desirable. One suggested that there might in future desirably be a trend towards fewer larger pharmacies. These could employ a similar number of community pharmacists to support more effectively medical prescribers and patients.

Pharmacists also said that the example offered by the development of clinical pharmacy in UK hospitals is of interest. Clinical pharmacy is not as yet as extensively developed in hospital settings in France. None of the pharmacists interviewed suggested that innovations similar to the UK's supplementary and independent pharmacy prescribing plans are being considered. Most said that the latter would be unlikely to be judged desirable, although one respondent questioned the extent to which French community pharmacy presently serves to maintain prescribing standards and to deliver high quality pharmaceutical care.

Interviewees' responses indicated a relatively high degree of satisfaction with the social standing and professional role of pharmacy. There is a strong cultural emphasis on social solidarity in France. Yet private practitioner status appears to be positively accepted, and there also seems to be a corresponding respect for the freedom of individual service users to access care consistent with their personal preferences. Even if this involves paying additional fees this last was not opposed by French respondents on equity grounds, as may more often (ostensibly, at least) be the case in the UK.

Structural and regulatory dimensions

Over 90 per cent of all community pharmacy income in France is derived from the provision of reimbursed medicines. In the past, community pharmacists have been financially rewarded for providing relatively expensive versions of off patent medicines. But the system now in place supports the provision of lower cost alternatives. From 2000 community pharmacists in France have been able to substitute generic for branded (off patent) products, and in 2006 the prices of generic medicines were significantly reduced. Until the last few years generic as opposed to branded medicines accounted for only a few per cent of the total volume of medicines dispensed. However, this proportion is now rising (Kanavos and Taylor 2007). European Generic Medicines Association (EGA) data indicate that in 2006 generic products accounted for 17 per cent of the French pharmaceutical market by volume.

There are approaching 23,000 community pharmacies in France, each one on average serving a population of almost 2,500 people. Pharmacies can only be owned by pharmacists, or companies established by pharmacist partners. No owner may legally possess more than one pharmacy – chains cannot be formed. However, independent pharmacies can join together to form consortiums for purchasing and similar purposes, and independent pharmacies can in appropriate circumstances be located within, for instance, supermarkets if they pay rent. There is legislation that determines when a new pharmacy can enter the market, based on demographic and geographic criteria. These provisions are administered by the Prefectures.

Both prescription and non-prescription medicines can only be sold in pharmacies. Internet pharmacy has not been developed in France – the selling of medicines via this route by community pharmacies has not been permitted. (One respondent suggested that people who want to purchase from internet sites are, given the comprehensiveness of the French system, mainly wanting drugs for illegal purposes.) Only pharmacists can dispense independently, although pharmacy

technicians (*préparateurs en pharmacie*) can dispense under the supervision of a pharmacist. Compared with the total of some 55,000 community pharmacists working in France, there are approaching 30,000 *préparateurs* (who are often pharmacy students in their third undergraduate year) and an additional 25,000 pharmacy assistants, who have diplomas but are not fully qualified pharmacists.

Pharmacy practice developments

Researchers have remarked that it is relatively difficult for other Europeans to access French literature on pharmaceutical care and allied developments (van Mil and Schulz 2006). Nevertheless, there is evidence that in addition to work in areas such as promoting prescribing safety, the development of generic substitution (see, for instance Allenet and Barry 2003) and the provision of smoking cessation and emergency hormonal contraception (EHC), French community pharmacists are also active in fields such as blood pressure measurement (but not its direct treatment). In relation to EHC, for instance, it appears that French women look to pharmacists to be highly professional sources of expert advice, albeit that they may on occasions feel they are treated in an inappropriately judgemental manner (Gainer et al 2003).

One respondent with experience of community pharmacy practice in several European countries suggested that French pharmacists tend to use their professional judgement more flexibly than do their German or British peers in situations where, for instance, they know a customer has previously received a given prescription item. French pharmacists are also often more closely involved in providing laboratory testing and analytical services than is so in other Union countries. Yet the information gained from interviewees contributing to this study suggested that some French pharmacists feel unable to move their clinical practice role(s) forward as pro-actively as they would wish. One said '*we organise pilot schemes, but they do not lead to permanent services.*'

A commonly quoted reason for this situation was the belief that French doctors (who were described as a '*very powerful lobby*') see the further development of clinical pharmacy in the community as a threat to their position, and are often hostile to it. A second is that the French public is satisfied with the current situation, and might see an extension of pharmacists' professional activities as unwelcome (see previous section). At worst, extending pharmacists' roles may be perceived as a threat to the established system in which doctors diagnose and prescribe, and in which medicines can in most instances be freely obtained.

Respondents said that they were unaware of developments in fields such as the electronic transmission of prescriptions or robotic dispensing in France, and did not believe that developments in these areas would drive changes in community pharmacy in the foreseeable future. Comments made on pharmaceutical wholesaling suggested that although as in the rest of western Europe this sector of the economy has become relatively concentrated in France, it still tends to be seen as part of pharmacy's essentially internal support infrastructure. That is, community pharmacy based respondents still see themselves as in spirit the 'owners' of wholesaling enterprises, rather than the reverse.

Respondents also described the development of two forms of electronic patient record 'smart card', one for informing health professionals and the other for identifying individuals for co-payment and allied purposes. The former (to date) only holds a four month patient medication record. This

– respondents said – is useful for dispensing purposes. But it cannot support the delivery of more advanced forms of pharmaceutical care. Pharmacists in France do not appear to believe that the goal of making fully comprehensive health records available is likely to be achieved rapidly. Problems relating to the fragmentation of hospital and independent physician records were mentioned in this context. It was said that many doctors in France have not yet computerised their record systems.

Pharmaceutical cost controls

France has one of the highest per capita medicines expenditures in the world. In manufacturers' price terms it stands at about 2 per cent of the GDP. The reasons for this relate in part to an historical approach which combined relatively low (in international terms) unit medicine prices for patented medicines with relatively high expenditures on off patent branded treatments, and in part to high levels of consumption associated with the comprehensiveness of French national and private health insurance coverage.

Although France has one of the largest non-prescription medicine markets in Europe (accounting for 20 per cent of total pharmaceutical outlays in the community setting) it has proportionately the lowest level of out-of-pocket OTC spending (AESGP 2007).

The current French pharmaceutical pricing approach sets NHI reimbursement levels (which define the overall price a medicine can be sold at) for medicines via the Comité Economique des Produits de Santé (CEPS). This employs a range of health economics based and other criteria in calculating reimbursement levels, and promises (conditional) free pricing for innovations with a high health gain potential. (Medicines that are not reimbursable under the NHI scheme are also priced freely.) Consumers can be charged up to 65 per cent of the cost of 'comfort' drugs. But such disincentives are, as previously noted, normally offset by co-insurance.

Future opportunities

In France the ONP (Ordre National des Pharmaciens) does not appear to be under pressure to change its ways of working through, for example, surrendering its regulatory functions to an independently run extra-professional organisation. There seems to be confidence that despite initial pressure from the European Commission to 'de-regulate' community pharmacy ownership, unwelcome changes can and should be resisted by the profession.

This finding is consistent with the public opinion data presented earlier. Yet it should not be taken to imply that either the public or pharmacists are uniformly resistant to changing professional practices, or to finding new ways of working with partners in the medical profession or the pharmaceutical industry. Although some respondents rejected any idea that research based or other pharmaceutical companies could usefully help pharmacists to develop new clinical competencies, others were (cautiously) open to such possibilities.

One also said it would helpful if pharmaceutical industry partners could help members of the pharmacy profession to be better informed about professional practice and pharmaceutical care developments elsewhere in the world. A possible conclusion to draw here is that in France further progress towards an enhanced role for community pharmacy is most likely to be achievable if it can be seen to be aimed

at building on the strengths of what is arguably already one of the world's best – if also more expensive – health care systems.

Community Pharmacy in Germany

The health care context

Germany was re-unified in 1990. It is today a federal democratic state with a total population of approaching 83 million. It has a higher proportion (19 per cent) of people aged over 65 years than almost any other EU member state. Life expectancy is similar to that in the UK, at almost 77 years for men and 82 for women. As in the rest of the Union the German health and social care system is having increasingly to provide services for people living with long term conditions, while also meeting the needs of other groups. Total health spending accounted for a little under 11 per cent of GDP in 2005. For the purposes of this analysis it can be considered as equivalent to the French level of investment.

Below the national government level, the Lander (local government regions, with populations averaging around 5 million) have responsibilities in areas such as public health, health service planning and supervising and supporting local pharmaceutical companies. They can invest directly in health facilities. But German health care is predominantly funded on what is normally referred to as the Bismarckian model. Just over three quarters of the population have compulsory/statutory health insurance, known as the GKV (Gesetzliche Krankenversicherung). Close to half the remainder elect to use this system voluntarily. Almost all other Germans are covered by alternative public and private insurances. It is also mandatory for most people to have additional long term care insurance.

The GKV system functions via over 250 competing sickness funds (Krankenkassen). These finance care delivered by a wide range of independently run public and private hospitals and practitioners. At the professional level each Land has local chambers (membership of which is in many but not all cases mandatory) for groups such as community pharmacists. There are in total (including the national body) 17 pharmacy chambers that have what may be seen as a mix of economic, educational, regulatory and representative functions.

German health service users are, like their French peers, accustomed to high levels of choice and rapid access to good quality services. Figure 11 indicates that the level of acute beds per 1000 population provided in Germany has been in the order of three times greater than that funded in the United Kingdom. But as in other EU member states faced with ageing populations and intensified global competition, reforms introduced since the start of the 1980s have been aimed at containing costs and promoting greater efficiency in the German health sector.

During the 1990s patient co-payment rates were raised in a number of areas. Out-of-pocket health outlays are about twice as high as those in France. This is partly because OTC medicine expenses are not reimbursable, even when they have been prescribed. (According to AESGP data, total non-prescription medicine sales represented 17 per cent of German community pharmaceutical spending in 2006.) Further, although Germany has traditionally lacked general medical practitioners with a 'gate keeping' role, measures introduced in 2004 are encouraging the development of 'home doctor' (in essence GP) based systems. Nevertheless, health services

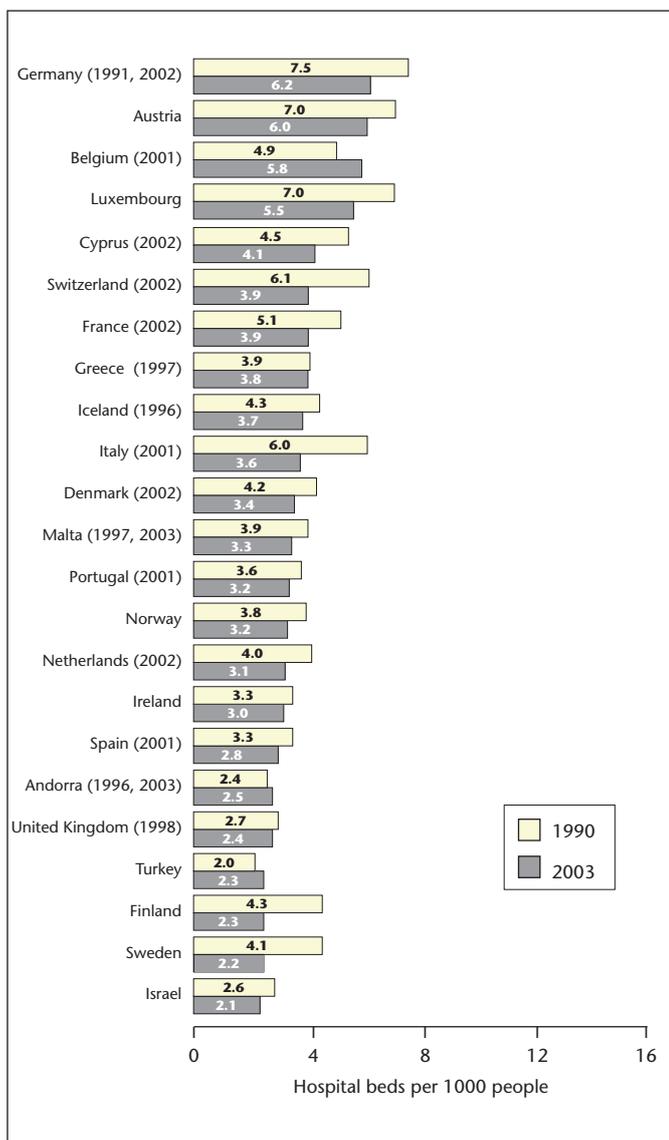


Figure 11. Beds in Acute Hospitals per 1,000 Population, 1990 and 2003 or stated year.

Source: Glenngard et al 2005

users are still able to contact specialists directly if they so wish, albeit that this can involve additional personal costs.

In 2003/04 the largest insurance fund (Barmer Ersatzkasse, which serves about 9 per cent of the German population) introduced innovative contracts to incentivise community pharmacists to undertake 'cognitive' service activities such as medication reviews, and also to encourage patients to register with individual GPs and pharmacies (Eickhoff and Schulz 2006, Blenkinsop and Celino 2006). Another illustration relevant to this context has been the funding by the apoBank (the Deutsche Apotheker und Ärztebank/German Pharmacists' and Doctors' Bank) of new polyclinics in cities such as Berlin, housing both pharmacies and medical surgeries. German polyclinic models served to inform the recent 'Darzi' review of primary and secondary care in England (Box 4).

A Swedish pharmacist interviewed for this study commented that the contracting arrangements referred to above represent a potentially important development from not only a German, but a wider EU, perspective. This respondent argued that it provides an illustration of how in future primary care medicine and community pharmacy might across the Union be enabled to work together in more efficient and effective ways.

Box 4. Towards the British Polyclinic

The UK has a strong heritage of independently located general medical practices. The doctors (GPs) in them act as the gateways to, and routing agents for, secondary care. All the other countries reviewed in this report have recently sought to emulate aspects of the established British primary care system. However, within Britain general practice has come under increasing challenge.

Criticism may sometimes have stemmed from poorly informed political sources (the NHS is, many commentators believe, unduly politicised) and/or competing interests. Yet there are also technical and public interest reasons why the UK primary care system might benefit from reform. They relate to the needs of ageing populations on the one hand and the increasing benefits of medical specialisation on the other.

Professor the Lord Darzi was appointed as a Minister of Health by Gordon Brown when he became UK Prime Minister in 2007. Lord (previously Sir Ara) Darzi is a celebrated surgeon, who immediately before joining the government had worked with the NHS to develop modernisation plans for London (Healthcare for London 2007). His proposals for the British capital can be summarised as involving a shift away from district hospital based care, towards greater use of both specialist centres and local polyclinics. It is envisaged that these last will serve populations of around 50,000 people. If established, they will concentrate in the order of 20 GPs previously more widely dispersed in a single location, along with a similar number of specialist doctors and other health professionals.

It is presently uncertain how many new British polyclinics will be formed, and to what extent dispensaries or other pharmaceutical services will be located within them. Nevertheless, this UK example illustrates the types of solution to which twenty first century health care planners, seeking to provide cost effective care for patients with complex needs outside hospitals, may turn. For community pharmacists across Europe such trends present both the opportunity to become more directly involved in health care provision, and also what some see as the threat of incorporation into integrated community care organisations.

Yet some German pharmacists also said that problems of fragmentation and lack of care co-ordination remain relatively common, and that communication between doctors and community pharmacists is of variable quality. It was suggested that the quality of pharmaceutical care relating to variables such as checking prescriptions for contra-indications and possible drug interactions is not as consistent as was perceived to be the case in the UK and Sweden. One respondent with professional experience dating back to the time of East Germany said that although there are now significantly more pharmacies than there used to be in the GDR, and most people get an enhanced service, doctor/pharmacist communication was in her view better before re-unification.

Structural and regulatory dimensions

There are around 21,000 pharmacies in Germany, each on average serving just under 4,000 people. Pharmacy locations are not officially controlled by any defined demographic or

allied criteria, although only pharmacists can own pharmacies. Respondents suggested that professionally applied pressures may limit competitive and other behaviours judged locally as being undesirable. The formation of pharmacy chains is not permitted, although since 2004 an individual pharmacist or pharmacy partnership has been able to own up to three additional branch pharmacies within a given district.

Other changes introduced at that time deregulated OTC medicine retail prices, and permitted authorised pharmacies to supply prescription and other medicines via the internet. Most community pharmacies now have websites. But the extent of price competition between pharmacies in areas such as OTC medicine supply seems in practice to date to have been very limited (Stargardt et al 2007). Only about one per cent by value of pharmaceutical sales in Germany take place outside pharmacies.

In total around 140,000 people are employed in German community pharmacies, including some 46,000 pharmacists. Only pharmacists and qualified pharmacy technicians can dispense medicines. Community pharmacists are obliged to substitute generic for branded products unless this is opposed by the prescribing physician.

Since 2004 pharmacists' profit margins on prescription medicines have been fixed at 3 per cent, plus a payment of just over 8 Euros per dispensed item. This has made German community pharmacy's financial basis more transparent in that (as has for some time been the case in Denmark) it should in effect have removed pharmacy earnings attributable to privately negotiated medicines discounting, even if in some instances there are still additional pharmacy earnings.

Pharmacists interviewed for this report drew attention to the fact that some insurance funds now make direct contracts with manufacturers and/or wholesalers and importers for the purchase of selected medicines at low prices. This can generate savings, although problems are created when pharmacies cannot be supplied with adequate volumes of low cost product. Pharmacists expressed particular concerns about the imposition of additional paperwork.

As it has also done in France, the European Commission recently questioned the legality of the pharmacy ownership regulations in Germany. Private action taken by a major German wholesaler (Celesio – which now owns the successful internet pharmacy Doc Morris) has also challenged the current arrangements. Representatives of organisations such as the ABDA (Bundesvereinigung Deutscher Apothekerverbände, the Federal Union of German Associations of Pharmacists) appear confident that the European Court of Justice will (in 2008) find in favour of the present ownership rules. Yet some respondents appeared less certain than their French counterparts that these regulations will endure indefinitely. One pharmacist suggested that the case for controls on pharmacy locations, and protecting standards of medicines access in poorer as well as more prosperous localities, might be stronger than that for limiting the ownership of pharmacies to pharmacists.

In the context of the wholesaling sector, respondents reported mainly good relationships between wholesalers and pharmacists. Yet the German pharmaceutical supply system has become increasingly concentrated in recent decades. Two of the EU's three largest companies operating in this area are German based. From their perspective it may seem anomalous that although they are permitted to own pharmacies in other parts of the European single market, this is not so in their home market. At the same time some pharmacists may be becoming more critical of large wholesale suppliers of medicines.

Pharmacy practice developments

Eickoff and Schulz (2006) have argued that German community pharmacies are moving from being seen as principally drug suppliers towards becoming providers of 'cognitive' pharmaceutical – or more generally health care – services. These authors state that the latter have been developing in Germany since the early 1990s, when the ABDA first published a concept paper on this topic. In addition to the contractual innovations already referred to they noted educational and allied advances in areas such as asthma, diabetes, coronary heart disease, hypertension and case management.

However, against this background pharmacists interviewed pointed to a number of restraints limiting progress in this area. The topics respondents raised included:

- **the medical profession's concerns.** It was stressed that unlike the situation in the UK, there is no shortage of medical labour in Germany. Doctors are perceived as being worried that an extension of community pharmacy's role in clinical care could undermine their own employment and/or incomes. This is probably why one individual with a representative role was anxious to underline the point that '*we are talking about extending the complementary role of pharmacy to medicine, not in any way replacing doctors*'. Yet if no labour substitution related efficiency gains exist the economic case for extending pharmacists' roles is weaker than could otherwise be the case;
- **hospital pharmacy.** Respondents expressed mixed views regarding the development of clinical pharmacy in Germany hospitals. Some saw it as well advanced, while others were more cautious in their assessment. It was pointed out that a proportion of smaller hospitals still do not have pharmacies of their own, and have contracts to be supplied with medicines by community pharmacies. This from a competition perspective is another area of possible interest to the European Commission;
- **robotic dispensing.** This was said to have been legalised recently. However, respondents may in the main have been referring to the provision of automated dispensing machines in settings such as nursing homes. There was apparently little acceptance of the possibility that very large scale robotic dispensing plants (essentially sophisticated pharmaceutical warehouses) might obviate the need for a significant number of local community pharmacies. Frequent mentions were made of the value of individual professional advice at a face to face level;
- **the development of electronic medical record cards.** It was explained that a system of patient held smart cards is being developed, with the likely date of introduction being 2009/10. These will be able to carry prescriptions, and be 'read' in pharmacies. But it appears that there remains uncertainty as to the extent of the patient health/medical record that such cards will carry and/or make available to community pharmacists. Respondents referred on several occasions to medical and consumer/patient fears that the state might make inappropriate use of integrated health care records, and the importance the German public may consequently attach to personal record holding.
- **legal restraints on the scope of pharmacy practice and the content of pharmacy education.** It was said by several individuals that although pharmacists may extend their roles in risk factor and diagnostic

testing, there are in Germany legal limits preventing their role being taken forward into treatment because this is categorised as medical practice. Likewise, respondents suggested that there are legal barriers to evolving the content of pharmacy education towards meeting modern environmental needs. These remarks suggested that the German approach to such issues may differ from that found in countries such as the UK; and

- **pharmacists' concerns and interests.** Interviewees said that community pharmacists may fear that, if they extend their roles in areas such as not only taking blood pressure measurements but also recommending treatments, doctors might seek to extend their roles into dispensing. One possible response to this last concern is that there needs to be an objective, evidence based, approach to defining when it is in the public's interest to retain a 'check and balance' system of medical prescribing balanced by pharmacist dispensing, as opposed to those situations when such safeguards have become redundant.

Another rather different subject that emerged during the qualitative interviews conducted related to the supply of homeopathic treatments and herbal remedies. A number of respondents noted the importance of 'nature' and 'natural treatments' in the German public's thinking about health. One individual linked this social fact with eighteenth and nineteenth century romanticism. Others appeared to be concerned with possible inconsistencies between modern critical thinking and more traditional approaches to pharmaceutical science. Herbal and homeopathic medicines, like all others, are sold for profit. However, it was suggested by one respondent that although German pharmacies are presently legally obliged to offer a full range of such remedies, consumer access to such products might be reduced if 'commercial chains' were allowed to operate.

Pharmaceutical cost controls

The German pharmaceutical market is the largest in Europe. It accounts for about 1.6 per cent of GDP at manufacturers' prices. In 2004 German medicine expenditures (at manufacturers' selling prices, and including both prescription and non-prescription products) stood at about £280 per capita, compared with £320 in France, circa £240 in Sweden and the UK, £170 in Greece and £70 in Poland (OHE 2007). The factors underlying the differences between European pharmaceutical sales figures involve not only product price and volume use variations, but also currency fluctuations. The German approach to medicines cost limitation has embodied a variety of measures, including:

- reference pricing (in which 'baskets' of generic, branded and – from 2005 – patented medicines thought to be of similar therapeutic value are allotted common prices, over and above which the consumer must pay the surplus);
- a negative list (covering medicines such as OTC products that are excluded from reimbursement); and
- the imposition of prescribing cost limits or budgets for practitioners, which if exceeded require doctors to pay penalties.

The German Federal authorities have also supported the creation of a national body for – like NICE – producing cost effectiveness based prescribing guidelines. The Institute for Quality and Efficiency in Health Care (IQWiG) was established in 2004.

Reference price based approaches have been criticised for keeping off-patent medicine prices relatively high, while depressing returns on patented products. It is also relevant to note that German sickness funds have positively encouraged the use of low cost parallel imports from poorer parts of Europe, and that German health service users typically have to make out of pocket payments for both accessing primary care doctors and receiving prescription items, as well as for purchasing OTC products. (As previously noted, OTC medicines are not – even when medically prescribed – reimbursable.) Pharmaceutical co-payments represent about 10 per cent of total pharmaceutical outlays, with a ceiling charge per pack of 10 Euros.

Future opportunities

Notwithstanding unique national cultures and differing health care systems, community pharmacy in France and Germany enjoys a number of common characteristics. The two pharmacy models are more like each other than either is similar to that of the UK. This is most obviously so with regard to the regulations which have until recently prohibited all multiple pharmacy ownership, and the extent to which pharmacies are the exclusive suppliers of medicines in their local communities. The pharmacist's role has been, and remains, sharply divided from that of the doctor in both countries.

Yet the qualitative evidence gathered during the survey reported here suggests that today the pressures on German community pharmacists to adapt their roles and patterns of practice are greater than those found in France. German respondents seemed to be less confident of community pharmacy's ability to resist further change (following the reforms already introduced in 2004) than their Gallic peers. It also appears that the German pharmacy community is more aware of international pharmaceutical care developments, and more open to considering their significance in relation to future domestic service improvements. In the case of incentivising closer integration of medical and pharmaceutical inputs to primary care Germany can already be regarded as a European leader, although (as with some UK innovations) the extent of substantive service change should not be exaggerated.

Some of those approached during the course of this research appeared hostile to the pharmaceutical industry, particularly in the context of possible further developments in pharmaceutical distribution processes. Rightly or wrongly, industry attempts to increase supply chain security and economic efficiency may on occasions have been seen as attempts to reduce pharmacy earnings, and/or to change German pharmacy ownership regulations. One respondent said '*it would be better for pharmaceutical companies to leave pharmacy development to pharmacists (in the pharmacy chambers), and concentrate on spending less on drug promotion and cutting prices.*'

But others were more open to the idea of working with pharmaceutical companies further to develop pharmaceutical care competencies and services. Another pharmacist commented '*whatever is said in public pharmacists are in many ways dependent on the companies that make medicines, and they co-operate with them in private.*' This respondent said that if both 'sides' want to make a contribution to improving health in Germany via pharmacy based service developments, then opportunities for closer joint working could be found.

Community Pharmacy in Greece

The health care context

Greece has a population of 11 million, with levels of infant mortality and male and female life expectancy equivalent to, or marginally better than, those recorded in Germany and the UK. This achievement has in part been associated with the traditional Mediterranean diet, and differing historical patterns of alcohol and tobacco use. However, life style changes associated with increasing wealth and (some observers believe) a lack of pro-active health promotion may now be undermining some of these health advantages.

Total spending on health care in Greece stands at about 10 per cent of GDP, just under a half of which is classified by the OECD as being public expenditure. Other sources of health care funding include private insurance, and out-of-pocket outlays. It is alleged that there is a substantial health care 'black market' in Greece. This involves people making personal payments to doctors, sometimes for prioritised access to or special attention during hospital care. (This can be compared with the custom found in Poland of patients making 'envelope' payments to doctors – see below.) Such phenomena can interact with factors such as inequalities in publicly funded health care provision between richer and poorer, and rural as opposed to urban, communities. (See, for example, Tountas et al 2002, Kontodimopoulos et al 2006).

The Greek National Health System (the ESY) was established in 1983. As in Germany, there are a range of alternative sickness funds. The Greek system has in recent years undergone (like virtually all other EU member state's health sectors) a series of reforms aimed at creating a 'managed market' and improving overall efficiency and effectiveness. But it appears that problems continue to exist. Some respondents said that the Greek health care system is undesirably fragmented. General practice remains relatively poorly developed, and referrals to secondary care are channelled via a variety of routes.

The proportion of nurses relative to doctors working in Greece is unusually low. Figure 12 indicates that the number of practising physicians per 1000 population is the largest in the OECD. While this may offer some advantages, a very high medical to nursing manpower ratio might reflect a lack of adequate service planning and management.

In the context of primary health care, attempts have since the start of the 1980s been made to establish a family doctor based system. But these have not been particularly successful. Community medical services remain provided via a complex mix of ESY and separate social insurance and local authority funded polyclinics, complemented by large numbers of community office based private specialist and generalist practitioners. Better off people may have a range of physicians that they visit as and when they judge it necessary.

There is evidence of public dissatisfaction with elements the Greek health care system, as in the UK there is in relation to aspects of the NHS. But one respondent (a pharmacist with experience of practice in and also being a patient in both the UK and Greece) warned against underestimating the Greek approach. This individual said *'I have used both (the NHS and health services in Greece) and I know that I get to see a doctor more quickly in Greece – for (people like) us is no waiting about for days or weeks without care.'*

This interviewee went on to describe making a personal payment to a surgeon in relation to an operation for a family member. He commented *'its almost a fixed rate – you know how*

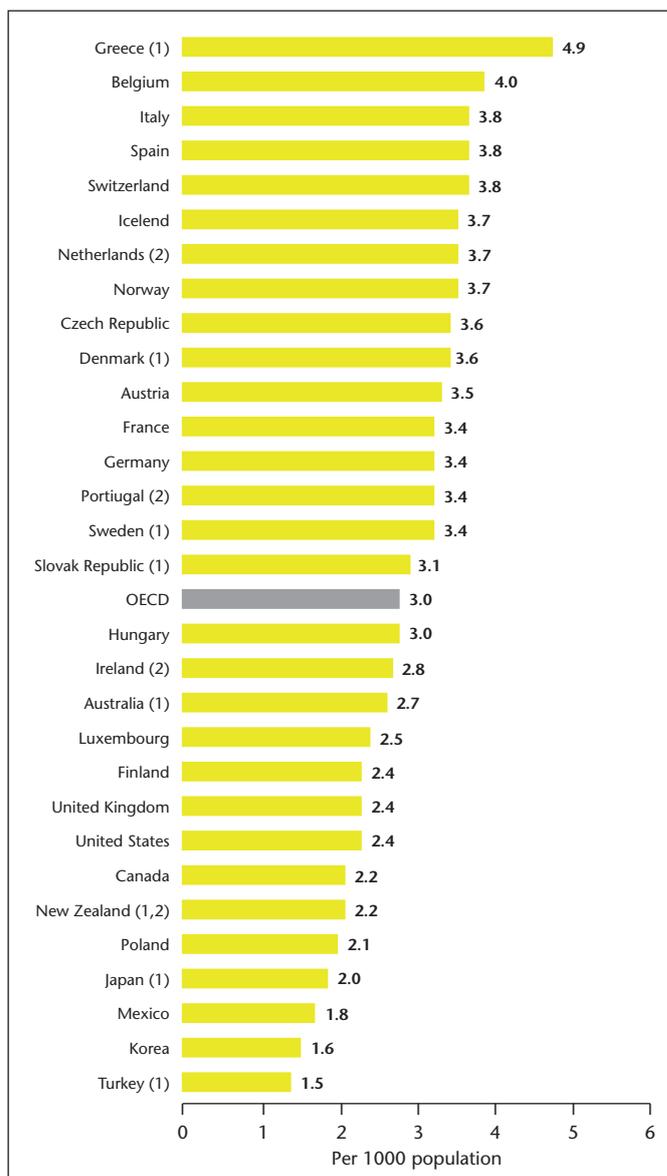


Figure 12. Practising Physicians per 1,000 Population, 2006

Source: OECD 2007

(1) 2004 (2) Physicians entitled to practise

much is expected. But doctors vary what they charge if people are poor. I think our (Greek) system works well, especially if you take into account differences in families.'

Structural and regulatory dimensions

As with the number of practising doctors, the number of community pharmacies per capita in Greece is the highest in Europe. There is one community pharmacy per 1100-1200 population. Against the background described above, the population has good access to pharmacy and to most medicines. The controlled prices of the latter are relatively low. Out-of-pocket pharmacy outlays on OTC products account for less than 10 per cent of the community medicines market in Greece (AESGP 2007). As in France, this is probably a function of medicines supply being largely funded via insurance. However, Greek pharmacists interviewed also indicated that, subject to professional judgement, prescription medicines are much more commonly supplied without prescription than is so in countries such as Germany, France and the UK.

Any pharmacist, or pharmacy partnership, can own a pharmacy, and pharmacies must be independent of each other. Chains are not permitted. Before 1997 there were no restrictions on the number of Greek community pharmacies, and the average number of people per pharmacy fell to only 900. This led to the application of new geographic and demographic criteria to the control of pharmacy openings. In Greece licensed medicines can only be sold in pharmacies, and internet pharmacy is not officially allowed. Only pharmacists can legally dispense.

The Greek wholesaling sector remains less concentrated than that of northern Europe. Respondents reported that there is strong competition between wholesalers, and normally good relationships between them and pharmacists. Pharmacists' co-operatives were said by one well placed respondent to supply just over 50 per cent of the total market. However, there have been reports of domestic medicine shortages (and some reported thefts), in part caused by the high proportion of medicines supplied to the Greek market being exported out to other parts of the EU through parallel trading.

Community pharmacists receive (via the circa 30 sickness funds that underpin the Greek health care system) a flat rate mark-up of 35 per cent on the wholesale price of the medicines they supply to ESY patients. This is broadly comparable to the private OTC and other medicines sale margins made in Greece and other EU countries. Respondents also said that relatively small additional discounts may be available from wholesalers.

The use of generic medicines has not been encouraged in Greece, and generic substitution is not permitted. Some pharmacists and pharmaceutical policy analysts question the apparent inconsistencies in national policy in this area, with its focus on low pricing of new products but relatively lax approach to generic prescribing. Respondents suggested that savings could be made if pharmacists were able to substitute generic or other cheaper versions of branded medicines. It was also suggested that inappropriate payments are not infrequently made to doctors who prescribe relatively costly products, not only by commercial representatives but also by some dispensing pharmacists.

Pharmacy practice developments

Following on from the above, some responses given during this research by Greek pharmacists were indicative of tensions between themselves and members of the medical profession. It was said, for example, that when community pharmacists identify prescribing errors they have to be very careful not to give any indication of a possible error having been made to the patient. This (it was said) might risk medical anger and retribution. The interests of the medical profession were frequently seen as a factor which, along with other health service variables, has limited the appropriate development of clinical pharmacy outside some military and specialist hospital settings.

Little evidence was found that community pharmacy in Greece is moving formally towards adopting an extended clinical and/or medicines management role such as that being pursued in the UK. Yet work has been undertaken in fields such as providing patients with improved information about prescribed products and encouraging safe and effective self medication. Some respondents said they have a wider health care role 'unofficially'. It was noted that community pharmacists in Greece commonly give injections, measure blood and tend to people who have had accidents, albeit that

one pharmacist also complained of being little more than 'a dispensing machine'.

Respondents were not generally aware of any developments in relation to the establishment of large scale robotic dispensing centres. But one more centrally placed interviewee mentioned an electronic prescribing pilot scheme, and plans to in future allow the consolidation of primary medical care and pharmacy information. Patients hold unique social insurance numbers, and it was suggested that using these might in time permit a smart card based personal health record system to be developed. Many Greek pharmacies already hold computerised records of medicines received by named service users. Respondents said that local record linkage initiatives were more likely to succeed than a nationwide programme

It appears unlikely that there will in the foreseeable future be progress towards formal pharmacist (or nurse) prescribing of prescription medicines in Greece. Nevertheless, Greek community pharmacists (perhaps especially those serving less advantaged communities) seem in some respects to be more closely involved in the direct delivery of health care to service users than are their peers working in other western Europe settings. Respondents expressed high levels of confidence about the extent to which the Greek public values community pharmacy, and the quality of the relationships that exist between pharmacists and pharmacy users. This is consistent with the quantitative data presented earlier in this report.

Pharmaceutical cost controls

At present Greek pharmacy incomes are directly related to the cost of medicines supplied. Total Greek outlays on pharmaceuticals account, at manufacturers prices, for approximately 1.7 per cent of the GDP (OHE 2007). This is comparable to the equivalent proportion for Germany, although in per capita outlay terms Greek spending is half the German figure. Taken together, these data may be taken to imply that the lower level of national wealth in Greece as opposed to, say, Germany has been to a degree compensated for by lower pharmaceutical prices. Nevertheless, population wide access to products like new anti-cancer agents is better in countries such as Germany and France, and there appear to be avoidable costs in the Greek pharmaceutical supply process associated with local vested interests.

The Greek approach to pharmaceutical price control has historically rested on analyses of the prices charged elsewhere in the EU and the selection of the lowest comparators, supplemented by the imposition of an additional discount. In the case of new medicinal products today Greek prices are normally determined on the basis of the three lowest prices found in the EU, including two from the original EU 15 nations and an additional one from one of the 2004 acceding countries. All the Greek sickness funds impose a uniform 25 per cent co-payment on prescription items, except for treatments for patients with chronic or life threatening illnesses. In the latter instances treatment is free, or there is a limited co-payment of up to 10 per cent.

Future opportunities

Greece and the UK can perhaps be seen as occupying opposite ends of the (western) European pharmacy, and wider health service, spectrum. While public expenditure on the NHS dominates the UK health sector, private insurance and related outlays fund over a half of all Greek health care. Britain permits relatively high prices for innovative pharmaceuticals but strongly encourages generic prescribing and cost saving

molecular substitutions, and is a large scale parallel importer of medicines. By contrast, Greece has lower imposed prices but has not fostered generic prescribing or substitution. It is also one of Europe's largest parallel exporters of medicines.

Further, while Greece has the highest relative numbers of doctors and community pharmacies per capita in Europe, the UK has low numbers of both. However, despite these marked structural differences pharmacist interviewees from the two countries appeared to share some common views, in part because of a mutual belief that given appropriate support pharmacists could contribute more to improving the public's health.

The Greek pharmacists who contributed to this survey appeared relatively open to the concept of working with pharmaceutical industry partners in order to take forward pharmaceutical care. Opportunities discussed included providing opportunities for relevant competency training and the development of community pharmacy 'disease management' and medicines taking adherence support programmes in fields such as cardio- and cerebro-vascular disease risk reduction. The possibility that research based pharmaceutical companies might support attempts to enable Greek pharmacists to gain powers to conduct (and appropriate payments for) generic substitution was also mentioned.

Ultimately, all stakeholders in the appropriate use of new and existing medicines should benefit from coherent financial incentives and regulations aimed at promoting ethical behaviour, and optimising all aspects of prescribing. In circumstances where such incentives have yet to be fully established, practice and policy distortions could at worst adversely affect not just the populations of individual member states, but the wellbeing of the Union as a whole. With regard to medicines supply and use in Greece, one topic to be considered in this context is that of pharmaceutical parallel trading in Europe. The latter has impacts on patients, health care and pharmaceutical industry funded activities throughout the EU.

Community Pharmacy in Poland

The health care context

Poland has shared with eastern Germany direct experience of the fall of communism, and since 2004 has faced the challenges and opportunities of national re-establishment within the single European Union market. Poland's political and economic situation has affected significantly both public health and health sector development. The country's health service has undergone a series of troubled reforms in the past decade, which first established a system of sickness fund based compulsory health insurance and subsequently created a centralised National Health Fund (NHF). More recent governmental changes have interrupted planned reforms to the law relating to pharmacy.

Tensions between locally managed, non-market, approaches to health (and social) care provision and national level attempts to establish a competition driven 'managed market' have, as in other European settings, limited progress. In 2007 Polish doctors took high profile industrial action, complaining of both low pay and poor working conditions. Individuals contributing to this research suggested that some medical interests are in addition opposed to changes within the health sector, and a perceived diminution of their professional influence.

The current Polish population is 38 million. However, because of low birth rates and extensive emigration some projections suggest that it could fall to 30 million by 2050. The proportion of people aged over 65 years is low in western European terms, at 13 per cent. Average life expectancy is also relatively low, at 71 for men. For comparison, the equivalent Greek figure is about 77 years, and that for Sweden 79 years.

Total Polish spending on health stands at just over 6 per cent of GDP. This too is low in western European terms. About 25 per cent of all Polish health outlays take the form of private expenditures (European Observatory on Health Systems and Policies 2005). Despite a developing private insurance system, these last frequently involve out-of-pocket expenses for items such as medicines.

As in Greece, it is also reportedly still common for Poles seeking hospital care to make additional personal payments to doctors ('envelope payments' – see McMenamin and Timonen 2002). But long queues and difficulties in accessing specialists are much more frequently found in Poland. Respondents to the survey reported here and published sources suggest that levels of dissatisfaction with access to, and the quality of, health care are higher in Poland than any of the other countries discussed in this pharmacy report.

Historically, the origins of the Polish health care system date back to a limited Bismarckian social insurance framework established in the first half of the twentieth century. This was followed from the 1940s onwards by a Soviet care model. The quality and extent of the services this offered varied widely between urban and rural areas. Agricultural workers in particular had only limited access to publicly funded services (Millard 2007). The most extensive publicly funded resources were found in cities serving as political and military power centres.

In towns in particular, the predominant model for community/primary medical services involved specialist physicians such as paediatricians, gynaecologists and specialists in internal medicine working in polyclinics (Przychodnia). However, since 1991 there has been an increasing emphasis on developing generalist based 'family medicine' more like that found in the UK, and a relative reduction in the provision of hospital beds. Despite some shortages of medical labour in Poland, there are today approaching 10,000 doctors qualified in family medicine. There are also some 10,000 community pharmacies in Poland. These were privatised at an early stage in the country's post communist development era, and seem – according to interviewees – to have occupied a relatively stable place within the national health care environment. Respondents to this survey said that the social and professional status of pharmacists is relatively low. The economic position of community pharmacy owners in Poland appears to be more satisfactory.

Progress towards extended pharmaceutical care provision has so far been limited. One respondent commented '*you (UK observers) should think of us being where you were in the 1960s*'. Employee pharmacists (and technicians) have stable but in western European terms low earnings. Interviewees complained of high dispensing workloads, boredom and isolation from both other health professionals and patients. Dispensing areas, it was said, commonly have glass or other screens separating them from the public. One respondent (who worked with a Polish owned chain pharmacy) commented '*the money comes from the medicines. We would like to give patients advice but it depends on good will and the time we have – we are not paid to do it*'.

Community pharmacy was also said to be '*a good job for modern women*', apparently because of the combination of

low but stable pay and predictable working hours that permit family responsibilities to be met. Others noted the willingness of the Polish political establishment to listen to advice given by members of the professional chambers. (The organisation of pharmacy as a profession is similar to the system in place in Germany.) This is perhaps partly because pharmacy may in the Polish context be perceived as a possible counterbalance to medical power, although respondents indicated that in some instances community pharmacies and medical practices are successfully co-located.

Structural and regulatory dimensions

The average population per community pharmacy is between 3,500 and 4,000, although between urban and rural districts the ratios vary between 1:1,000 and 1:>5,000. (In rural areas pharmacists may be offered higher salaries to attract them to live there.) In Poland anyone, pharmacist or not, can own a pharmacy. There are limited opportunities to establish chains, albeit that no one individual or company can (as from 2004) own more than one per cent of the pharmacies in each region. As in Germany, there are 16 of the latter. However, respondents said that independent pharmacies can form coalitions for purposes such as purchasing. (Before 2004, the year in which Poland joined the EU, individuals or corporate bodies could own up to 10 per cent of the pharmacies in any one region. The change in this regulation was not retrospective, so existing 'indigenous' wholesaler and allied interests in pharmacy ownership were not affected.)

Most Polish pharmacies are, like others in the EU, computerised for purposes such as stock control and ordering. They may also communicate and trade with customers via the internet, although 'foreign' pharmacies are prohibited from supplying the Polish market via this route. It was estimated by interviewees that about a quarter of community pharmacies have functional access to the internet.

Polish pharmacists (who have five years education) have full dispensing rights. Pharmacy technicians (who have two years training) have limited rights, subject to pharmacist supervision. In practice, however, some respondents said that technicians may dispense independently. Polish pharmacists can substitute generic for branded medicines. Some general sales medicines can be sold by any retailer, but the majority of OTC (as well as prescription) pharmaceuticals are only available from pharmacies.

Around 80 per cent of Polish community pharmacies remain in the hands of individual owners, with the remainder being owned by wholesalers. There are over 500 of these last registered. Respondents explained that pharmacy proprietors may have interests in them via, for example, their local professional chambers.

This suggests that the pharmacy market in Poland (which like that of most other countries is split into hospital and community sales on a roughly 1:4 basis by value) is less concentrated than is so in countries such as France, Germany and the UK. Yet some estimates indicate that the top three wholesalers already supply over 80 per cent by value of all medicines. The wholesale price of medicines in Poland is set at 10 per cent above the producer's price, and in the case of low cost items retail prices are up to 40 per cent above the latter. Permitted margins on more expensive products are, however, significantly lower.

WHO data indicate that reimbursed medicines account for around a half of the community market. OTC medicines paid for directly by consumers account for between 25 and 30 per

cent by value, and the remainder is made up of prescription medicines purchased privately by customers. Pharmacists interviewed indicated that POM medicines such as antibiotics and psychotropics with a potential for abuse are not normally supplied without a prescription. But other treatments, respondents said, can be supplied directly by pharmacists within a protocol based framework. It was emphasised that in these instances the customer pays the full cost.

Given that patients also make co-payments for reimbursed medicines, approaching two thirds of all pharmaceutical outlays are met privately in Poland. Factors such as the apparent preference of the Polish public for purchasing 'natural' herbal and allied treatments, should perhaps be taken into account. But this is by far the highest proportion found in the national markets considered in this report. Such data may help to explain why the Polish market also has the highest proportion of generic medicines use observed (EGA data suggest that almost 80 per cent by volume and 60 per cent by cost is supplied in generic form – Figure 13) and why Polish respondents noted the existence of active medicines price competition between community pharmacies. One emphasised *'the big issue for people here is the cost of medicines. People are worried they cannot afford treatments they need.'*

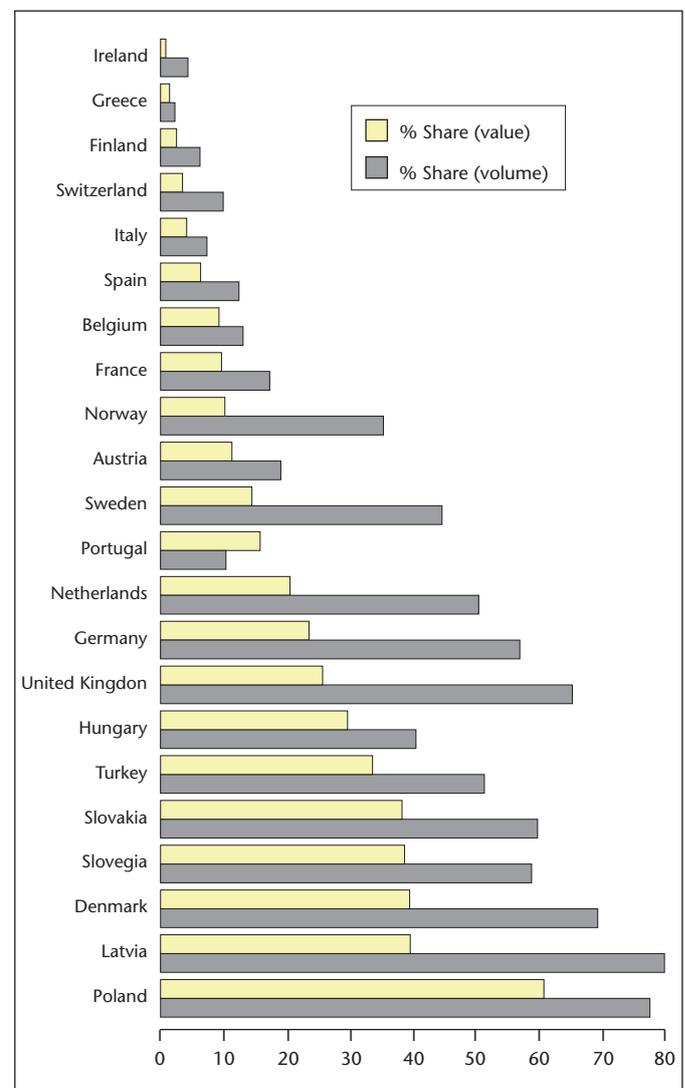


Figure 13. Pharmaceutical Market Shares Accounted for by Generic Medicines, Europe, 2006

Source: EGA 2007

Pharmacy practice developments

Van Mil and Schulz (2006), in their pioneering study of pharmaceutical care development in Europe, noted that since 2001 Polish pharmacists taking part in national and international conferences have displayed an active interest in the idea of pharmaceutical care. Yet they also observed that it seems that the pharmaceutical care concept has not in reality penetrated practice. This study confirms that conclusion. It is also apparent that only very modest progress has been made towards the development (and less so the effective sharing between medicine and pharmacy) of electronic care records in Poland, and that possibilities such as the electronic transmission of prescriptions from medical centres to pharmacies have not widely been explored.

Respondents did not – although they were aware of the possibility – see the introduction of robotic dispensing plants as being likely in the foreseeable future. Communication between community pharmacists and family and other doctors working in health centres was said to be very limited, although a pharmacist with experience of working in a rural setting in Poland did mention collaboration with a local doctor. Nevertheless, ‘high level’ professional activities identified during this project suggest that the Polish pharmaceutical leadership is beginning to address issues such as how to create financial incentives for the development of health promotion and care services in pharmacies. Pilot work on diabetes and the pharmaceutical care of people with hypertension was mentioned, and respondents indicated that robust efforts were being made to learn from these initiatives.

Pharmaceutical cost controls

The Polish health care system operates both positive and negative lists of medicines that are permitted and excluded for reimbursement purposes. Pricing applications for new products are made to the Ministry of Health. The submitted data relate to production and usage costs, sales levels, efficacy and effectiveness in both pharmacological and public health terms, and selling prices in other comparable markets. If accepted for NHF reimbursement for either general supply or to patients with defined conditions, patient co-payment levels may be set at a number of levels, ranging from a flat fee of less than one Euro through to up to 50 per cent of the product’s retail price.

Poland’s per capita spending on hospital and all community medicines is, when costed in manufacturers’ price terms, only £70, compared with a French figure of five times that sum. Yet when calculated on the same basis the proportion of Polish GDP devoted to medicines (1.9 per cent) is almost the same as that spent in France, and the proportion of total health outlays accounted for by pharmaceutical costs is almost twice that recorded in France. Even allowing for discrepancies between data sources and other factors, this is indicative of major imbalances between EU member states that are unlikely to be corrected in the foreseeable future.

There is an evident under-investment in health care in Poland. Despite the widespread use of low cost generic products, the Polish population does not receive the quality of pharmaceutical treatment enjoyed in more prosperous countries. This observation has important implications for European Union pharmaceutical policies, and issues such as the desirability or otherwise of current and possible future patterns of EU parallel trading in medicines. The policy justification for the latter is that it will help harmonise living

standards and promote growth. But in the case of Poland the population will be disadvantaged if medicine prices other than those of generics were to be set at levels that would be appropriate in western Europe.

Future opportunities

Currently, the development of Polish community pharmacy lags behind that observed in more affluent parts of the EU. However, there are some aspects of the Polish situation which could help promote the future development of clinical pharmacy in community settings, and pharmacy based health care. They include:

- the limited availability of medical manpower in Poland (which might currently in part be associated with skilled labour movements to other parts of the EU);
- tensions between politicians and the medical profession relating to health care funding and management, that may have helped increase governmental awareness of the capacity of pharmacies to provide health related services;
- reportedly high levels of service user dissatisfaction with medical care access and service choice;
- unmet public health related needs, as evidenced by – for instance – Poland’s low average life expectancy figures; and
- a relatively flexible regulatory tradition. This is illustrated by the fact that pharmacy ownership rules have not been as prescriptive in Poland as in many other European states, and that forms of protocol based pharmacy prescribing already appear to exist.

The current situation in Poland is clearly challenging, and the speed at which genuinely constructive progress could be achieved should not be over-estimated. But neither should the differences between pharmacy in Poland and countries such as the UK be exaggerated – the comments reported here about dissatisfaction within the profession are in reality not that far different from the experience of many younger British pharmacists (Taylor and Carter 2002). Taken together, the points above suggest that if Polish community pharmacy leaders seek in a sustained and informed manner to extend their pharmaceutical and wider health care roles in ways consistent with the public’s needs and preferences, they should in time succeed. This finding reinforces the implications of the public opinion research presented in the first section of this report.

Community Pharmacy in Sweden

The health care context

The population of Sweden is 9 million. Of this total over 17 per cent are aged over 65. Swedes arguably enjoy the most sophisticated welfare state provisions available anywhere in the world, and have amongst the longest recorded life spans. Men live on average for 79 years, and women for 83 years. Total Swedish health expenditures are just above the OECD average of 9 per cent of GDP, on top of which there are some additional outlays on social care. Health and social care is mainly funded via personal income tax, together with a payroll tax levied on employers.

The current version of the Swedish health service dates back to legislation introduced in 1982. This committed the

country to providing universally available, high quality and cost effective care, on the basis of need rather than ability to pay (Glenngard et al 2005). As with the UK NHS, optimising population health is the system's primary end.

Since the start of the 1980s there have, as with the other national systems reviewed here, been a series of complex reforms aimed at limiting the growth of health spending and improving efficiency. The Swedish system operates at three distinct levels. Central government sets overall goals. Beneath this, the 21 regional County Councils and related administrations deliver health services, and have from 1998 been responsible for holding drug budgets previously administered nationally. (Decentralised facility level pharmaceutical budgets were introduced at around the same time: they appear to have increased medicines cost awareness amongst GPs/primary care practitioners – Jansson and Anell 2006.)

Finally, the 290 local municipalities provide social care to individuals with, for example, long term conditions that have in medical terms been effectively treated. Sweden has strong local government and co-operative traditions, and this separation of functions is regarded as a positive strength. Sweden, like the UK, operates with, in European terms, an exceptionally low number of acute hospital beds per capita.

During the past two decades Swedish health care planners have sought to strengthen the provision of general practitioner care in the community, and partly via the latter to manage health resource utilisation efficiently. As in the cases of Finland and Norway, Sweden operates with one of the highest nurse to doctor ratios in the world. Primary medical and nursing care is principally supplied via the country's 1100 health centres. However, about a quarter of all primary care contacts are made in privately owned facilities. There is evidence that although older patients may have more complex care needs, they tend to prefer 'traditional' medical care based on personal relationships rather than the more anonymous interactions that may characterise large health centres (Anell 2007).

Pharmacy services have since 1970 been provided via a single nationalised agency called Apoteket AB ('The Pharmacy'). This arrangement was found to be inconsistent with European law by a European Court of Justice ruling made in 2005 (Neroth 2005), and it appears that the Apoteket monopoly will end in 2008. Nevertheless, the establishment and performance of the organisation offers a unique example of a unified, publicly owned, approach to pharmaceutical care in the community.

Apoteket's reported strengths in some ways parallel those of large pharmacy chains in countries such as the UK and the US. Contributors to the qualitative analysis offered here noted its capacity to develop corporate approaches to improving technical quality and taking forward the development of its services, and to limiting overall medicines supply costs. Combined community pharmacy and wholesaler mark ups/margins on prescription medicines account for only 20 per cent (17 per cent pharmacy, 3 per cent wholesaler) of pharmaceutical costs in Sweden (Westerland and Bjork 2006). This is well below the European average.

Apoteket's advocates also stressed the organisation's public service, as opposed to commercial, values. However, in regulated modern markets the validity of this distinction is questionable. It might even serve to conceal professional and other provider side interests that may sometimes be pursued at the expense of the public's best interests. Critics of the Apoteket monopoly also say that it has reduced competition

and harmed not only some medicine suppliers but more importantly patients, at least in contexts such as having both convenient and low cost access to non-prescription treatments.

Structural and regulatory dimensions

There are in the order of 900 Apoteket pharmacies across Sweden's 170,000 square mile land area. This is equivalent to one pharmacy per 10,000 people, for a geographically widely dispersed population. The Swedish community pharmacy infrastructure is supported by approximately 1,000 additional 'pharmacy representatives' or apoteksombuds, which are non-pharmacy outlets such as village shops that facilitate made up prescription distribution (Andersson et al 2002). But even so it differs radically from that observed in southern European countries like Greece.

Individual Swedish pharmacies are normally larger than their counterparts in comparator nations such as France, Germany and the UK, and they employ a wider range of staff involved in dispensing and OTC medicines supply to the public. In addition to over 900 pharmacists, Apoteket employs about 2,000 pharmacy technicians and 5,000 prescriptionists (receptarie). The latter undergo three year graduate courses, as opposed to the five years of research orientated University training received by pharmacists.

Both pharmacists and prescriptionists can dispense. When employed in similar roles they earn similar amounts of money. However, pharmacists interviewed said that the managerial and clinical role development opportunities open to pharmacists are superior to those available to prescriptionists. Apoteket AB enjoys a monopoly over the sale of all medicines. Most OTC products can only be purchased in pharmacies, although pharmacy representatives offer a limited range.

Although OTC products account in total for only 9 per cent of Swedish community medicines use by value (AESGP 2007), all such medicines are paid for out of pocket. They consequently represent a significant private income stream for the Swedish nationalised pharmacy system. (Respondents to this survey also suggested that in the countryside in particular there is still – as in Germany and Poland – a relatively strong belief in 'natural' remedies, that are not necessarily purchased formally.)

Apoteket uses just two main wholesalers, Tamro and Kronans Droghandel. Internet pharmacy service provision is legal in Sweden, but as with conventional pharmacy care this is presently only available from Apoteket outlets. Medicines can already be supplied through telephone ordering, and distributed via the Swedish postal service. But this presently accounts for only 2-3 per cent of medicines distribution.

Pharmacy practice developments

Individuals contributing to this study seemed confident that pharmacy practice in Sweden is highly advanced, and world leading in respect of not only aspects of hospital clinical pharmacy but also with regard to community delivered pharmaceutical care. This achievement was in large part attributed to the advantages for health professionals of being located in the settings provided by Apoteket. There was at the time interviews were being conducted (the summer and autumn of 2007) considerable professional concern in Sweden that reforms designed to introduce more competition could undermine this situation. None of the practitioners involved mentioned positive advantages to be derived from the opening of new private pharmacies.

The information given by respondents, along with that obtained from the available literature on Swedish pharmacy (see, for example, Westerlund et al 2003, Westerlund and Bjork 2006), highlighted a variety of significant practice developments, including:

- **the provision of self care support literature and the establishment of relevant practice quality and referral standards**, together with the production by Apoteket of a nationally available magazine, covering health and pharmaceutical care related topics;
- **the introduction of the 'Health Points' programme**, which offers a variety of information and risk factor testing opportunities, plus pharmacy based lifestyle counselling and 'health coaching'; and
- **the establishment of a national computer based system for recording drug related problems (DRPs) in Sweden**. A system for recording prescription medicine use on a patient by patient basis, that will – given patient permission – make relevant records available to both doctors and pharmacists, has also been instigated. Dealing effectively with patients' problems in medicine taking was regarded by respondents as a central element of the pharmaceutical care (as distinct from more broadly defined health care) service that could be uniquely offered by pharmacists, as opposed to other professionals working in the Swedish system.

Interviewees were informed about issues such as the potential of electronic prescribing and robotic dispensing to offer new pharmaceutical supply opportunities. In the order of a third of all Swedish prescriptions are already transmitted electronically. One mentioned the possibility of allowing selected companies such as the US internet pharmacy Medco to compete with Apoteket. However, even if this were permitted, it would not in itself resolve problems relating to a lack of convenient physical access to OTC and/or prescription medicines. Other pharmaceutical sector policy experts suggested that Apoteket may be broken into a number of competing chains. They also implied that in future there should be few if any restrictions on the opening of new community pharmacies in Sweden.

The fact that Swedish pharmacists can, again with patient as well as medical permission, undertake generic substitution was also regarded as a significant practice development. Respondents were generally enthusiastic about moving pharmacy further in the direction of providing 'cognitive' services. However, like many pharmacists in other EU member states, they also expressed caution about extending the profession's role into prescribing prescription only medicines, and taking on roles that might be seen as directly competing with those of doctors. One individual commented '*it is right to say we are ahead in many respects, but also conservative. The British experiment (in pharmacist prescribing)? I think we will need to see how it goes before we go in that direction.*'

A majority of respondents said that close working between community pharmacists and medical practitioners needs further to be encouraged, and that inter-professional communication could be improved. Swedish pharmacists are professionally represented by organisations such as the Swedish Pharmaceutical Association (Sveriges Farmaceutförbund), while the Swedish Academy of Pharmaceutical Sciences (Apotekarsocieteten) facilitates pharmacy research.

It was argued that the existence of a strong single employer has helped to simplify representational processes in Sweden as opposed to the situation in larger and more plural countries,

and to strengthen the professional identity of community pharmacists. Yet even if this is the case, the fundamental dilemmas and uncertainties relating to the future of pharmacy appear to be broadly similar across the Union.

Pharmaceutical cost controls

Sweden spends about 1.1 per cent of its GDP on hospital and community (OTC and prescription) medicines, costed at manufacturers' (ex factory) prices (OHE 2007). Only countries such as Norway, the Netherlands and Denmark (along with Ireland, which may have data quality problems, and Luxembourg, which has a very high per capita GDP) spend less. The factors underlying this may include both limited volume use of many treatments and the existence of controls on the prices of patented and generic medicines. (A Dutch pharmacist interviewed informally said '*we – northern European nations – all start with the Calvinist idea that using medicines cannot be good.*')

With regard to new medicines the Pharmaceutical Benefits Board (LFN, or Lakemedelsformansnämnden) has from 2002 determined allowable reimbursement prices on the basis of cost effectiveness data, and additional information such as the prices permitted in other EU states. Overall pharmaceutical costs are also limited by the use of positive and negative lists of prescribable products, prescriber budgets, formularies, generic substitution by pharmacists and prescriptionists, and medicine user charges. The latter involve patients paying the entire cost of medicines listed in the Swedish Drug Benefits Scheme up to the level of 900 Kroner (about £70) yearly, after which a graded system of support operates to a patient payment ceiling of 1,800 Kroner. In addition, all medicines licensed as OTC products must be paid for privately.

While Sweden was successful in establishing a relatively strong research based pharmaceutical industry in the middle of the twentieth century, there appears to be a belief that this has now been lost as a national asset as a result of mergers and acquisitions. Respondents expressed mixed views about such trends, and the international pharmaceutical industry.

Future opportunities

Sweden and the UK are geographically and socially very different. Sweden, for instance, has a significant immigrant population but lacks the large disadvantaged urban populations like those found throughout Britain. Nevertheless, their health care systems have a number of important similarities, and their pharmacy cultures are arguably more similar to each other than they are to those of any of the other countries considered in this report. The qualitative finding, therefore, that Swedish pharmacists interviewed appear to feel that the independent pharmacist prescribing of POMs is an innovation which is ahead of their present agenda may be taken to be significant from a pan European viewpoint.

With regard to developmental partnerships between community pharmacy and pharmaceutical companies, most respondents said that any new relationships should be established at the level of Apoteket rather than at an individual or local level. Some initially questioned the probity of closer linkages between a profession aimed at improving the public's welfare and private sector organisations established to make profits on behalf of shareholders. There were concerns that inappropriate marketing might be encouraged.

Yet on probing respondents also said that, from a rational perspective, productive partnerships should be possible

in appropriately regulated settings. It was suggested that key areas for possible improvement included improving undergraduate and postgraduate education and developing new approaches to the professional support of self care/self management. It was also noted that in Sweden (as in Germany) OTC medicines must be paid for out-of-pocket. Unless new reimbursement arrangements can be made, this might act as an effective restraint on strategies aimed at extending pharmacy based care provision via enhancing the range of pharmacy only medicines available.

Partnerships for better care

This final section draws together the quantitative public opinion and qualitative professional opinion data presented above, and discusses its implications for pharmaceutical and wider health care development in Europe. It also seeks to identify areas in which community pharmacy and the research based pharmaceutical industry might, with other stakeholders, more effectively work together to overcome future challenges and improve public health.

Relationships between pharmacy and the pharmaceutical industry have not always been based on an informed mutual understanding. One reason for this is that pharmacists are frequently concerned with preventing the potentially unsafe and/or unduly costly use of medicines. The central mission of research based pharmaceutical companies is, by contrast, to promote the potentially beneficial use of innovative treatments, often in uncertain clinical circumstances. Balancing the public's interests in safety and expenditure restraint on the one hand and the development of effective new ways of preventing, ameliorating and curing illness on the other is an inherently difficult task, which requires maturity and good-will on all sides.

Another possible source of tension has been that pharmacy owners and pharmaceutical company executives may see themselves as being in competition in relation to the income to be derived from medicine sales. Recent concerns about how medicine supply chain reforms might not only reduce the risk of counterfeit products being supplied to European patients but also reduce costs reflect this obvious, but often unspoken, reality. Debate relating to such issues may also impinge on the need of organisations such as pharmaceutical wholesalers to adjust to changing circumstances.

Some of the latter have achieved strong positions in recent years. In parts of Europe that have not previously permitted corporate ownership of community pharmacies wholesalers may now be well placed to extend their power by purchasing 'independents'. But against this they may fear moves by pharmaceutical companies (which are themselves effectively prohibited from owning community pharmacies) to relate more directly to pharmacists, and cut intermediate medicines supply costs.

Complementary business models?

In the context of today's Europe both research based pharmaceutical companies and community pharmacy need to change the business models which served them, and their customers, relatively well during the last half of the twentieth century. If they can do this via constructive partnership, and with a clear focus on achieving additional welfare for all the individuals and communities they serve, they will ultimately gain more than they would from conflict orientated approaches. The potential beneficiaries of a

coherent, economically and functionally robust approach to European community pharmacy service enhancement include not only pharmacists, pharmacies and the enterprises that discover and make medicines. They ought also to include doctors and, most importantly, members of the public seeking to keep themselves and their families healthy, and/or to live as well as possible with ill health.

In considering issues relating to the future of pharmacy, and questions about whether or not current developments in community pharmacy in England (or other UK nations, such as Scotland) can reasonably be taken to indicate a general direction of progress for European pharmacy, distinctions need to be made between common (or universal) causes of health and health care change and special (or contingent) factors. These last may be locally important in particular EU member states, but are not significant in other parts of the Union. It is apparent, for instance, that the financial and social context that pharmacy services are provided in France is very different from that in, say, Poland. Examples of 'special' (contingent) variables include:

- the extent to which professional and wider communities have access to English language information sources. This (respondents said) tends to enhance awareness of wider international trends in pharmacy care delivery;
- the existence or otherwise of medical opposition to pharmacist role extensions, which may to a substantial degree be a function of medical labour under or over supply;
- following on from the above, the relative costs of medical, nurse and pharmacist labour;
- the degree to which particular member state governments are in conflict with their local medical profession about health care funding and resource allocation issues, and so may wish to support the development of alternative health care providers;
- the degree to which pharmacy and other OTC medicines supplied via pharmacies are reimbursable, as distinct from having to be paid for directly out of pocket; and
- the extent to which dispensing related pharmacy income streams are threatened by local policy measures, and the availability or otherwise of payments for 'cognitive' service provision.

Differences in these and other local factors can make it difficult to see any clear Europe wide picture. Nevertheless, community pharmacy throughout the Union is also being exposed to common underlying evolutionary forces like those associated with the emergence of new 'near patient' testing technologies and changing public expectations of health care professionals and systems.

It would be inappropriate to go into undue theoretical detail here. But in this last context it is useful to be aware of models of social change that help explain general health care trends related to fundamental demographic, social and economic developments. For example, researchers such as Ronald Inglehart (see, for instance, Inglehart and Welzel 2005) have published data indicating that as populations grow richer, more educated and more secure, individuals in them want not only more 'consumer' choice and autonomy in areas such as health care. People also expect more from governments, companies and professionals in relation to safety, and promoting the wellbeing of everyone within the (increasingly broadly defined) community.

Hence problems such as health inequalities between social groups are often seen as less acceptable by people living in

modern consumer societies than they are in more traditional (perhaps superficially less materialistic) communities. Likewise, although medicines are arguably less hazardous than ever before, their unwanted side effects may be seen as increasingly problematic. This implies from a health sector management perspective that future Europeans are likely to want increased personal care choice *and* better service co-ordination for themselves and for others. Similarly, with regard to European pharmaceutical research, there are already rising expectations that investments in sophisticated scientific innovations should be accompanied by expenditures aimed at ensuring globally equitable access to up-to-date treatments.

Sociologists such as Richard Sennett (2006) have additionally observed that in advanced societies like those of western Europe there have been moves away from fixed, hierarchical and bureaucratically ordered relationships of production. The direction has been towards centrally led, but much less rigidly defined, 'transactional' structures. For the purposes of this analysis a key point to highlight is that the impact of factors like information technology advances is likely to lead to a further blurring of once firmly delineated professional roles. There will also be an increasing recognition of the importance of consumer inputs in areas such as health maintenance and disability management. Promoting 'self management' therefore represents a common trend in modern health care, which community pharmacy based health care could play a significant role in supporting.

In Britain the recent Wanless report's emphasis on the importance of achieving greater public engagement in public health improvement may be taken to exemplify such processes (HM Treasury 2004). These trends challenge traditional professional attitudes and structures at all levels. Relevant examples can be drawn from standard setting and health care 'quality management' (a function that is moving away from direct professional control throughout the developed world) through to the formation of doctor, nurse and pharmacist relationships with service users. Professionals are being required to change the ways in which they express their authority and expertise. The development of the concepts of 'concordance' in relation to medicines taking illustrates this point.

Towards more plural health care provision within managed markets

Two thirds of the European general public population interviewed during the research undertaken for this project agreed with the statement '*community pharmacies should be developed as alternatives to doctors' clinics, so people have more choice about getting advice and treatment for common conditions*'. When taken together with the views expressed by pharmacists themselves about their desired futures, this finding (which was robust across all age groups and both sexes) represents substantive evidence that European community pharmacy is likely to shift further in the direction of health promotion and health care provision (as distinct from medicines supply and pharmaceutical care alone) during coming decades.

The available data indicates that there is already substantial public support for such a development. The reclassification of proven treatments for conditions like hypertension, raised cholesterol levels, diabetes, asthma and migraine as pharmacy medicines may also help facilitate such progress. Extending the 'pharmacy only' therapeutic armamentarium to in future include a significantly wider range of medicines would (it was generally agreed by pharmacist respondents) build on

the existing reality of their direct involvement in diagnosis and prescribing.

To the extent that integrated health records, whether held on patient smart cards or central computers, become available, movement in this direction could be gained without undermining the quality of patients' other medical and nursing care. The opportunity available can be described as involving the development of a strengthened form of pharmacy supported self-care within a more co-ordinated framework of overall health service provision (Figure 14).

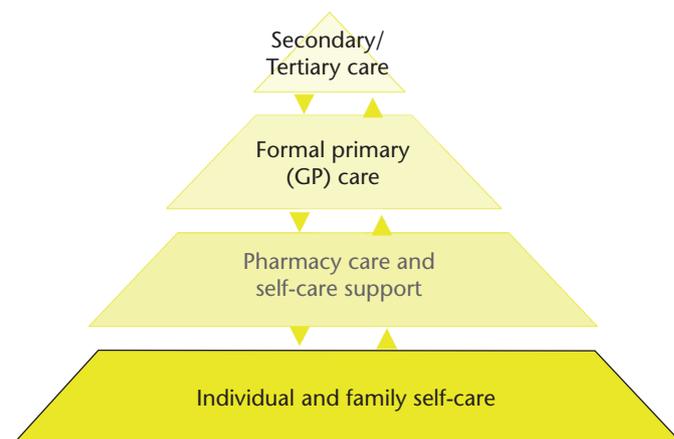


Figure 14. Levels of Professional and Personal Health Care

Through this pharmacists could further enhance the delivery of 'pharmaceutical care' (see Box 5) while increasing their inputs in areas such as public health improvement and the direct treatment of common long term and other conditions. This offers the prospect of greater patient choice and enhanced 'managed competition', coupled with better overall service integration and safety protection.

The level of support for extending the existing health care role of pharmacists varies between European countries. It appears that the more the general public is satisfied with locally available care funding and access arrangements, the less there is likely to be immediate positive pressure for change. But it is nevertheless reasonable to conclude that there is a discernable European direction of progress, which will probably accelerate in the coming decade. Examples of the common (or universal) drivers for this identified during the course of this study include:

- continuing population aging and rising health and lifestyle expectations. Their impact will mean that primary care doctors and nurses will become more engaged in providing care for people with complex medical and support needs in community rather than institutional settings;
- government and other cost containment policies, that will serve to drive health (and social) care provision 'down' to lower cost, and less formal, settings;
- wider political recognition of the value to patients and the public of more managed competition in health care;
- the (gradual) development of computer based, consumer owned, health records that can be accessed by any authorised service provider;

Box 5. Pharmaceutical Care, and Pharmacy Based Health Care

Pharmaceutical care may be defined in a range of slightly differing ways. Hepler and Strand (1989) suggested that it encompasses *'the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life'*. These are (i) cure of a disease; (ii) elimination or reduction of a patient's symptomatology; (iii) arresting or slowing of a disease process; or (iv) preventing a disease or condition'. In essence it involves using pharmacists' skills to improve the health of patients via enhancing the quality of medicines prescribing and use. It also involves individual pharmacists accepting increased accountability for their patients' treatment.

It is important not to become unduly concerned with semantics. But the extent to which this concept can be extended to include the use of diagnostic and other clinical skills which many pharmacists may not yet have fully acquired is debateable. As used here the term pharmacy based health care includes therapeutic and allied services that can be offered by any clinically competent pharmacist or doctor, or indeed nurses with relevant competencies. It in addition encompasses offering health promotion and sickness prevention services, the provision of which may also go beyond the established definition of pharmaceutical care (Maguire 2007).

A number of unanswered questions exist about community pharmacists' willingness to accept extended roles, and about how their education and training should and most cost effectively could be adapted to ensure they have the necessary capabilities. There are significant economic and financial barriers to change throughout Europe. Yet the view taken here is that community pharmacy will of necessity move more in the direction of being a direct health care provider, alongside being a facilitator of improved prescribing by other professionals and more effective medicines use by the public. The alternative may in the final analysis be redundancy, as new pharmaceutical supply options evolve.

- the further establishment of the 'medical breakthroughs' of the second half of the twentieth century as safe and affordable therapies suitable for pharmacy sale;
- the availability of new dispensing technologies and services; and
- the development of new forms of risk factor and diagnostic testing suitable for pharmacy and/or end point consumer use, alongside the concentration of much modern medicines research on highly sophisticated, high unit cost, therapies. The latter will be most likely to be of value to relatively small numbers of people in receipt of hospital care.

These last points suggest that the income streams available to community pharmacies from drug supply alone will almost certainly decline, although this should be compensated for by new opportunities for providing clinical and linked health behaviour change services. Seen from this perspective, initiatives like measures in the UK aimed at the establishment of community pharmacies as 'public health outposts' have a general European salience. Protocol based approaches to

the community pharmacy supply of selected prescription medicines in defined circumstances (like dental emergencies, in condition specific clinics and in out-of-hours emergency services provided by pharmacies) are also, on the basis of this research, likely to be introduced more widely across the European Union.

However, the degree to which the development of free standing independent (as opposed to medical practice located) pharmacist prescribing of prescription only medicines will be adopted in Europe is less certain. Some governments may actively wish to promote this end, and undue conservatism should be avoided. But public opinion appears to be divided on its desirability. Further, pharmacists and their representatives often seem reluctant to support action that could be seen as radically altering the existing social concept of a prescription medicine.

Many respondents emphasised the value of the pharmacy check on medical prescribing safety and appropriateness in relation to prescription medicine supply. This concern may be addressed by regulations that ensure that independent prescribing pharmacists do not dispense their own POM prescriptions. Nevertheless, the British community pharmacy 'experiment' seems in this respect unlikely to provide a commonly followed European example within the foreseeable future.

Building a new dialogue between pharmacy and the pharmaceutical industry

Many pharmacists clearly have mixed feelings about the pharmaceutical industry. Some, for instance, say it is 'too commercial' (a charge often made against community pharmacy by other health professionals) while also saying that their own professional incomes should be protected. Others may recognise and to a degree feel dependent on industry's research and financial successes, but also resent the strong position companies are perceived to occupy in society, nationally and internationally. Yet the information presented on pharmacists' views and the environmental changes faced by both pharmacy and the pharmaceutical industry indicates that there is a rich agenda to be explored by professional and corporate leaders seeking to establish a constructive dialogue about the future. The analysis offered here indicates that opportunities for closer collaboration exist at three main levels:

1. Improving pharmacists' education and skills, particularly in respect of their therapeutic and health behaviour change related competencies.
2. Specifying and establishing new pharmacy based services, and where appropriate complementary forms of support provided directly to the public by companies.
3. Changing other health sector stakeholders' knowledge and attitudes, and influencing national and regional policies in ways consistent with the public's interests in better pharmaceutical and pharmacy based care.

A range of relevant themes that the qualitative research on which this report is based has highlighted are outlined below. Most have the potential to be translated into practical activities that could be undertaken at all three of these levels.

Medicines licensing, and achieving more shifts towards pharmacy supply

Changing medicines' classifications will not in itself create a health care environment in which pharmacists can play a significantly extended role. Yet moving more medicines to pharmacy only supply status will probably be a necessary element in the twenty first century development of pharmacy based health services. Such reclassifications should primarily reflect the development of robust data on the safety of products in normal use, rather than being led by factors such as patent expiry dates alone.

Similarly, where there is a strong public health improvement based case for moving selected medicines on further to a free sale basis, sectional professional or commercial interests should not seek to block such developments. However, where there is no clear public interest case favouring making a given type of medicine available anywhere, there is a robust case in favour of its retaining pharmacy status.

Looking at medicines licensing more widely, there may also be public benefits to be gained from stronger pharmacy and pharmaceutical industry inputs into policy debate on issues such as how an optimal balance between preserving safety and facilitating prompt access to new treatments can best be achieved. Ensuring the economically viable and clinically appropriate 'conditional' availability of innovative therapies for life threatening conditions such as cancer is another potentially important topic for pharmacists and pharmaceutical companies to consider together.

Ensuring appropriate pharmacist access to computerised health care records

Many respondents agreed that if pharmacy based health care is to be made more widely available in ways that maximise additional benefits, pharmacists must be in a position to not only see but also contribute to patients' full care records. In all the national settings examined, respondents were aware of at least some developments relating computerised health care and/or medication records. But in overall terms current progress falls far short of the ideal of establishing fully comprehensive, integrated, systems consistently available to pharmacists. Here again there are many potential opportunities for collaborative working at local, national and European levels, aimed at making optimal use of existing resources and promoting new investments.

Joint initiatives in this area could also involve extending electronic prescribing in ways that optimise the use of existing pharmacy resources, and ensure that patient choices are fully respected in relation to where and how medicines are supplied and who is empowered to see and change health records. In this last context aspects of Swedish personal care practices and service values appear worthy of particularly close attention. Arguably it should be service users rather than providers who have ultimate authority over health record access.

Maintaining positive and constructive relationships with the medical profession

The expansion of health care and allied service provisions via community pharmacies is sometimes, misleadingly or otherwise, presented as a threat to the medical profession. To the degree that patients and individuals seeking to maintain good health could enjoy more choices, limited competition will inevitably result. But in a changing world this should not be taken to mean that doctors will be made superfluous, or that their legitimate authority will be undermined.

Rather, in systems based on an ethos of professional co-operation alongside the pursuit of greater service efficiency, appropriate consumer sovereignty and better use of community pharmacy resources should help to manage medical workloads to better effect. It should also serve to maintain and improve the quality of doctors' prescribing and patients' medicine taking, rather than to undermine the strength of their relationships. However, this end will probably prove unachievable if most members of the medical profession do not see it as desirable and acceptable. This study offers robust evidence that throughout Europe more could and should be done to improve the working relationships between community pharmacists and doctors.

German insurance company schemes that promote the use of general practitioners and financially incentivise doctors and community pharmacists to work together may offer an example that it could in future usefully explored within the NHS, and other Union health care systems. There are important opportunities for pharmacists and pharmaceutical companies to work with members of the medical profession to build confidence and mutual understanding, and support further the implementation of policies that would underpin productive joint working.

The aim of such activity should at all levels be to create shared visions of 'pharmaceutical care', and greater expectations of community pharmacists and primary care doctors working together. This will not only promote better outcomes for those using their services but also offer secure environments for the professionals concerned. All the countries reviewed here have with varying levels of success sought to establish general medical practice based access routes to specialist/hospital care in recent decades. One important goal of collaborative work in this area could be to demonstrate how in Europe extending pharmacy based health services would enable general medical practice further to develop.

The financing of public access to prescription and OTC medicines

Countries such as France, Greece, Sweden and Germany have differing systems for funding and facilitating public access to medicines. Variations in these structures have led to marked variations in patterns of pharmacy only as well as prescription medicine use. The French overall 'OTC' market is consequently the largest in Europe. The Swedish market is, in both absolute and relative terms, significantly smaller. If the future development of European pharmacy health care is, as is suggested here, likely to in part involve increases in the use of pharmacy only medicines, more appropriate public and/or private systems for reimbursing their immediate out-of-pocket cost may well need to be established. They should logically be aimed at preventing income related inequalities in pharmacy care access, and discouraging its misuse.

This (together with the parallel challenge of seeking further to harmonise European approaches to charging patients for prescription items obtained via publicly funded care) therefore represents another possible area for collaboration between pharmaceutical companies and pharmacy as a public interest orientated profession. Work in fields like the establishment of new pharmaceutical care insurance schemes might also address problems arising from situations in which 'cost effectiveness regulators' such as NICE in the UK, or The Institute for Quality and Efficiency in Health Care in Germany, advise against the use of medicines that a proportion of service users have reason to believe will benefit them.

Protecting public interests in the ownership and location of community pharmacies

In France, Germany and Sweden pharmacy ownership structures have been challenged by European authorities seeking to ensure appropriate competition. This has created considerable concern. Pharmaceutical companies have no direct interest in this area, save to serve all their customers as well as they can. Yet given the vital importance of community pharmacy in the medicines supply chain and the use of medicines, this does not mean to say that the pharmaceutical industry and the pharmaceutical profession should not at a policy level together seek to assure European public interests in good quality, comprehensively available, pharmacy services.

Establishing robust evidence based approaches to the regulation of community pharmacy numbers and locations is one topic that might benefit from a careful joint analysis. A related area that might usefully be explored in partnership is the possible future application of competition law in ensuring that in coming decades community pharmacy does not become inappropriately concentrated. Europeans should wherever possible be able to access a true choice of pharmacy service provider types.

Policy on medicines parallel trading with the Union

Some observers assume that the present system of medicines parallel trading between European member states benefits community pharmacy and health care funders, at no significant cost to the public. However, the true picture is more complex, as the evidence presented here from countries such as Greece and Poland suggests. (See also Taylor and Campling, 2006.) The pursuit of a single European market, with the free movement of goods and services across all internal borders, on occasions conflicts with the legitimate pursuit of both national and European level interests in safety and access to medicines on the one hand, and research and innovation on the other. Pharmaceutical companies and pharmacists have a legitimate mutual interest in understanding this area robustly, and – if informed agreements can be established – working together constructively to shape policy in the overall European public's interests.

Ensuring medicines supply chain integrity

The survey results in this report show that three quarters of the European citizens interviewed believe there is a growing risk from counterfeit medicines in Europe. This perceived risk is lower in France and the UK than it is in Germany, Greece and Sweden. But public confidence in medicines supply chain security is clearly under significant threat throughout the Union. This problem has a potential to impact on the reputations of all those involved in providing medicines.

Given mutual good-will and respect, pharmacy's professional representatives and research based pharmaceutical companies should be able to develop and implement shared approaches to more effectively guaranteeing the supply of genuine medicines. They need to develop strategies that are demonstrably cost effective from a governmental perspective, as well as financially viable from the standpoint of private sector stakeholders in the European medicine supply chain.

Extending pharmacists' clinical competencies, and developing new community pharmacy service models

Contributors to this research were largely agreed that community pharmacy needs enhanced skills in areas such as communication with patients, and the delivery of care for common – rather than merely minor – conditions. One example noted on several occasions is that of the identification and treatment of raised blood pressure. Much has already been achieved, with clearly beneficial consequences in areas such as heart attack and stroke death rate reductions. Many effective anti-hypertensive medicines are not only of well proven relative safety, but also now available at low cost. However, much more could be done – even in western Europe – to optimise the benefits of existing pharmaceutical treatments (Kanavos 2007).

Similar cases might be made not only in contexts such as lowering cholesterol levels, but also with regard to examples such as the delivery of services like contraceptive and sexual health care, immunisations, and the treatment of diabetes and associated states. Pharmacy support for smoking cessation can be regarded as providing a starting point for a much wider range of interventions aimed at stimulating health behaviour change, and the effective use of medicines. Yet a French respondent argued strongly that although extending relevant forms of pharmacy based health care has a significant potential to reach sections of the population that are not adequately served by existing provisions, adequate efforts are not being made by pharmacists themselves to foster new services. It is similarly estimated that in the US only about 10 per cent of pharmacists are actively committed to extending pharmaceutical care (Strand 2007).

Survey participants were also largely agreed – despite the caveats entered by some about 'profit seeking' motives – that pharmaceutical companies are well placed to support the further development of community pharmacy skills and services. Realistic strategies must of course be found to generate the income needed to fund pharmacy based 'disease management' interventions. But consciousness of this should not undermine awareness of the important potential for joint working aimed at relevant educational, service and policy developments.

Informing the public about common health problems, and the ways they can most effectively be avoided and treated

The ICM survey results reported earlier consistently pointed to high (sixty five per cent plus) levels of European public support for policies that would permit pharmaceutical companies to communicate information directly to patients and potential medicine users through suitably regulated websites. This finding appears to challenge current EU regulations, and the views sometimes expressed by individuals seeking to champion health care consumer interests. Information on US company websites is already, of course, available to Europeans who are able to speak English and can access a computer.

Ethical community pharmacists wish to ensure that their customers receive accurate guidance, and are not misled. Some of those interviewed also seemed to be worried that if members of the public could obtain information about medicines from sources other than themselves, the position of pharmacy as a profession might be weakened. However, such sectional concerns do not offer a sound basis for policy. A further area for collaboration between the representatives of pharmaceutical companies and pharmacy is therefore that of enhancing public access to medicines related information,

and increasing awareness of the circumstances in which accessing diagnostic and allied testing and preventive, ameliorative and curative treatments in pharmacy and other settings can bring genuine benefits.

Defining, funding and leading pharmaceutical care

As Box 5 (page 32) discusses, term such as 'pharmaceutical care' can have a range of meanings. Just as in the past pharmaceutical companies and the pharmacy profession have collaborated to develop concepts such as 'concordance', so might they in future work together further to clarify and enhance public, professional and political understanding of pharmaceutical care and the provision of pharmacy based health care. It is arguably important that public expectations of the latter should be raised, to allow primary care systems to evolve.

Joint initiatives relating to this objective could also help further to strengthen pharmacy leadership across Europe, which has long been recognised as a critically important factor. At the start of the 1990s Professor Sir Michael Rawlins (who was subsequently to become chairman of NICE) wrote with respect to pharmacy in Great Britain *'that there is an extended role for the community pharmacist is accepted by the government and many other bodies..... The profession's leaders have a considerable responsibility, however, in ensuring that the potential is fulfilled'* (Rawlins 1991). The same can be said today throughout Europe.

Funding medicines research for the future – patents, brands and the proper place of minimal cost generics

The funding of pharmaceutical research via market based financial mechanisms, as opposed to tax payer contributions, depends critically on the existence of mechanisms for protecting intellectual (IP) and trade property. Without these, no private individual or corporation investing in research of any kind can be assured of making appropriate returns.

Patenting and branding have occupied an especially important place in the pharmaceutical sector. Once discovered and developed medicines are often relatively easy to copy. To the extent that public investment – outside areas such as defence – is for the most part made only when there is a reasonable prospect of success leading to financial returns on world markets, it can be argued that the existence of IP protection is also vital for the maintenance of tax based research funding. Hence measures that effectively weaken IP protection for medicines in Europe threaten the future financial viability of not only research based pharmaceutical companies, but also the academic, health service and other institutions they directly and indirectly fund. (See, for instance, *Action Research and Community Health India et al 2006.*)

Modern pharmacy is often concerned with limiting or reducing drug costs. Nevertheless, as a profession, pharmacy also retains a special stake in medicines innovation, and the continuing improvement of treatments for patients. Seen from this perspective there are potentially important opportunities for the European and global profession to work with the pharmaceutical industry to promote better public understanding of not only science, but also of economic issues appertaining to science.

Facilitating equitable global access to effective medicines

As noted at the start of this section, there is evidence that citizens of societies such as those of the European Union are becoming increasingly unwilling to accept that people anywhere in the world should be deprived of effective health care. While the commercial funding of pharmaceutical innovation is for a number of reasons becoming more problematic, there are rising demands that as soon as new treatments are licensed they should become globally available, to poor people as well as the rich.

The history of anti-HIV medicines discovery and supply illustrates this point, and the fact that pharmaceutical companies rather than governments may be blamed if less advantaged populations cannot get access to treatments. There is also some international questioning relating to the role pharmacy as a profession should play in improving global access to medicines, not just in capital city centres but also in less accessible poor urban and rural areas. It can be argued that alongside developing their interest in maintaining the financial viability of pharmaceutical research for the future, pharmacy ought also to work more closely with pharmaceutical companies to develop better approaches to facilitating equitable global access to effective medicines.

Conclusion

There is good reason to say that there is currently more opportunity for community pharmacy to extend its contributions to health and wellbeing of Europeans than at any time in the past century. The factors underpinning this reality include not only technical advances and changing health care needs. There are public expectations for a greater role for pharmacy across much of the Union. In countries such as the UK there is additionally informed medical backing for the strengthening of community pharmacists' skills, and the part they can play in maintaining and improving health outcomes (Fradd 2007).

The EU can already claim to be the world's healthiest major region. If developed rationally and effectively, its comprehensive community pharmacy network will contribute significantly to achieving further reductions in morbidity and mortality in the coming century.

However, against this positive background there remain major challenges to be overcome. Some of the most important exist within community pharmacy itself. Professor Linda Strand originated, with Professor Doug Heppler, the concept of pharmaceutical care at the start of the 1990s. She recently commented (at a conference held to encourage Polish pharmacy reform) that in many instances *'the pharmacist is the rate limiting step'* (to the achievement of pharmacy progress - Strand 2007). Her remarks reflect those made by other observers about issues such as defensiveness, pharmacists' seeming aversion to risk, and the extent to which their daily workload of high volume dispensing prevents members of the profession from taking their activities into new dimensions.

Strand and others have called for more investment in developing clinical skills, and putting individual and public health improvement at the heart of pharmacy's professional identity. It may also be suggested that pharmacy's commercial incentives to supply medicines, rather than medicines related health care, will need to change.

This may be true, at least in as much as any group's financial incentives should ideally be aligned with its highest priority

goals. But it is also important to stress that part of the unique value of community pharmacy is its capacity to treat people as customers rather than patients.

From a public interest perspective care should be taken not to lose this advantage as the role of pharmacists in Europe's communities adapts to not only support prescription medicine selection and taking more effectively, but also to facilitate informed self care and directly provide more established treatments for common conditions. Rather than thinking of this as a form of 're-professionalisation', pharmacists would perhaps be better advised to see themselves as embarking on a course which will in time lead to the 're-normalisation' of many aspects of the types of health care they are uniquely placed to provide in the community.

The evidence gathered in this study indicates that across Europe the funding base underpinning past patterns of community pharmacy activity is already changing. In the reimbursed prescription medicines sector it is becoming more transparent, and separated from the prices of medicines that are given to patients. Over time new methods of medicines dispensing, coupled with better access to health records, will also help pharmacy to develop further its place in health care delivery alongside that of nursing and medicine.

Related forces are driving the research based pharmaceutical industry to revise the business model which enabled it successfully to develop and supply new medicines during the second half of the twentieth century. In this sense, both pharmacy and the pharmaceutical industry face an uncertain yet potentially highly productive future.

It remains to be seen whether or not they will be able to work together effectively to realise their shared opportunities. But in the final analysis, medicines makers and medicines suppliers do not exist in a vacuum. The task facing pharmacy and the pharmaceutical industry extends well beyond re-engineering their bilateral relationship, or even building further their working partnerships with doctors and nurses.

It involves understanding with greater empathy the values, aspirations and overall (health) economies of the communities they exist to serve, and finding ways of meeting the needs of people in them which are progressively more relevant and respected. This involves building greater expectations of pharmacy, and pharmaceutical innovations. If European community pharmacy can promote this end it will in time gain a new level of security for itself, and the society of which it will become an even more integral part.

References

- Action Research Community Health India et al. (2006) *Civil Society report on intellectual property innovation and health*, London: The sponsoring organisations.
- AESGP/The Association of the European Self-Medication Industry (2007) *AESGP facts and figures* [online] <http://www.aesgp.be/publications/Facts-Figures.asp> [last accessed 13th November 2007]
- All Party Pharmacy Group (2007). *The Future of Pharmacy: report of the APPG Inquiry*. London: The All Party Pharmacy Group
- Allenet, B. and Barry, H. (2003) Opinion and behaviour of pharmacists towards the substitution of branded drugs by generic drugs: survey of 1,000 French community pharmacists, *Pharmacy World Science*, 25 (5), 197-202.
- Anderson, C. (2000) Health promotion in community pharmacy: the UK situation, *Patient Education and Counseling*, 30, 285-291.
- Anderson, C. and Mair, A. (2002) Pro-change adult smokers program: Northumberland pilot, *The International Journal of Pharmacy Practice*, 10, 281-287.
- Anderson, S. (2007) How British pharmacy practice is likely to be affected by changes in Europe, *The Pharmaceutical Journal*, 279, 242-4.
- Andersson, A.C., Brodin, H. and Nilsson, J.L.G. (2002) Pharmacy representatives: a non-pharmacy outlet of prescribed medicines in Sweden, *Pharmacy world and science*, 24 (2) 139-143.
- Annell A (2007). *Primary Care in Transition – Options for Sweden*. Presentation given Barcelona 13/4/07 to the Fundacion Salud, Innovacion y Sociedad Forum on Primary Care
- Ansell, N. (2002) Working with GPs: the 'prescribing efficiency scheme' pilot in Devon, *Medicines Management*, 1, 15-16.
- Auerbach, S.M. (2001) Do patients want control over their own health care? A review of measures, findings and research issues, *Journal of Health Psychology*, 6 (2), 191-203.
- Barbanel, D., Eldridge, S. and Griffiths, C. (2003) Can a self-management programme delivered by a community pharmacist improve asthma control? A randomised trial, *Thorax*, 58, 851-854.
- Bellingham, C. (2001) Learn from pharmacy across Europe, *The Pharmaceutical Journal*, 267 (7169) 502.
- Bennett, M. (2002) Number of patient contacts undertaken during extended open hours at a community pharmacy, *The Pharmaceutical Journal*, 269, 253-255.
- Bhattacharya, D., Wright, D.J. and Purvis, J.R. (2003) Pharmacist domiciliary visiting: a review of English services, *The International Journal of Pharmacy Practice*, 11, R8.
- Bissell, P. and Anderson, C. (2003) Supplying emergency contraception via community pharmacies in the UK: reflections on the experiences of users and providers, *Social Science and Medicine*, 57, 2367-2378.
- Bissell, P., May, C.R. and Noyce, P.R. (2004) From compliance to concordance: barriers to accomplishing a re-framed model of health care interactions, *Social Science and Medicine*, 58, 851-862.
- Blenkinsopp, A. and Bond, C. (2007) Pharmacists must learn to play their part in multidisciplinary health teams, *The Pharmaceutical Journal*, 279, 330-332.
- Blenkinsopp, A. and Celino, G. (2006) *Long term conditions: Integrating community pharmacy's contribution*, RPSGB and Webstar Health.
- Brock T., Taylor D.G. and Wuliji T (2007). *Ending the Global Tobacco Pandemic*. London: The School of Pharmacy, University of London
- Buisson, J. (2002) Speaking for pharmacy: giving advice on medicines to NHS direct and NHS 24, *The Pharmaceutical Journal*, 268, 281.
- Chamba, G., Bauguil, G. and Gallezot, J. (1999) The role of the French community pharmacist in drug dispensing, *Pharmacy World Science*, 21 (3), 142-143.
- Coulter, A. and Magee, H. (2003) *The European patient of the future* Maidenhead: Open University Press.
- Department of Health (2003) *A vision of pharmacy in the new NHS*. London: The Department of Health.
- Department of Health (2004) *The NHS improvement plan: Putting people at the heart of public services*. London: The Department of Health.
- Department of Health (2005) *Choosing health through pharmacy – A programme for pharmaceutical public health 2005-2015*. London: The Department of Health
- Edmunds, J. and Calnan, M.W. (2001) The reprofessionalisation of community pharmacy? An exploration of attitudes to extend roles for Community pharmacists amongst pharmacists and General Practitioners in the United Kingdom, *Social Science and Medicine*, 53, 943-955.
- European Generic Medicines Association (2007). www.egagenerics.com Last accessed November 2007
- Eickhoff, C. and Schulz, M. (2006) Pharmaceutical care in community pharmacies: Practice and research in Germany, *The Annals of Pharmacotherapy*, 40, 729-735.
- Emmerton, L., Marriott, J., Bessell, T., Nissen, L. and Dean, L. (2005) Pharmacists and Prescribing rights: Review of international developments, *Journal of Pharmaceutical Science*, 8 (2), 217-225.
- European Observatory on Health Systems and Policies (2004a) *HiT summary: Germany*, Copenhagen: European Observatory on Health Systems and Policies (www.observatory.dk)
- European Observatory on Health Systems and Policies (2004b) *HiT summary: France*, Copenhagen: European Observatory on Health Systems and Policies (www.observatory.dk)
- European Observatory on Health Systems and Policies (2005) *HiT summary: Poland*, Copenhagen: European Observatory on Health Systems and Policies (www.observatory.dk)
- Fishwick, S. (2007) What social capital is and why it is present in community pharmacy, *The Pharmaceutical Journal*, 297, 164-165.
- Fradd S. (2007). Personal communication and presentation given to PharmacyHealthLink, November 2007.
- Gainer, E., Blum, J., Toverud, E-L, Portugal, N., Tyden, T., Nesheim, B-I, Larsson, M., Vilar, D., Nymoene, P., Aneblom, G., Lutwick, A. and Winikoff, B. (2003) Bringing emergency contraception over the counter: experiences of nonprescription users in France, Norway, Sweden and Portugal, *Contraception*, 68, 117-124.
- Garattini, L. and Tediosi, F. (2000) A comparative analysis of generic markets in five European countries, *Health policy*, 51 (3), 149-162.
- Giles-Burness, D.A. and Roberts, R.I. (2002) Modernising pharmacy – the Stockport experience of producing a pharmacy development strategy in the new National health Service, *The Pharmaceutical Journal*, 268, 218-220.

- Giuliani, G., Selke, G. and Garattini, L. (1998) The German experience in reference pricing, *Health Policy*, 44, 73-85.
- Glennard A., Hjalte F., Svensson M., Anell A., Bankauskaite, V. (ed.) (2005) *Health systems in Transition - Sweden* Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies
- Hall, J., Cantrill, J and Noyce, P. (2003) Nurse prescribers and community pharmacists, *The International Journal of Pharmacy Practice*, 11, R64.
- Hameleers M., van den Heuvel Rijnders J. and Baljé S (2004). Towards a smarter protection of public interests in the liberal professions. EUI-RSCAS/EU Competition 2004/Proceedings. www.eui.eu last accessed November 2007
- Hammond, T., Clatworthy, J. and Horne, R. (2004) Patients' use of GPs and community pharmacists in minor illness: a cross-sectional questionnaire-based study, *Family Practice*, 21, 146-149.
- Harding, G. and Taylor, K. (1997) Responding to change: the case of community pharmacy in Great Britain, *Sociology of Health and Illness*, 19 (5), 547-560.
- Hardy, N. (2002) Providing access to community pharmacy services out of hours, *The Pharmaceutical Journal*, 269, 169-170.
- Healthcare for London (2007). A Framework for Action. London: NHS London
- Helper, D.D. & Strand, L.M. (1989). Opportunities and responsibilities in pharmaceutical care, *Am.J. Pharm.Educ.*, 53, 7S-15S
- Huttin, C. (1996) A critical review of the remuneration systems for pharmacists, *Health Policy*, 36, 53-68.
- Inglehart, R. and Welzel, C. (2005) *Modernization, Cultural change, and Democracy – The Human Development Sequence* New York: Cambridge University Press.
- Jackson, C. (2007) As pharmacy moves towards 2020, will it remain a profession of equals? *The Pharmaceutical Journal*, 279, 365-366.
- Jansson, S. and Anell, A. (2006) The impact of decentralised drug-budgets in Sweden – a survey of physicians' attitudes towards costs and cost-effectiveness, *Health Policy*, 76, 299-311.
- Joubert, F. and Choo, G. (2003) Developing a coronary heart disease service from a community pharmacy, *The International Journal of Pharmacy Practice*, 11, R80.
- Kanavos, P. (2006) Health and pharmaceutical policies in Europe - a concise guide (draft paper).
- Kanavos, P. (2007) Personal communication.
- Kanavos, P. and Taylor, D. (2007) Pharmacy discounts on generic medicines in France: is there room for further efficiency savings? *Current Medical Research and Opinion*, 23 (10), 2467-2476.
- Kontodimopoulos, M., Nanos, P. and Niakas, D. (2006) Balancing efficiency of health services and equity of access in remote areas of Greece, *Health policy*, 76, 49-57.
- Lawal, A.G., Patel, M.G., Wong, I.C.K. and Chrystyn, H. (2003) Opportunistic screening for type 2 diabetes within inner city community pharmacies, *The International Journal of Pharmacy Practice*, 11, R10.
- Liddy, M. (2003) Pharmacist-led residential home medication review project, *Prescriber*, 5, 80-82.
- Ligthelm, RJ, Borzi, V, Gumprecht, J, Kawamori, R, Wenying, Y, and Valensi, P. (2007) Importance of observational studies in clinical practice, *Clinical Therapeutics*, 29, 1284-1292.
- Maddock, H. (2002) All change for community pharmacy- what the NHS reform and health profession bill will mean, *The Pharmaceutical Journal*, 268, 213-214.
- McClure, L. (2007) With improved access to IT and a clear professional strategy, the future is ours, *The Pharmaceutical Journal*, 279, 192-3.
- McMenamin, I. and Timonen, V. (2002) Poland's Health Reform: Politics, markets and informal payments, *Journal of Social Policy*, 31, 103-118.
- Millard, F (2007) Personal communication
- Morrow, S. (2002) Setting up a scheme for older people, *Medicines management*, 1, 12-13.
- Mossialos, E., Mrazek, M. and Walley, T. (2006) *Regulating pharmaceuticals in Europe: striving for efficiency, equity and quality*. Maidenhead: Open University Press.
- Needham, D.S., Wong, I.C.K. and Campion, P.D. (2002) Evaluation of the effectiveness of UK community pharmacists' interventions in community palliative care, *Palliative Medicine*, 16, 219-225.
- Neroth, P. (2005) Sweden's state pharmacies may lose hold over drug sales, *The Lancet*, 365 (9477), 2079-2080.
- Newbould, J and Taylor D. (2007). Delivering Faster Access to Better Care. London: The School of Pharmacy, University of London
- Noyce, P. (2007). Providing patient care through community pharmacies in the UK: policy, practice and research. *The Annals of Pharmacotherapy* 41, 861-868
- Nuffield Foundation (1986). *Pharmacy*, London: The Nuffield Foundation
- OECD (2007) OECD Health Data. www.oecd.org Last accessed November 2007
- Office of Fair Trading (2007). The Pharmaceutical Price Regulation Scheme. London: The Office of Fair Trading
- OHE (2007) *OHE compendium of health statistics, 18th edition*, London: Office of Health Economics.
- Patel H (2007). Personal communication
- Paterson I., Fink M. and Ogus A. (2003) Economic Impact of Regulation in the Field of Liberal Professions in Different Member States. Vienna, Institute for Advanced Studies
- Rajaei-Dehkordi, Z., Hollingshead, C., Herkes, D., Holden, M. and Rao, S. (2003) Investigating the contribution of community pharmacists in identifying, understanding and meeting the needs of patients with diabetes, in collaboration with other health care professionals, *The International Journal of Pharmacy Practice*, 11, R18.
- Rawlins, M.D. (1991) Extending the role of the community pharmacist – Depends on extending training and regulation, *BMJ*, 302, 427-428.
- Rees, C. (2007) How the Pharmacy 2020 project is lighting the way for pharmacy's future, *The Pharmaceutical Journal*, 279, 131-132.
- Rodwin, V.G. and Le Pen, C. (2004) Health care reform in France – The birth of state-led managed care, *New England Journal of Medicine*, 351 (22), 2259-2262.
- Schneeweiss, S., Schöffski, O. and Selke, G.W. (1998) What is Germany's experience on reference based drug pricing and the etiology of adverse health outcomes or substitution? *Health Policy*, 44, 253-260.
- Sennett, R. (2006) *The Culture of the New Capitalism* New Haven and London: Yale University Press.

- Seston, E.M., Elliott, R.A. and Noyce, P.R. (2003) Supplying emergency hormonal contraception in community pharmacies: variation according to mode of supply and pharmacy type, *The International Journal of Pharmacy Practice*, 11, R20.
- Seston, E.M., Smith, I., Cantrill, J.A. and O'Brien, K. (2002) The impact of the deregulation of emergency hormonal contraception on a patient group direction scheme in the north-west of England, *The International Journal of Pharmacy Practice*, 10, R22.
- Sheridan, J. and Cronin, F. (2002) Supervised self-administration of methadone at community pharmacies: the introduction of a new service, *The Pharmaceutical Journal*, 268, 471-474.
- Silcock, J., Raynor, D.K.T., Petty, D. (2004) The organisation and development of primary care pharmacy in the United Kingdom, *Health Policy*, 67, 207-214.
- Smee, C. (2007) Looking ahead to 2020: economics, health care policy and pharmacy, *The Pharmaceutical Journal*, 279, 216-217.
- Stargardt, T., Schreyögg, J.S. and Busse, R. (2007) Pricing behaviour of pharmacies after market deregulation of OTC drugs: The case of Germany, *Health Policy*, 84 (1), 30-38.
- Strand, L. (2007) Presentation given to conference on extending pharmaceutical care, Cracow, November 2007.
- Stevens, M. and Roberts, C. (2007) The impact on future trends in new sciences on the practising pharmacist, *The Pharmaceutical Journal*, 279, 273-4.
- Taylor, D. and Carter, S. (2002) Realising the promise – community pharmacy in the new NHS. London: The School of Pharmacy, University of London
- Taylor, D. and Camplin, N. (2006) *Trick or Treat?* London: The School of Pharmacy, University of London
- Taylor, D.G. and Bury, M. (2007). Chronic Illness, Expert Patients and Care Transition. *Sociology of Health and Illness* 29: 27-45
- Taylor, D. (2007) The impact of politics on UK pharmacy and the economics of medicines supply, *The Pharmaceutical Journal*, 279, 308-9.
- Teal, S., Ricketts, L., Belton, A., Allsopp, G., Silcock, J. and Wright, D.J. (2002) How effective are pharmacists who work with medical practitioners? A study of interventions intended to influence prescribing, *The International Journal of Pharmacy Practice*, 10, 185-190.
- The Commonwealth Fund and Health Affairs (2006) *International Survey of Primary Care Physicians*, Washington DC/Ottawa: News Release (Nov 2nd).
- Tountas, Y., Karnaki, P. and Pavi, E. (2002) Reforming the reform: the Greek national health system in transition, *Health Policy*, 62, 15-29.
- Tweddell, S.J., Wright, D.J., Acomb, C. and Taylor, P. (2003) Enhancing the pharmaceutical care of patients with atrial fibrillation, *The International Journal of Pharmacy Practice*, 11, R76.
- van Mil, J.W.F. and Schulz, M. (2006) A review of pharmaceutical care in community pharmacy in Europe, *Harvard Health Policy Review*, 7 (1), 155-168.
- van Mil, J.W.F., de Boer, W.O. and Tromp, T.H.F.J. (2001) European barriers to the implementation of pharmaceutical care, *International Journal of Pharmacy Practice*, 9, 163-168.
- Vogler, S., Arts, D. and Hubl, C. (2006) *Community pharmacy in Europe: Lessons from deregulation*, Vienna: Austrian Health Institute.
- Wazaify, M., Shields, E., Hughes, C.M. and McElnay, J.C. (2005) Societal perspectives on over-the-counter (OTC) medicines, *Family Practice*, 22, 170-176.
- Westerlund, L.O.T and H.T. Björk. (2006) Pharmaceutical care in community pharmacies: practice and research in Sweden, *The Annals of Pharmacotherapy*, 40, 1162-9.
- Westerlund, L.O.T, Handl, W.H.A., Marklund, B.R.G. and Allebeck, P. (2003) Pharmacy practitioners' views on computerized documentation of drug-related problems, *The Annals of Pharmacotherapy*, 37, 352-360.
- WHO (1996) *Health care systems in transition: Greece*, Copenhagen: WHO Regional Office for Europe.
- WHO (1997) *The role of the pharmacist in the healthcare system. Preparing the future pharmacist; curricula development. Report of the third WHO consultative group*. Vancouver: WHO.
- WHO (24 July 2006) *Germany* [online] http://www.euro.who.int/pharmaceuticals/topics/overview/20020425_2 [last accessed 13th November 2007]
- WHO (24 July 2006) *Poland* [online] http://www.euro.who.int/pharmaceuticals/topics/overview/20020415_1 [last accessed 13th November 2007]
- WHO (24 July 2006) *Sweden* [online] http://www.euro.who.int/pharmaceuticals/topics/overview/20020414_2 [last accessed 13th November 2007]
- Wanless, D. (2004) *Securing Good Health for the Whole Population*, London: HM Treasury.
- Wilson, K.A., Jesson, J.K., Varnish, J., Pocock, R. and Barton, A. (2002) The Birmingham community pharmacy repeat dispensing project, *The Pharmaceutical Journal*, 269, 20-24.



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