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Background

This study was commissioned and financed by the Directorate of Research, Analysis, Evaluation and Statistics (DREES). It forms part of IRDES programme of work on the organisation of health systems, specifically in the field of primary care, and follows a review of the literature on the effectiveness and efficiency of delegating procedures from general practitioners to nurses, which had shown that this is both feasible and effective (QES no. 65).

This international comparison of skill-mix practice between general practitioners and nurses gives an insight into the context in which this is developing, as well as its form and content.

A future publication will consider the implications of these developments for the organisation of primary care and the health professions, with specific regard to legal and regulatory considerations.

The participation of nurses in primary care in six European countries, Ontario and Quebec

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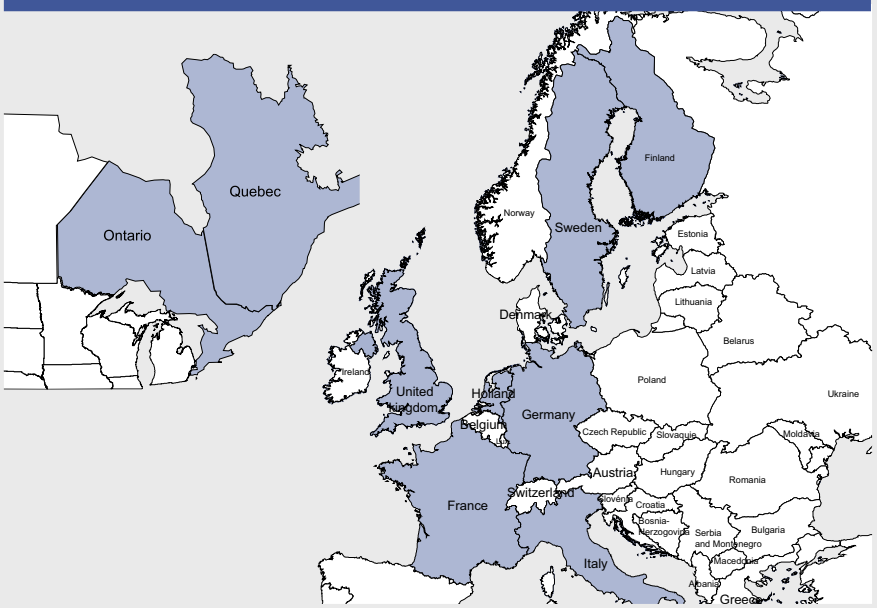
In France, the forecast decline in the number of doctors and problems already evident in their distribution across the country has prompted debate on the division of labour among professionals, something which is already being put into practice in other countries facing similar problems.

Changes in the organisation and distribution of different professional activities can go some way towards solving problems of medical demography: the extension of skills, and the creation of new qualifications or even professions, are also approaches being debated and explored within this experimental area of cooperation between health professions.

The objective of this study is to examine ways in which other countries, in Europe in particular, define the roles and competencies of health professionals, notably nurses. The study examines the ambulatory care sector, also known as primary care, with its connotations of accessibility, point of first contact and continuity of care, even if these aspects of primary care require further elaboration and specification. It seems that the ambulatory care sector will be most affected by these changes in the future, given the need for accessibility to these services, and the potential for change in this area. In fact it is prinicipally in this care sector that there is most potential for developing health prevention and education services, or new functions such as care coordination.

Countries included in the study of nurse participation



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The organisation of primary care and particularly the way in which doctors practise differs widely between countries and largely determines the role and activities of nurses. There is a clear contrast between countries like France where general practitioners for the most part practise alone or in groups with other doctors (Germany, the Netherlands, Italy, Canada), and countries where doctors work in group practices with other health professionals (UK, Sweden, Finland). The ways in which doctors and nurses collaborate is determined by these different models of primary care delivery. Hence in Germany, the Netherlands, Italy and Canada there is little skill-mix between doctors and nurses. In Germany and Holland, doctors prefer to collaborate with another health professional (the medical assistant) within their practices. Nurses are not involved in primary care (the Netherlands, Italy) or mainly provide it at home for dependent persons (Germany). In Ontario and Quebec, although nurses do work in primary care it is only recently that collaborative practice with doctors has begun to develop. In the UK, Sweden and Finland however, working structures favour integrated collaboration between doctors and nurses.

Germany, the Netherlands, Italy and Canada: limited skill-mix between doctors and nurses in primary care

Germany: still no clear role for primary care

Self-employed doctors contracted to the health service are the main players/actors in the ambulatory sector

In Germany, primary care is not recognised as such, within a model of ambulatory medicine where self-employed specialists and generalists play a similar role, practising as individuals and paid on a fee-for-service basis. A minority of doctors – 25 to 30% - work in group practices.

Registration with a doctor has become the norm since the reform of 2004. Patients may choose a generalist or a specialist, but are then tied to this practitioner for a minimum duration of one term (the time required for reimbursement of care charges). Henceforth they will require a prescription from this doctor for a specialist consultation. They pay a fixed-price «ticket modérateur» of €10 per term and medical care is then free.

Medical assistants, the privileged auxiliaries of doctors

Totalling 493,000 in 2002 (1.8 per doctor), medical assistants are a distinct professional group in Germany. From the age of 16 they follow a professional training programme of three years, involving theory taught in professional colleges (one day a week) and practical training in doctors' surgeries. In fact they are poorly-paid employees with little training (earning between €900 and €1300 per month before tax). Their activities include medical secretarial tasks (making appointments, preparing consultations, organising medical records, delivering prescriptions etc) and simple clinical tasks (removing sutures, electrocardiograms, simple audiometry, dressings, taking blood samples, injections, taking blood pressure). They work only in the ambulatory sector, but almost all doctors employ them, usually part-time. Medical assistants are always supervised by doctors who can delegate a wide-range of tasks to them. Hence German doctors' practices offer a more extended range of services than in France, particularly with regard to simple biological

Primary care

In this study we have chosen to focus our analysis on joint working between nurses and doctors in the area of primary care.

The term «primary care», which is used in some countries but very little in France, conveys the notion of first point of contact, accessibility and continuity of care. General practitioners are key actors, but depending on the organisation in question, other professionals, particularly nurses, may also be involved.

There is no universal definition of the range of services offered. In addition to local ambulatory care, preventive care, health education, information and advice may also be provided. However follow-up care, residential care and rehabilitation services – which involve a large number of professionals, especially nurses – are not included in primary care. Nevertheless it should be noted that these two categories are not always clearly distinguished in the information examined here.

tests (glycaemia, urine analyses etc.).

Nurses in Germany: a marginal role in the primary care sector, but a significant presence and relative autonomy in the dependency care sector

The use of medical assistants in doctors' surgeries partly explains the somewhat marginal role of nurses in primary care. The latter are more important in domiciliary care[1], where they are likely to develop new roles in future. This sector is growing rapidly, following the establishment of dependency insurance in 1994, which recognises the specialty of geriatric nurse.

The introduction of this insurance has notably helped nurses to develop in independent practice. «Community nursing services» , managed by nurses themselves, have been set up[2]: there are currently approximately 300 throughout Germany, but these services are still quite limited with about 12 nurses for 40 to 60 patients per centre. The nurses are salaried, and the resources earned from consultations carried out by the team are pooled. In the view of nurses representing the profession, there is now a real professionalisation of nurses working in the dependency care sector, with nurses working more autonomously than has hitherto been possible, and the possibility of developing new roles in the future.

The introduction of medical activity centres: a recent policy which aims to encourage new professional groupings

In order to encourage more integrated regimes of care for patients, the government, in agreement with the order of doctors, created a new form of provision of ambulatory care in 2003: medical activity centres (Medizinische Versorgungszentren). These groups may involve different health professions (doctors, physiotherapists, nurses, pharmacists), and hospitals as well. Doctors may work in these with conventional contracts (in which case they are shareholders), or on a salaried basis.

Objectives and methodology

The objective of this study is a comparative analysis, for a group of countries, of collaborative practice between doctors and nurses, of the roles of nurses, and of the policies being implemented to develop these roles. The countries included in the study have been chosen on the basis of their experience of developing the nursing role (UK, Canada, Sweden), the decentralised organisation of health services (Italy, Finland), their similarity to the French system (Germany), or the fact that they lie somewhere between the French and German systems, as is the case for the Netherlands.

The study began with a description of the current situation:

- of the nursing profession (demography and working conditions, professional organisation, areas of competency, how general pratctitioners and the nursing profession work together);
- of experiments which aim to change the roles and organisation of front line professionals (the area of health care activity concerned, the kinds of procedures to be changed, new occupations and specialisations, the political process behind these experiments in delegation, approaches to financing, organisation and training, evaluation of these experiments).

These policies were then analysed in order to understand the motives behind the change process, its dynamics (the influence of different actors, and of system characteristics – approaches to financing and organising primary care etc.), and the outcomes of these experiments in relation to their objectives (the diffusion and generalisability of these new approaches and where failure or conflict occurred).

The study was supported by an international network of experts working in this area, who advised on a questionnaire on the nursing profession, and on what and who to visit in each country: researchers, and representatives of institutions and professional organisations.

Holland: primary care services are organised around general practitioners, key players in the health system, with a limited role for nurses

A gate-keeping system in which general practitioners work principally in groups with medical assistants

1 *It is estimated that approximately 5% of nurses work in this sector.*

2 *These are similar structures to those of home nursing care services in France (SSIAD) but are private for-profit services*

In the Netherlands health services are for the most part private and organised around self-employed doctors, generalists and specialists, as well as hospitals and clinics which are mainly private not-for-profit organisations. Primary care is provided by general practitioners, who play a key role in the health system. Medical specialists work mainly in the hospital system or in other care-providing organisations.

In 1941 a gate-keeping system was established in the Netherlands. To access specialist care patients must register with a general practitioner of their choice.

General practitioners are all independent providers, remunerated partly on a capitation basis for providing care to patients registered with the sickness insurance funds, and partly by fee-for-service for patients with private insurance. While in 1970, 91% of general practitioners were solo practitioners, now the majority (57%) work in group practices, usually with two doctors, or in health centres.

As in Germany, medical assistants play an important role in general practices. They carry out similar medical, technical and administrative tasks, supervised by doctors.

A less common model of health centres in which nurses are involved

In the Netherlands, general practitioners are not usually associated with nurses for the delivery of primary care. Nevertheless these teams do exist in health centres which serve about 10% of the population. These centres are cooperative associations which share premises with health professionals, working together to serve a defined population. For the most part they provide health care to children and nursing services to the elderly. Moreover, a national experiment is currently underway concerning the extension of primary care tasks for nurses, in twelve group practices and health centres. Within this programme, qualified nurse practitioners can give initial consultations, either routinely, or if a patient cannot attend a consultation with a doctor. They can visit patients at home, care for patients with chronic conditions (asthma, arterial hypertension, smoking etc.) and manage vaccination programmes. They may not however, make diagnoses or issue prescriptions, and essentially play a role of advising and educating patients.

Hence, as in Germany, collaboration between doctors and nurses is weak in the Netherlands. In both cases this appears to be partly due to the existence of the profession of medical assistants, who are supervised by doctors, whether or not the latter have a gate-keeping role.

Italy: a gate-keeping system dominated by self-employed doctors in solo practices

Gate-keeping general practitioners with a monopoly

The Italian national health system has been progressively decentralised since its establishment in 1978, and the regions now have a wide range of responsibilities for financing and managing the system. Each region is divided into local areas for which local health units (ASL, Aziendende sanitaria locali) are responsible.

Patients are registered with a general practitioner or a paediatrician, who is a gatekeeper to the health system. Patients are free to choose their doctor provided that their list size does not exceed the maximum permitted (1800 for a general practitioner, 1000 for a paediatrician). Doctors are self-employed, mostly solo practitioners, and are paid by capitation.

Limited development of the nursing profession because of the high density of doctors

The Italian health system is unique in that it has a surplus of doctors (see Table p 10). There are relatively few nurses, and they work mainly in hospitals or establishments for dependent persons supervised by Local Health Units. They also care for persons at home supervised by doctors.

Regional experiments to strengthen primary care

The approach chosen by some regions (Emilia-Romagna, Lombardy) is to focus on strengthening primary care.

These regional policies aim to promote group practices, and to integrate general practitioners, social services and public health, and to redistribute among health professionals. Incentives for reorganisation include in particular, help with finding jobs for personnel (secretaries, nurses etc.).

The national contract which regulates relations between doctors

and health authorities states that the salary of a nurse should be 35% of that of a doctor practising full-time with a list of 1500 patients.

Group medical practices are considered the base from which the range of primary care services may be enlarged. Hence, in Lombardy some experiments with «primary care groups» have been established with a view to improving the follow-up of diabetic and hypertensive patients. Follow-up protocols are implemented by nurses in the doctors' practice, under their responsibility. These nurses do not make diagnoses or prescribe.

Quebec and Ontario: a real role for nurses in primary care, nurse/doctor collaboration unequally developed

Primary care in Quebec and Ontario: Revival of a long-standing objective

In Quebec, first line health services are mainly provided from private medical practices. Local community service centres (CLSC) are another form of organisation, but there are fewer of them.

In Ontario the approach to primary care provision is relatively similar. Although less numerous, Community Health Centres (CHC) are equivalent to CLSCs in Quebec.

All doctors in Canada have the status of independent practitioners, including those working in hospitals and CLSCs. Most of then (89%) are paid by fee-for-service.

In private practices in Quebec, six out of seven doctors work in groups, consisting on average of five general practitioners.17% of these practices have at least one nurse in their team.

At least half of these practices also include specialists: psychologists (40%), dieticians (30%) and physiotherapists (12%).

Cooperation between doctors and nurses in private medical practices is relatively rare and exists above all in the larger practices.

Nurses essentially work as medical auxiliaries (collecting basic information and histories, assessing calls and referring patients appropriately etc.) and may provide unsupervised care (mainly for patients without appointments). They are paid directly by doctors.

The CLSCs, established in the Seventies, were initially conceived as the point of entry into the health and social service system. Nevertheless it is mainly private medical practices and the accident and emergency services of hospitals which have played this role during the last thirty years.

The idea at the outset was that CLSCs should take overall charge of the health and social care needs of the local population, using multidisciplinary teams to enhance continuity of care and professional collaboration, particularly between doctors, nurses and social workers.

However their role has changed greatly since then: today they focus on caring for vulnerable clients, providing medical services and assisting elderly or dependent persons to remain at home.

Canadian nurses: relatively important in the field or primary care

In Quebec, as in Ontario, the proportion of nurses working in primary care – approximately 15 to 20% - is fairly high compared to the countries discussed above: 10% of them work in CLSCs and 10% in the private sector, the latter mainly in medical practices and home nursing service practices. Similarly in Ontario, 16% of nurses work in primary care.

Family doctor groups or networks in Quebec and Ontario: new practice contexts for primary care nurses

Since relatively recently nurses in Quebec have been able to work in Family Medicine Groups (GMF – Groupes de médecine de famille). Created in 2000 to improve accessibility to care services, and encourage comprehensive and continuous care for patients enrolled voluntarily, GMFs consist of ten or so doctors who work jointly with clinical nurses and nurse practitioners with extended competencies (see Box p. 9).

They provide a range of first line medical services, 24 hours a day, seven days a week, in preventive, curative and rehabilitative care.

GMFs are being phased in. In October 2004, there were 87 GMFs with 943 doctors and 150 nurses, covering about 320,000 patients.

The long-term aim of the Quebec Minister of Health is to have 75 to 80% of the insured population registered with a GMF family doctor.

The practice nurse is a key feature of this new organisational model.

The integration of nurses in the doctors' team is essential for its success, and as such this represents a new approach.

Nurses are being given extensive responsibilities within the GMF, within the current legislative framework. They provide prevention, health promotion, screening and case management services, as well as liaising with the CSLCs and secondary services. They are also in charge of routine follow-up nursing services for vulnerable clients.

Ontario has introduced similar mechanisms on an experimental basis, Family Health Networks and Family Health Groups, where doctors are also encouraged – with the help of specific funds – to employ nurses.

United Kingdom, Sweden and Finland: primary care where skill-mix between doctors and nurses predominates

The UK: a long history of nurses in primary care but collaboration with doctors is recent

The key role of multidisciplinary primary care groups

The British health system is based on the institutional separation of different levels of care.

Primary care is mainly provided by general practitioners and associated personnel, particularly nurses.

Care requiring specialist opinion is provided at hospital, where most specialist doctors practice.

All citizens must register with a general practitioner (GP) of their choice, who acts as a gate-keeper. GPs are self-employed, linked to the National Health Service through a general contract, negotiated locally with Primary Care Trusts.

Most GPs work in group practices offering a range of diagnostic, curative and preventive primary care services. Now only 8% of GPs are solo practitioners. The most notable development is the increase in the size of these groups.

While an average group includes 3 GPs, 1 nurse and 5 administrative staff covering 6000 patients, more than 45% of GPs practise in groups of 5 GPs or more, compared to 17% in 1975. Some practices also include pharmacists and nurses who treat patients at home.

Nurses work in group practices under two quite different models. In the first they are paid by local authorities to care for patients at home (the elderly, women and young children) and have consulting responsibility together with the practice team.

These nurses, who have done further training, are among the most highly qualified and are trained in prescribing (see Box P. 7).

In the second model nurses are salaried employees of the group practice, and report to the person in charge of the group practice, usually a doctor.

They can also be consulted for first line care for minor problems, managing chronic conditions, and developing health education and promotion. If they have the relevant qualification they may also prescribe (see Box p. 7).

Collaboration between GPs and nurses: a lengthy process in the NHS

Although it is now usual to have nurses in primary care groups, whether working jointly with doctors or with delegated responsibility, this is nonetheless a relatively recent development within the NHS, in contrast to Sweden and Finland.

For a relatively long time (the Fifties and Sixties) nurses and GPs worked in rather different well-defined areas and collaborated little. Nurses focussed on home-based care and GPs provided first line care in their surgeries.

When 70% of the salaries of nurses began to be financed in the 1980's, group practices were encouraged to recruit them. The Eighties saw the start of a policy of delegation of financial responsibility to GPs who became GP Fundholders, which continued with the establishment of Primary Care Trusts (PCTs[3]) at the beginning of the 1990's, and new forms of contracting services.

Titles, diplomas and multiple functions for primary care nurses

A study of nurses carried out in 2004 under the aegis of the Ministry of Health estimated that the proportion of nurses working in the primary care sector was about 12%:

3 Primary Care Trusts have replaced Local Health Authorities. There are now 302 serving an average population of 150 000, with 75 GPs in 25 group practices. PCTs are networks of GPs and primary care teams working in a defined geographical area. They are responsible for providing primary and community care, purchasing specialist care from hospitals, and establish partnerships with other local public services, in particular social services. The budgetary responsibility of PCTs is increasing, and they are developing expertise in managing budgets, strategies for quality management and prescribing policy.

Nurse prescribing in the UK and Sweden

Prescribing, whether for medical treatments or other medical products and materials, has traditionally been the preserve of doctors. However several countries are now developing prescribing by other professionals, and in particular nurses.

In the UK, prescribing – hitherto reserved for doctors, dentists and vets – has been extended to nurses, and other professions. This was initially introduced on an experimental and highly controlled basis, but is now carried out in four different settings:

1) The independent prescription (doctor, dentist or nurse within the limits of the Nurse Prescribers' Extended Formulary) is possible in two situations:

- The first relates to two categories of nurses (district nurses and health visitors) and is limited to 13 products normally prescribed by a doctor (certain products available only from pharmacists and others over-the-counter) often needed in home nursing (bandages, dressings etc.). This prescribing is governed by the Nurse Prescribers' Extended Formulary. Training for this prescribing is included in basic training and involves 28,000 district nurses and health visitors.
- The second approach was introduced in 2004 and expanded use of the Nurse Prescribers' Extended Formulary to all qualified, experienced nurses with specific training (of 6 months consisting of 26 days of theory and 12 days of practical training supervised by a doctor). The nurse is authorised to prescribe independently about 180 products (antibiotics, vaccines, oral contraceptives, antiemetics, corticosteroids for external administration or by mouth such as prednisolone, etc.) for use in a defined list of 80 specific clinical situations (gastroenteritis, palliative care, asthma attacks, uncomplicated urinary infections in women etc.).

2) The possibility of supplementary prescribing was offered to nurses, midwives, pharmacists and health visitors in April 2003. This prescribing model forms part of a care and follow-up protocol prepared for a specific patient. It requires the agreement of a doctor, other involved professionals and the patient. Each professional named in the protocol can prescribe or change doses between two consultations with the legal prescriber, with no restrictions of products prescribed. This prescribing model is used particularly for patients with chronic conditions (diabetes, mental illness, etc.).

3) Prescriptions for groups of patients (patient group direction) (by nurses, midwives, pharmacists, health visitors, optometrist, etc.) relates to the supply and administration of products like vaccines. This prescribing model requires a local protocol signed by a doctor, dentist or pharmacist, and must be validated by a local health authority. The list of persons authorised to prescribe is nominative, no specific training is required and each organisation must ensure that the named person is competent. Several professions may use this prescribing model. Several doses are possible and may be changed by the professional concerned.

4) Specific exemptions (relating to sale, delivery or parenteral administration) relate to products for specific needs.

Nurse prescribing appears to be developing rapidly as shown in the table below which is based on data from the Register of Nurses in spring 2004.

Type of nurse prescriber	New prescribers registered in 2003/2004	Total registered prescribers
Independent nurse prescribers	11 324	30 599
Extended nurse prescribers	980	1 497
Supplementary nurse prescribers	1 457	1 457
Total nurse prescribers	13 761	33 553

Source : Nursing and Midwifery Council - April 2003 to March 2004

In Sweden, drug prescribing by professionals other than doctors was initially limited to midwives and specialist public health nurses (district nurses). The reform which authorised nurses to prescribe was implemented in 1994, with the objective of simplifying patient management and improving economic efficiency. The first reform projects date from 1974, but it was not until 10 years later, in 1988, that the first experiments took place in the North Region of Sweden, where there was a shortage of doctors. In 1994 following two positive evaluations – and despite doubts expressed by some GPs – the government decided to authorise nurses to prescribe drugs, provided they had done a minimum of eight weeks of training. At the start a special fund was established to finance this training, but now training in pharmacology and drug-based treatment is included in specialist training for all public health nurses. The number of nurses involved has increased from 246 in 1995 to 6521 three years later in 1998. In 2001 the right to prescribe was extended to other types of nurse, provided they have trained appropriately and are working in the public sector.

Evaluation of this prescribing policy, which is more limited than in the UK, has produced positive results. Since 2001, the right to prescribe has been extended The list of pharmaceutical categories which a nurse may prescribe has increased from 4 to 15.The National Council for Health and Social Affairs (Socialstyrelsen) reviews the list regularly. The Swedish Medical Products Agency has established 5 priniciples for determining the types of products which nurses may prescribe:

1. The indications must relate to nursing care and not to requests for laboratory examinations;
2. The products must have been approved and used for at least two years;
3. The prescription must concern only those indications present in the list and must be made by a nurse qualified as such;
4. The list must be revised annually;
5. Regulations concerning documentation and responsibility must be the same as for doctors.

- among nurses working in group practices, 12,000 have a specific qualification;

- among nurses working in Primary Care Teams, and able to practice in general practices: 17,000 are general nurses (registered nurses), equivalent to State Registered Nurses in France, 10,600 are public health nurses (district nurses), this term denoting specific further training for intervention in communities. These nurses practice in the home, and are often responsible for teams of carers. 9,900 are health visitors who care in the home for mothers and young children (equivalent to mother and child health care nurses in France).

New rules for nurses within a programme of diversifying services offered by general practitioners

The new contracts with PCTs enable group practices to receive more resources than are available from capitation alone, in return for agreements on service objectives and quality.

These objectives may, for example, relate to extending services (cervical cancer screening, family planning, vaccination, antenatal and childcare etc.), clinical performance criteria (e.g.70% of asthmatic patients in the practice list must be seen at least once every 15 months), practice organisation standards (traceability of prescriptions in patient notes, recording blood pressure for at least 75% of patients over 45 years old on the list etc.). These objectives are clearly defined and opposable by GPs and group practices, but the latter may decide themselves how they are implemented.

Hence GPs have developed new forms of organisation of first line care using multidisciplinary teams working in group practices.

Many primary care groups use nurses to fulfill their objectives, local authorities covering between 70 and 90% of their salaries. Most young nurses are interested in this type of employment, which is often part-time and relatively well-paid.

This development initially took place in a context of increasing diversification and complementarity of care, and is now part of a trend towards increased delegation of responsibility, but also greater emphasis on prevention and management of chronically ill patients (see box p. 7).

Health promotion is one of the main sets of skills being developed by nurses, within this framework of extending the role of nurses and establishing new nursing roles: health checks, education and screening in line with current protocols.

The management of chronic illness such as asthma, diabetes and cardiovascular disease is another area in which nurses have widened their activities.

This is not simply a case of delegating responsibility, but of reorganising the whole approach to managing these illnesses, with an emphasis on proactive management by care providers. This involves going out to the patients rather than waiting for them to come to the health centre. This collaboration between doctors and nurses is part of an approach based on diversification and innovation, with an

Some examples of innovation in the role of nurses in the United Kingdom: between extension and delegation

The involvement of nurses in health promotion for the elderly has taken off since the NHS reform of 1990. Since then, English GPs have had to offer health checks to their patients aged over 75, assessing incontinence problems, mobility, mental health state, social integration and their drug régime. A study found that after one year, these checks were almost always carried out by nurses in 37% of practices, by doctors in 38% of practices, and shared between the two professions in the rest.

First line consultations by nurses acting independently are another example of innovation, which involve the referral and/or management of patients with non-specified health problems with no diagnosis; doing an initial health check including a clinical examination, and either taking sole responsibility for a patient with a proposal for treatment, or referring to a GP or specialist secondary care.

These first line consultations can take several forms and are generally carried out by nurse practitioners. They may be face-to-face consultations in walk-in centres, or telephone consultations through NHS Direct.

NHS walk-in centres were established in January 2000. They offer rapid access with no appointment to primary care. They are open seven days a week for extended hours (07.00-22.00) in busy locations (supermarkets, underground stations etc.). They offer a check-up from a nurse, who will propose any relevant health promotion interventions and treat minor health problems. Walk-in centres are also advice centres (providing advice and information on other local services, GP on call services and duty dentists and pharmacists).

A public service called NHS Direct has also been set up in the UK, to complement conventional services from duty doctors. Created in 1998, NHS Direct is a 24 hour emergency telephone service, where nurses, with the help of diagnostic software, direct patients towards the relevant health service, or if possible help them to solve the problem themselves.

emphasis on complementary skills rather than task substitution (see Box p. 8).

Sweden and Finland: multidisciplinary health centres where nurses are the first point of contact

In Sweden and Finland, primary care is an essentially public service decentralised to regions and municipalities, based in health centres. It operates alongside a small but growing private sector.

Deecentralised health centres with a low density of GPs and problems with waiting times

In Sweden the system is based on health centres. Medical specialists work in hospitals. Patients may also use outpatient services in hospitals, and many do: in 2003, 48% of consultations took place in hospitals rather than health centres.There is no gate-keeping system and patients are not registered.

In some urban areas and isolated rural areas there are problems in recruiting GPs. Only 25% of working doctors in Sweden are GPs.

Waiting times, which for the most part are due to shortages of doctors, are a serious problem in the Swedish and Finnish health systems.

In Finland, the law of 1972 established the general framework for the organisation and financing of primary care, giving municipalities the responsibility of implementing them at the local level. These health centres became the lynch pins of the system, a novel idea at that time. In fact before this basic legislation was introduced, care was mainly provided by self-employed doctors, most of whom are now public employees.

In Finland as in Sweden, the system is based on health centres which offer a wide range of medical, social and community services to their local population (health promotion and prevention, diagnostic services, curative, palliative and rehabilitative care).

Their size varies across different geographical areas, with larger centres in urban areas, and smaller ones in rural zones. They are staffed by multi-disciplinary teams of GPs, nurses and other health professionals (laboratory assistants, midwives, physiotherapists and sometimes medical specialists: paediatricians, gynaecologists, psychiatrists etc.) who provide most of these services.

Legal definitions of the nursing procedures in the countries studied

In France, the legal definition of nursing skills is set out in a precise classification in the form of a list of procedures (Decree of skills no 2002-194 of 11 February 2002 concerning professional procedures and the nursing profession). Each article in this decree defines very precisely the range of procedures which may be carried out by nurses working independently or to administer a prescription or under a doctor's supervision.

In other countries, the legal definition of nursing skills is generally more flexible: procedures are described in various official texts, which do however constitute a nursing nomenclature. This amounts to a general framework for practice which leaves plenty of room for manoeuvre to local actors, to a greater or lesser degree in different countries. The higher the level of development of nursing qualifications, and the more that practice settings favour collaborative practice with doctors, the more extended the tasks, roles and functions of nurses become.

In Germany, the doctor is responsible for ensuring the level of competence of the professional to whom s/he delegates specific tasks, the nurse assuming responsibility to the extent that s/he agrees to perform those tasks. Hence the extent of procedures performed by the nurse depends principally on the doctor in charge. In a situation where skill-mix with doctors is not well-established, professional nursing organisations would prefer a more precise legal framework.

In Italy and Sweden, defining the nursing function in terms of nursing procedures has been abandoned, gradually in Sweden, and by repeal in 1999 in Italy. Since then the range of responsibilities has been defined on the basis of professional profiles and training.

In Ontario, and then in Quebec, there has been a gradual process of redefining groups of procedures in terms of their danger to the patient, and of professional self-regulation. The same group of procedures may be carried out by different professions. The precise definition of the procedures in each group is regularly updated, the main objective being to introduce greater flexibility in the organisation of work.

In the UK there have been no legal texts detailing nursing procedures for a long time, the only legal restrictions relating to prescribing (See Box p. 7). The respective levels of responsibility of doctors and nurses for delegated tasks have been specified, and a training certificate is required in order to carry out procedures under the supervision of a doctor.

In general terms it would appear that once an area of responsibility is acquired and recognised (by health institutions and training and research organisations), precise texts defining nursing procedures are no longer as necessary.

Principal data on the health system and mode of practice, remuneration and legal aspects of nursing activity in the countries studied

Key data 2002[a]	France	Germany	N. Lands	Italy	Sweden	Finland	UK	Canada	
								Ontario	Quebec
Population, '000s	59 486	82 489	16 149	57 994	8 925	5 201	59 232	12 392	7 542
Total health expenditure as % GDP	9,7	10,9	9,1	8,5	9,2	7,3	7,7	Canada: 9, 6	
No. of practising doctors	198 700	275 167	49 366	253 000	24 993	17 641	126 126	21 735 [b]	15 800 [b]
Doctors per 100,000 inhabitants	334	334	306	436	280	339	213	175	209
No. of practising nurses	425 981	986 000 [c]	136 500 [d]	312 707	78 380	70 090 [e]	605 000 [f]	84 013 [g]	62 190 [g]
Nurses per 100,000 inhabitants	716	1195 [c]	845 [d]	539	878	1348 [e]	1021 [f]	678 [g]	825 [g]

[a] Source: unless otherwise stated, Eco-Santé IECD 2004, data for 2002
[b] Source: Canadian Institute for Health Information, for 2002
[c] Source: Destatis, for 2002
[d] Source: National Nurses Association of the Netherlands, for 2002
[e] Source: STAKES, National Research and Development Centre for Welfare and Health, for 2002
[f] Source: National Midwifery Council, for 2002
[g] Source: Order of Nurses of Quebec and Ontario, for 2002

Guidance for the reader: Comparing quantitative data on nurses from different countries is problematic, because of differing definitions of the term nurse and variation in the precision of statistical data, which can cause considerable margins of error. For example, the profession of midwife is considered a nursing specialty in some countries such as the UK. Even the distinction between auxiliaries and nurses is not always clear. We have therefore included data equivalent to the French Category IDE (State Registered Nurse), generally termed «registered nurse» or authorised nurse, and have excluded the category of midwife, in order to make valid comparisons with France

	France	Germany	N.Lands	Italy	Sweden	Finland	UK	Canada	
								Ontario	Quebec
Collaborative practice between nurses & doctors	NO	NO, but medical assistants	NO, but medical assistants	NO	Yes, in health centres	Yes, in health centres	Yes, in group practice	NO	NO
Principle method of remuneratint nurses	SALARY	SALARY	SALARY	SALARY	SALARY	SALARY	SALARY	SALARY	SALARY
Self-employed sector	YES (12%)	YES, very limited	YES, less than 3%. Fee-for-service payment and activity limited by global budget. 2% of nurses are both salaried and independent	YES, very few	YES, very limited. The number of regulations which govern this sector is a significant obstacle to development of this mode of practice	YES, very limited, and mainly for domiciliary care. Slow but steady increase, with fee-for-service and low levels of reimbursement from the state	NO Possible to work independently (agencies specialising in temporary nursing contracts) but payment by salary. Nurses working in general practises also have basic salaries	YES, very few	YES, very few
Authorised to prescribe drugs	NO	NO	NO	NO	YES	NO	YES	YES	YES
Legal definition of nursing procedures	Detailed decree of procedures	No specific text on nursing procedures	No specific text on nursing procedures General framework for practice and scope of responsibilities depending on qualifications	No specific text on nursing procedures (abandoned in 1999) General framework for practice and scope of responsibilities depending on qualifications	No specific text on nursing procedures (gradually being abandoned) Definition in terms of scope of responsibilities depending on qualifications	No specific text on nursing procedures General framework for practice and scope of responsibilities depending on qualifications	No specific text on nursing procedures General framework for practice and scope of responsibilities depending on qualifications	Specific text on procedures carried out by all professionals (not specific to nursing)	Specific text on procedures carried out by all professionals (not specific to nursing) defining exclusive area and commun of practice

Advanced nursing practice in Ontario, Quebec, the United Kingdom and Sweden: between professionnal dynamics and legal recognition

The extension of nursing skills in the general context of advanced nursing practice has a long history. It concerns two types of nurse: the clinical nurse who opts to develop specific nursing skills (the clinical nurse) and the nurse practitioner or district nurse who elects to pursue this mode of practice as a substitute for or in addition to clinical nursing.

The specialist clinical nurse is trained to Masters level, and has management responsibility, carries out projects, analyses complex situations affecting some patients, and is involved in piloting quality control and in training. Her/his main place of work is the hospital. This long-standing specialisation - it was introduced in the Sixties – corresponds to the development of training and research nurses, within a process of increasing academic autonomy for the profession. Quebec in particular has developed this model, together with the United Kingdom.

The nurse practitioner or public health nurse is interested in working directly with patients or certain groups of patients. Here advanced practice relates to expertise in a particular area and medical care. The nurse practitioner is trained to make differential diagnoses in specific situations, to carry out specific diagnostic procedures or prescribe, within a well-defined area (defined using lists or model cases) or in particular practice situations. Nurse practitioners may work in a variety of organisations. In Ontario and the UK the majority work in primary care, whereas in Quebec most work in hospitals.

It should be noted that while the professional nurse training organisations have developed diplomas and qualifications for nurse practitioners, legal recognition of the qualification varies between countries.

Increasing recognition of the expanding role of nurses in Ontario

The training programmes launched in 1973 to address the shortage of doctors came to a halt in the early Eighties, because of difficulties finding training locations, particularly in doctors' surgeries. In 1998 the introduction of a new legal category of nurse – registered nurses in the extended class – with authorisation to perform certain procedures (diagnostic, prescriptions for additional tests or treatments) and a commitment from the government to finance these posts – in institutions or group practices - has revived the «nurse practitioner» model.

Recognition of the nurse practitioner qualification is limited to the specialist hospital sector in Quebec

Following a process of redefining the profession of nurse which resulted in the new nursing law of 2002, the title of nurse practitioner has been recognised. The specialist nurse practitioner works above all in hospitals in very specialised fields such as nephrology, with patients with a diagnosis for whom s/he may prescribe drugs, other treatments and complimentary diagnostic investigations, including invasive procedures.

No recognition of the title of nurse practitioner in the UK and Sweden, where nurse prescribing is developing

In the UK 13 years after the first nurse practitioners graduated, more than a thousand are registered with the Royal College of Nursing. Most of them work in primary care or accident and emergency services, either independently or with GPs. Nurse practitioners are trained to work autonomously in certain areas such as evaluating clinical situations, «prioritising» patients' health problems, carrying out necessary investigations, referring patients to other professionals and health education. However this qualification which is supported by the Royal College of Nursing has not yet been recognised. In practice only the qualifications of district nurse (nurses working in the home or managing teams) and of health visitor (nurses who care for mothers and children under five years old) are recognised, together with the general qualification of registered nurse.

In Sweden the opposite situation prevails: although district nurse prescribing is permitted in certain circumstances, and has been developing for ten years, the concept of nurse practitioner is much more recent.

A key role for nurses in health centres and in patients'homes

The relatively high density of nurses in Finland (See Table p. 10) is partly explained by the fact that in the past there have been comparatively few doctors. The number of patient doctor contacts in Finland is among the lowest in Europe, making it necessary to employ many nurses, who carry out numerous tasks not done by their colleagues in other countries, particularly in mother and child health care. Elsewhere many nurses have varied roles within public health, particularly in the area of school health, family planning and occupational health.

In Swedish and Finnish health centres, many first contacts are with nurses, especially district nurses. They often make the initial health assessment and refer if necessary to the GP or hospital. Hence as soon as the patient calls a health centre s/he makes contact with the nurse who takes an initial history. S/he gives an opinion by telephone if the symptoms are clearly not serious, or makes an appointment if there is any doubt concerning the cause of the problem is more serious. Where necessary s/he may refer the patient directly to hospital.

Beyond this essential referral role the nurse assists the GP. They also have their own consulting hours for procedures such as injections, removing stitches and taking blood pressure.

Nurses are also heavily involved in home visits, particularly to the elderly. In rural areas with a particularly low density of doctors, they may even carry out procedures which are normally the preserve of doctors.

In Sweden, some nurses may prescribe drugs (see Box p. 7). This right to limited prescribing does not yet exist in Finland. The issue is being discussed but according to the Finnish Medical Association, doctors are not really in favour, except in some areas with an acute shortage of doctors such as Lapland.

* * *

12 This review has shown that a wide variety of organisational structures for primary care exist in Europe and Canada.

The density of doctors seems to be related to the development of the nursing role: in Italy and Germany there is a high density of doctors and a relatively limited nursing role, whereas in the UK and Canada there is a lower proportion of doctors and the nursing role is more extensive. But a moderate density of doctors is not necessarily related to the development of the nursing role in the field of primary care. In countries such as Germany and the Netherlands, other professionals (medical assistants) working with doctors in particular, enable group practices to extend the range of services offered.

It would appear that close collaboration between GPs and nurses is not a natural mode of operation in most countries. In fact, where this model does exist, whether in an experimental form (Italy, Ontario, Quebec, the Netherlands, Germany), or more generally (the UK, Sweden, Finland), this is as a result of concerted policy on the part of the state to develop the professions' traditional modes of working. The trials in place now seem to be moving away from the «integrated health centre» option towards collaborative practice in a self-employed group practice setting. Some fairly substantial financial incentives have been made available by social security funds or regional authorities to encourage this form of organisation. They consist essentially of financing nursing posts with earmarked funds, and of supporting the development of team work in group practice in the ambulatory sector.

Finally, nurses' participation in primary care is evolving above all through the development of new tasks (in education, prevention, advice and to some extent prescribing) in this setting of collective organisations, rather than through the direct transfer of tasks previously carried out by doctors.

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