2 CONCISE HISTORY OF COMMUNITY PHARMACY AND PHARMACEUTICAL CARE IN THE NETHERLANDS

The long history of the profession of pharmacy in The Netherlands has been filled with many important developmental issues. As is the case in many other countries, the profession developed from the extemporaneous preparation and selling of medicines to the dispensing of medicinal products coupled with patient counselling. One could ask if this is a logical development. Why have Dutch pharmacists during the last decade, become increasingly interested in care? Which forces have pushed the profession in this new direction and did these forces originate from outside or from within the profession?

In this chapter an attempt is made to identify the forces influencing the development of the profession and convergence, as a tool to help improve understanding of the current and future professional developments of pharmacy in The Netherlands. The same issues can probably be identified in other countries, although the pace of change may differ.

The separate development of the pharmacist’s role in providing advice to physicians and patients, the development of clinical pharmacy and the emergence of social pharmacy are regarded as the core issues leading to the current trends towards the pharmaceutical care paradigm.

The following definitions are used throughout the chapter.

- Social Pharmacy: The science addressing relationships between the drug and the society, including the professional pharmaceutical and medical community.
- Clinical pharmacy: The science addressing the pharmacodynamics and pharmacokinetics of drugs in relation to their effects on the human body.
- Pharmaceutical care: the care given by the pharmacy team (in the field of pharmacotherapy) to individual patients, aimed at improving their quality of life.

2.1 HISTORICAL RESEARCH

To find an answer to the questions posed in the introduction, a literature review was conducted, supplemented by information from the Internet and personal communications.
with key figures in pharmacy practice. Recent developments in The Netherlands, especially
during the last 5 to 6 years, were difficult to find in the published literature, because little has
been written about this subject. Several textbooks on the history of pharmacy in The
Netherlands were used as sources for the early developments. The *Pharmaceutisch Weekblad*, the
weekly Dutch pharmaceutical journal and official journal of the Dutch Society for the
Advancement of Pharmacy (KNMP) was reviewed (starting in 1945) for articles that indicated
a new direction for the profession. Such indicators often appeared in the annual addresses by
the chairmen of KNMP, usually one to several years after shifts began.

2.2 The early history of the profession

Thorbecke, one of the most important 19th century statesmen in The Netherlands
recognised the social importance of drugs to society as early as 1865:

Het bereiden van artsenijen is een zaak van algemeen belang omdat de volksgezondheid erbij
betrokken is. (Preparing medicines is a matter of general importance, because public health is
involved)

However, when studying the history of pharmacy, it appears to have taken another century
before the providers of medicines recognised their impact on society. Although the
profession of pharmacy has existed for centuries, until the 19th century there was no
institutional separation between their medical role and their pharmaceutical role, a
situation which still exists in some other cultures (for example, Korea and Japan). The
pharmacists’ role was social as well as medical, and included a broad spectrum of patient care
activities, including diagnosing. Pre-1800, doctors and pharmacists were organised on a local
level only and had very little contact outside the town or village where they practised. Major
changes, however, started to occur in the 19th century. Not only were the first pure drugs
produced industrially at that time (quinine being the first to be manufactured in The
Netherlands in 1827), but legislation also changed and doctors, pharmacists and druggists
acquired their own separate roles. In 1555 in ‘Docteur van Reydt’ in Deventer was allowed to
visit the local pharmacy for inspection twice a year but at the same time was denied the right
to prepare remedies and medicines himself.¹ This limited the doctors’ individual rights in
favour of the pharmacist. But the major legislation which defined the role of the pharmacist
more clearly, and in which the function of doctors was separated from the function of
pharmacists, was not introduced until 1804.

It was also in the first half of the 19th century (1842) that the regional professional
organization called Nederlandsche Maatschappij ter Bevordering der Pharmacie (NMP) was founded in
Amsterdam. The year after its foundation this organisation allowed pharmacists from other
regions of The Netherlands to become members, and thus it became the national
pharmacists organisation². The same organisation is now called Koninklijke Nederlandsche
Maatschappij ter Bevordering der Pharmacie (KNMP, Royal Dutch Association for the Advancement
of Pharmacy).

———
2.3 The 20th century

When drugs began to be produced industrially at the end of the 19th century, the pharmacist's professional role started to shift in many countries, including The Netherlands, with control of drugs and their distribution becoming the central focus in Western countries. Pharmacists increasingly occupied themselves with the art of dispensing and acquiring chemical knowledge about the drugs that they dispensed. The commercialisation of pharmacy led to a decline in patient care and the level of social and ethical standards associated with pharmacy practice. Even the preparation of medicines gradually disappeared from the scope of the pharmacists' activities; in 1996 only 6.3% of the medications dispensed in The Netherlands were prepared in the pharmacy. In 1999 this share dropped further to 5.5%.

During the 1980s and 1990s, however, the pharmacy profession in most European countries returned to a more patient-focussed approach. Internationally the profession has begun to embrace pharmaceutical care, bringing increased attention to pharmacists' activities, including their patient advisory role, the clinical pharmacy movement and the emerging field of social pharmacy.

When did the focus of the profession really shift from preparing drugs to providing information, and when did the role of the patient become more important? In other words, when did the paradigm shift occur in which pharmacists became aware of the needs and expectations of their clients (again), and at what point did reprofessionalisation begin in The Netherlands?

2.3.1 The advisory role of the Dutch pharmacist to physicians

When the pharmaceutical industry started to advertise their drugs to prescribers, physicians and pharmacists increasingly started to question the ethical aspects of these advertisements. In the 1950s, discussion on this subject frequently appeared in the Pharmaceutisch Weekblad. The role of the pharmacist in advising physicians became more clearly recognised as a result of the increasing pressure of the pharmaceutical industry on the prescribing process.

Huizinga, a hospital pharmacist and professor of pharmacotherapeutics in Groningen, was the first (in 1957) to express the view that the pharmacist should be the pharmacotherapeutic advisor of the general medical practitioner (GP). One year later an initiative between the Royal Dutch Medical Association (KNMG) and the KNMP established this advisory role, which was the subject of the scientific meeting of the KNMP in 1958.

A consensus developed that to extend sufficient credibility to such a role, the pharmacist’s knowledge of physiology and anatomy needed to improve. It is therefore not surprising that Martens, KNMP chairman, highlighted this educational need in his annual address to the members of the association in 1959. KNMP subsequently took the step of supporting the individual pharmacist by publishing pharmacotherapeutic summaries in the Pharmaceutisch Weekblad. The first article, on blood pressure lowering agents, appeared in 1961. By 1962 all four Dutch schools of pharmacy (Amsterdam, Groningen, Leiden and Utrecht) were teaching physiology and pharmacology.

Co-operation between physicians and pharmacists intensified with the establishment of the first community health centres in the late 1960s, and the formation of of
pharmacotherapeutic consultation groups (FTOs) in the 1970s and 1980s. The first formularies were drawn up between pharmacists and GPs in the 1970s as a result of this increasing co-operation. In 1985, several professional bodies, among them KNMP and KNMG, drew up a charter on the importance of regional medical-pharmaceutical meetings. This charter was, however, not well supported by practitioners in the field.

In 1991 the government initiated a structured approach to the discussion of pharmacotherapy between pharmacists and GPs, by publishing the Guidelines for FTO. Moreover, the GP's had to be stimulated to participate in these meetings and were paid for their attendance (later this payment was included in their regular fees). The regional FTOs were, however, strongly supported by the professional organisations of both pharmacy (KNMP) and general practice medicine (Landelijke Huisartsen Vereniging [LHV]). A supportive network developed with the education and research department of the LHV (Onderzoek & Onderwijs [O&O]), in the leading role. From that time, the number of active FTOs grew and now almost all Dutch GPs attend the meetings. The Foundation for Appropriate Drug Provision (DGV), a co-operative foundation between KNMP and LHV, was established in 1994 to advise and support regional FTOs (and also support drug information meetings for the public). These regional pharmacotherapeutic meetings have resulted in the current close co-operation between pharmacists and physicians in Dutch communities.

2.3.2 Role of the patient in Dutch pharmaceutical history

As described in the few books available on the history of pharmacy in The Netherlands, patients were never considered as a serious factor in the work of pharmacists until the Second World War. The patient is rarely mentioned in these books -not even in the main work on the history of Dutch pharmacy, Poeders, Pillen en Patiënten (Powders, Pills and Patients) by Prof. Bosman-Jelgersma. Of course, patients were customers, making them commercially important, as long as they could pay their bills. However, no insight as to the social relationships between pharmacists and their clients is evident in the major Dutch texts on the history of pharmacy.

In the beginning of the 20th century the NMP defined its pharmacy regulatory role, but again, patients were not highlighted. This is best recognised in the first of a series of 20 bills published in 1920: ‘The Society has as most important task to improve the material welfare of its members, pharmacy owning pharmacists, under the proposition that the people are entitled to good pharmaceutical provision, accessible within reasonable distance and not more expensive than proper’. No further description of pharmaceutical provision is given, but it seems reasonable to assume that time only the provision of pharmaceuticals was considered.

The development of the patient advisory role of pharmacists after the 1940s has its roots in pharmacist’s increased knowledge of pharmacotherapy, which came about as a result of the increasing role of pharmacists in the provision of advice to GPs, as described earlier. But other societal factors drove this role as well. By 1957, Dutch pharmacists were worried about the influence of the pharmaceutical industry advertisements to the public, and in 1961 they expressed concern specifically about the commercial influence of television on drug consumption. In the same year members of the Dutch Study-Group for Social Pharmacy,
founded in 1958, described the group as ‘a proactive organisation for optimal pharmaceutical help to the individual and the community’. The members of this group, consisting of young pharmacists, were at that time pioneers in highlighting the professional responsibility with regard to the customer. It was also this group which stimulated the introduction of social pharmacy into the pharmacy curriculum. From 1972 onwards, social pharmacy has been taught as an independent subject at the Groningen and Utrecht schools of pharmacy, and these courses have contributed to an increased understanding in pharmacists of their role and the role of drugs in society. According to the inaugural lecture of Gerritsma, the role of the pharmacist in the late 1950s was compounding, advising physicians and patients, and the inspecting drugs. In 1962 Martens, the KNMP chairman, mentioned the same roles in his annual presidential address. With the thalidomide disaster in the 1960 physicians, pharmacists, politicians and the public all came together in the realisation that there was more to a drug then just swallowing it.

Nelemans, an academic expert on pharmacotherapy, was the first to mention the central role of the patient in the medical-pharmaceutical process in his 1962 article simultaneously published in Medisch Contact and Pharmaceutisch Weekblad. He stated, ‘To my firm belief it should be the patient who is to be the core of everything’. He was the first author to clearly state that pharmacists should accept the pharmaceutical industry’s assumption of the task of preparing drugs and that the provision of drugs should ultimately serve the interest of the patient. Although in retrospect this article was a landmark, it aroused little controversy at the time of publication.

In 1964 the president of the KNMP asserted that the pharmacist should be allowed to give information to the public, which at that time was still a revolutionary viewpoint for the profession. It was another few years, however, before KNMP acknowledged that patient rights had to be taken seriously. It was not until 1973 that KNMP, together with KNMG and the Group of Sick Fund Organisations, sent a letter to the Dutch Ministry of Health and Environment stating their common view that the patient has a right to drug information. This increasing importance of the patient’s role was also a result of the demands of society for greater rights for the individual after the ‘Paris Revolution’ (1968) in Europe.

In 1976, the KNMP issued an official charter stating that the pharmacist was allowed to give drug information to the patient. This had been an ethical dilemma for the association and they risked a controversy with different physician organisations that claimed that is was the physician who had the right to decide what information was given to the patient. Finally, in 1977 the chairman of KNMP clearly recognised the prime position of the patient in his presidential address: ‘The patient now has arrived in the centre of our thoughts. The patient is a human being for whom we care, and for whom we feel the same responsibility as the physician.’

Recognising the importance of interprofessional co-operation, the charter on patient information was changed in 1980 to state that the pharmacist should provide information to the patient unless the physician clearly asked the pharmacist not to do so. In the latter case, the patient should be informed of the prescribers’ preference. However, in the same year the chairman of the KNMP expressed the differing opinion that all patients have the right to
information about their medications, even if the physician denied the pharmacist’s right to be the information provider\textsuperscript{26}.

During the following years, the right of patients to information and the means of information provision were a frequently debated in the Pharmaceutisch Weekblad and other forums.\textsuperscript{27,28}

In 1985 Cox, chairman of the KNMP, officially confirmed the necessity of an active role of pharmacists and their assistants in the provision of drug information to the patient.\textsuperscript{29} Three years later Tromp was the first to indicate the clear potential for tension in the relationship between patients and pharmacies. He outlined the possible problem areas, including the privacy of patients and the educational level and attitude of the co-workers in the pharmacy.\textsuperscript{30} This concerns are now being addressed largely through the education of pharmacy staff, with an emphasis on personal commitment to pharmaceutical care.

### 2.3.3 Development of package inserts and patient information

Information leaflets have played a peculiar role in the development of Dutch pharmacy practice. Initially they were developed as package inserts by the manufacturers and written in scientific language to serve as an information source for physicians, although the physicians had rarely time to read them. By Dutch law these leaflets were removed from the package before dispensing and discarded before the pharmacists dispensed medication. In 1975, however, the law was changed, and pharmacists were not allowed to remove the inserts unless they dispensed only part of a package, which is common practice in The Netherlands.

Since 1974 KNMP and the KNMG have jointly published a series of informational leaflets on groups of drugs. These leaflets were all clearly patient-oriented instead of physician-oriented. In 1977 specific drug information leaflets were produced, which covered the field of generic drugs and were designed to overcome the lack of written information available to the patient on these agents. The pharmaceutical industry has been slow to follow the demand for special patient-information leaflets. In 1983 and 1984 the chairman of KNMP stressed that the manufacturers leaflets should be understandable to the patient, which is still not always the case\textsuperscript{31,32}.

These developments, among others described in this chapter, illustrate how the professionals, as well as the politicians, have attempted to satisfy patients’ demands for more information about the drugs they were taking.

### 2.3.4 Clinical pharmacy and medication surveillance

The first integrated approach to drug use and patient care seems to have come about with the development of clinical pharmacy and, shortly thereafter, medication surveillance. The development of clinical pharmacy was first described in The Netherlands by van der Kleyn, a hospital pharmacist, and supported by van der Vlerk, a community pharmacist\textsuperscript{33}. The clinical pharmacy movement started first in the United States in the late 1960s in The Netherlands in the early 1970s.\textsuperscript{34} Interestingly, the development of clinical pharmacy in the United States resulted from the simultaneous desire by pharmacists to extend their professional roles and the shortage of physicians at that time.
The Dutch front runners in this field received remarkably little response from the professional organisations. This is illustrated by the annual speech of the chairman of KNMP and an article by Boiten published in the same year. In both, the main professional problem was purported to be the age-old controversy of trade versus professional ethics; no attention being given to the development of clinical pharmacy. However, 4 years later, the inaugural lecture of Prof. Merkus at the University of Amsterdam in 1974, clearly demonstrated an appreciation by pharmacy faculty of the concept of clinical pharmacy.

In The Netherlands, clinical pharmacists initially viewed the patient very much as a number of tissue compartments into which drug penetrated and resided to differing extents (pharmacokinetics) while outcomes of pharmacotherapy (pharmacodynamics) were measured as biological or physiological responses. Obviously, this type of patient-oriented pharmacy still was not yet focussed on care or the social life of the patient. Currently clinical pharmacy internationally develops in the direction of individual patient and pharmaceutical care.

![Figure 2-1 The patient according to an old clinical pharmacist](image)

The first opportunity for pharmacists in The Netherlands to truly intervene in patient therapy in a systematic way came in 1973, when the first medication-evaluation instruments were constructed (e.g. the translation by Merkus of Whiting’s interaction chart) and card-systems were developed containing prescription information in the pharmacy. When computer software later became available to store patient medication records, medication surveillance became a realistic option for all community pharmacists. In 1976 Nieuwenhuis, the chairman of the KNMP, acknowledged the importance of medication surveillance but also stated that it still was at a preliminary stage and had to be developed further. With this statement he encouraged the profession to accept this new role for the pharmacist.

Within the framework of clinical pharmacy, the approach to the patient was an indirect one. It often happened that if the pharmacist thought that the patient could benefit from a change in therapy, he would contact the physician and perhaps not inform the patient. Informing patients was still considered to be unethical. Slowly, by 1987, information...
provision and medication surveillance began to merge into medication counselling in community pharmacy. Although the patient was considered to be an important subject, his or her active role in this process was still not fully acknowledged\[43,44\].

With regard to medication surveillance, since 1990 almost all Dutch pharmacies have had computer systems that maintain patient medication data and perform medication analysis\[45\]. These patient medication records are almost complete because until 1995 patients insured through sick-funds (approx. 70% of the Dutch population) always had to be registered in one specific pharmacy. Even in 1997, 93% of the patients still tended to go to one pharmacy. This factor makes the medication history, and hence the medication surveillance, very complete. On average, a pharmacy system now generates 0.4 to 0.5 surveillance message per prescription. Approximately 15% of these messages are on interactions, 25% on contraindications, 27% on compliance and 12% on dosing. As part of quality control, many pharmacies now have routines to handle the messages generated by their surveillance systems.

The Dutch organisation of GPs claims that its members, and not the pharmacists, should perform medication surveillance. In practice this would be rather difficult since Herings found in 1997 that GP records contain data on about 75% of the patients’ medication only. In high-risk groups e.g. the elderly or people who receive complex pharmacotherapy, the study indicated that the GP has access to details on only approximately 50% of the medication records. Increasingly, however, GPs in The Netherlands now have on-line access to the medication data of the pharmacy\[46\], which they use to prepare renewal prescriptions and to complement their own patient data. Because Dutch pharmacists and their assistants also take Hippocratic oath when they graduate as professionals, this exchange of information can benefit the patient without violating principles of privacy.

The development of medication counselling from medication surveillance began in the mid-1980s, and the patient information leaflet became an integral part of this counselling activity. In 1988, a project was undertaken in which the idea of an individualised patient information leaflet was considered. The first versions of these leaflets were very readable, with the name of the patient and the individual directions for medication use integrated into the text\[47\]. This idea has now been developed further by Pharmacom computer systems which selectively prints the different information blocks according to characteristics of the patient (e.g. sex, age, contraindications) and the other drugs he or she is using.

### 2.4 Transition to Pharmaceutical Care

By the end of the 1980s, the patient had largely become the focus of the pharmacist’s professional attention. However, the mental switch had not yet been made, because pharmacists considered themselves primarily drug specialists who protected the public from drug misuse by performing medication surveillance and providing information. Their knowledge and abilities were not integrated into a patient-centred concept of comprehensive care. For this change to take place, catalysts were needed to merge the

---

\[43\] Unpublished data from an ongoing project at the Science Shop for Pharmacy, Rijksuniversiteit Groningen, The Netherlands
different developmental strands. The catalysts were the activities of Hepler and Strand\textsuperscript{48}, and the law on medical and paramedical treatment (WGBO).

The ideas articulated by Hepler and Strand for the development of pharmaceutical care were adopted quickly by the International Pharmaceutical Federation (FIP). In 1991 the executive committee of the community pharmacy section of FIP introduced the concept of including continuing education in its annual conference\textsuperscript{49}. Pharmaceutical care was suggested as the central theme for this program, and Hepler was invited to chair the program committee. The first series of courses on pharmaceutical care was presented at the FIP conference in Tokyo in 1993. In the same year, pharmaceutical care was acknowledged by FIP as part of good pharmacy practice (GPP). In 1996 pharmaceutical care was further acknowledged by World Health Organisation (WHO) in a joint statement with FIP on GPP in community and hospital practice settings\textsuperscript{50}.

Members of the executive committee and Europharm Forum (a European professional pharmacy group related to WHO) introduced the subject of pharmaceutical care to The Netherlands in 1993. As already mentioned, Dutch community pharmacists were familiar with the field of clinical pharmacy and medication surveillance, the provision of information to patients and co-operation with physicians. With the definition of Hepler and Strand as a working definition at that time, the missing elements were the level of responsibility that the pharmacist should take regarding patient care and the central role that the patient should play in the patient-physician-pharmacist relationship.

In 1994 the KNMP positioned itself in the debate about the role of the pharmacist by emphasising cost containment as a means of achieving rational pharmacotherapy. This was an important political issue at that time\textsuperscript{51}. However, further emphasis on the role of the patient followed in the wake of a public opinion survey on the role of the community pharmacists, conducted that same year. The public saw the main tasks of pharmacists as distributing medications and advising patients, other important professional roles, such as medication surveillance, advising GPs, and containing cost were barely acknowledged\textsuperscript{52}. The publics’ limited view on the role and tasks of pharmacists did not particularly please the pharmacists; however, at least society’s opinion on pharmacists had changed dramatically from around 1900, when Ambrose Bierce, a U.S. writer and journalist wrote in his \textit{Devil’s Dictionary}\textsuperscript{53}

\begin{quote}
A POTHECARY, n. The physician’s accomplice, undertaker’s benefactor and grave worm’s provider.
\end{quote}

The relationships between patients and many care providers in The Netherlands are covered in WGBO, but pharmacists are not mentioned in this law\textsuperscript{54}. This omission prompted KNMP to sign an agreement in 1995 with the umbrella organization of patient organizations (NPCF), stating the right of the patient to receive care and information from the pharmacist. Partially as a result of that agreement, KNMP officially confirmed the central role of patients and their demands for care in the 1996 public statement ‘Met het oog op de Patient’ (with the eye

\textsuperscript{54} According to an agreement between the Minister of Health and the KNMP in October 1999, the pharmacists will now be incorporated in this law in 2000.
on the patient)\textsuperscript{54}. This focus on the counselling and advising individual patients, and on the continuity of care, signifies the completion of the official paradigm shift for the profession. This shift, however, still remains to be made at the individual pharmacy level, not only in The Netherlands but also in many other countries. Where medication surveillance and the pharmacist’s obligation to provide care come together, in practice different forms of therapeutic outcome monitoring will emerge. However, pharmaceutical care is more than optimising outcomes. It is a practice philosophy in which the patient is the core of all professional activities of the pharmacist and his or her team. Many barriers continue to impede the full implementation of pharmaceutical care; time and money the most obvious ones. Other barriers can, however, be found in the field of behavioural sciences, and research is addressing these latter issues, especially in the United States\textsuperscript{55}.

2.5 Discussion and Conclusion

The recent movement of Dutch community pharmacy towards a pharmaceutical care model is the result of many discrete influences, including

- Development of the pharmacist-physician relationship;
- The development of the pharmacist-patient relationship;
- Advances in the education of pharmacist;
- Increased provision of information to patients;
- Improved medication surveillance and conceptualisation of clinical pharmacy;
- Development of social pharmacy.

Many of these influences were unrelated, making the development of pharmaceutical care in The Netherlands somewhat episodic and dependent on chance (Table 2-2). The convergence of various influences into the pharmaceutical care model required strong catalysts including the intellectual philosophy advocated by Hepler and Strand and the emerging demands of society for more information about medication therapy. The sequence of events, however, is not surprising. Pharmacy is an open system that operates in the marketplace. As such it is sensitive to many outside influences.

In The Netherlands, the pharmacy profession appears to have been reactive to outside influences rather than proactive in planning for the future. Pressure of the pharmaceutical industry initiated the development of the pharmacists’ advisory function of pharmacists. In the United States, the development of clinical pharmacy was initiated as a reaction to changes in the field of medicine. The demand for drug information came from consumer organisations, while the development of social pharmacy seems to have been initiated by the university community as a result of societal pressure.

The development of the pharmacy profession in The Netherlands has depended much more on outside forces (government, industry, sick funds, patient-groups and computer developments) than on pressures from within the profession. It should be stressed, however, that pharmacy as a profession is not alone in this ‘forced’ evolution. Most other professions have followed a similar path of reacting to pressures from their ‘clientele’.

Although the conservatism of pharmacy as a whole has been highlighted, the existence of a front-runner role of some pharmacists must be acknowledged.
Some professionals with vision pick up early signals and try to develop the professional activities that are required and desired by society. The rest of the profession eventually follows their pioneering work. This takes time and dedication due to the many barriers that have to be overcome. We are sure the profession is developing in the right direction, with ever-greater emphasis on the patient and societal needs. It is time, however, for the profession to become more proactive in setting its own agenda. The new discussion on the future of pharmacy in Great Britain (Pharmacy in a new age) and in Northern Ireland (Pharmacy 2020) are inspiring examples, which could usefully be followed by many other national pharmacist organisations.

A proactive attitude, not only from the front-runners, but also from the entire profession, is desirable if pharmaceutical care is to be incorporated into routine community pharmacy practice.
<table>
<thead>
<tr>
<th>Relation pharmacist-GP</th>
<th>Central position patient</th>
<th>Education</th>
<th>Information provision</th>
<th>Medication surveillance and clinical pharmacy</th>
<th>Social pharmacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huizinga lecture and KNMP /KNMG statement</td>
<td>All universities teach physiology and pharmacology</td>
<td>Provision of info allowed</td>
<td>Patient has right of info</td>
<td>First signs of clinical pharmacy</td>
<td>Social Pharmacy dept founded in universities</td>
</tr>
<tr>
<td>Charter on importance of regional FTO’s</td>
<td>Nelemans article</td>
<td>Utrecht and Groningen teach social pharmacy</td>
<td>Merkus interaction-chart</td>
<td>Development of computer systems</td>
<td>1950</td>
</tr>
<tr>
<td>Governmental guidelines for FTO</td>
<td>Letter to minister of health</td>
<td>Patient declared in centre</td>
<td>Patient has right of info</td>
<td>Development PIF</td>
<td>1955</td>
</tr>
<tr>
<td>First health centres and FTO’s</td>
<td>Nelemans article</td>
<td>Utrecht and Groningen teach social pharmacy</td>
<td>Pharmacist should provide info</td>
<td>Merkus interaction-chart</td>
<td>1960</td>
</tr>
<tr>
<td>Charter on importance of regional FTO’s</td>
<td>Letter to minister of health</td>
<td>Patient declared in centre</td>
<td>Active role expected of pharmacist and assistant</td>
<td>Development PIF</td>
<td>1965</td>
</tr>
<tr>
<td>Governmental guidelines for FTO</td>
<td>Nelemans article</td>
<td>Utrecht and Groningen teach social pharmacy</td>
<td>Pharmacist should provide info</td>
<td>Merkus interaction-chart</td>
<td>1970</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Patient has right of info</td>
<td>First signs of clinical pharmacy</td>
<td>1975</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Provision of info allowed</td>
<td>Social Pharmacy dept founded in universities</td>
<td>1980</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Nelemans article</td>
<td>Letter to minister of health</td>
<td>1985</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Utrecht and Groningen teach social pharmacy</td>
<td>Charter on importance of regional FTO’s</td>
<td>1990</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Patient declared in centre</td>
<td>Charter on importance of regional FTO’s</td>
<td>1995</td>
</tr>
</tbody>
</table>

Pharmaceutical care
2.6 References to Chapter 2


4. See 1. Page 97


17. See 1. Page 103


Cox AB. Om de kwaliteit van de beroepsuitoefening [About the quality of professionally]. Pharm Weekbl. 1985;120:905-909.


Cox AB. Controversen over de geneesmiddelvoorziening [Controversies about the provision of medicines]. Pharm Weekbl. 1984;119:1033-1038.


Merkus FWHM. De kwaliteit van de huidige farmacotherapie [The quality of the current pharmacotherapy]. Amsterdam: Erven Bohn BV; 1974.


54 Met het oog op de patiënt [With the eye on the patient] Statement of the Royal Dutch Association for the Advancement of Pharmacy. The Hague: KNMP; 1996
