# PRIMARY CARE OBSTETRICS AND PERINATAL HEALTH IN THE NETHERLANDS

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ABSTRACT

The Netherlands is the only industrialized country in which a large percentage of obstetric care takes place at home. Almost 31% of all deliveries are home confinements under supervision of a midwife or a general practitioner, and 84% of all postnatal care is given at home by maternity care assistants. To gain a better understanding of this unique situation, the structure of Dutch obstetric care is examined with special attention to the four pillars on which the system rests: the special protected position of the midwife, a generally accepted screening system for high-risk pregnancies, a well-organized maternity home care system, and the sociocultural environment in The Netherlands in which pregnancy and childbirth are considered normal physiological processes. Description of the obstetric system shows a degree of competition between the obstetricians, midwives, and general practitioners, in which the general practitioner has lost a considerable part of the "obstetric market."

In most industrialized countries, obstetric care is largely provided in hospitals (1–5). The Netherlands is one of the few countries in which obstetric care generally takes place at home (6–12). Prenatal care is usually given by midwives and general practitioners who work in primary health care (not in hospitals). Thirty-one percent of all deliveries take place at home, attended by midwives or general practitioners, and 80% of all deliveries (home or hospital) are followed by maternity home care (13, 14).

In The Netherlands, pregnancy and childbirth are regarded as entirely normal physiologic processes that should be subject to as little intervention as possible. In most countries, however, pregnancy and childbirth are regarded as forms of sickness requiring the highest level of technological assistance, often accompanied by considerable medical intervention (15). This is evident in the percentages of cesarean sections in countries such as the United States (22.1%) (16), Canada (19.5%) (17), France (13.8%) (17), and England and Wales (13%) (18), which are much higher than in The Netherlands (7.9%) (19). Tew (20) remarks that "The majority of obstetricians everywhere have become convinced that the natural process of birth is fraught with dangers which their increasingly sophisticated technological interventions are increasingly capable of minimizing."

In addition, The Netherlands has one of the lowest levels of perinatal mortality (9.6/1000) (21). It is therefore not surprising that there is considerable interest from a large number of countries in the organization of obstetric care in The Netherlands. In the past, this interest sometimes reflected a critical attitude of some countries toward the Dutch system (22). However, in other countries, interest comes from movements that advocate home confinements, and in such cases The Netherlands is seen as a "beacon of light" (23, 24).

In this article, we first describe the most important supporting factors on which the Dutch obstetric system is based. Next, we show how a pregnant woman passes through the system of obstetric care in The Netherlands. Then, we look at the roles of midwives, general practitioners (GPs), and obstetricians in the provision of obstetric care and at developments within the system. Finally, we look at government policy and the future of Dutch obstetric care.

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## CORNERSTONES OF THE DUTCH OBSTETRIC SYSTEM

There are four pillars on which the Dutch obstetric system rests. The first is the special ("protected") position of the midwife. The second is the existence of a generally accepted screening system for high-risk pregnancies. The third is the existence of a well-organized system of maternity home care, and last, but not least, is the sociocultural environment that regards pregnancy and childbirth as normal physiologic processes.

### The Position of the Midwife

Obstetric care in The Netherlands has historically been the task of the midwife and the GP (25–27). In 1865, when the Act on the Practice of Medicine came into force, the role and the authority of both professional groups were established. In this Act, the midwife and the GP were regarded as competent to provide independent care during normal pregnancy and childbirth. Midwives and GPs refer women to specialist obstetricians in the case of medical and obstetric pathology. By law, the midwife is an independent medical practitioner, much like the GP and the obstetrician. The only distinction is that the midwife is limited to a subarea of medicine—that is, the supervision of normal pregnancy and childbirth. Despite several modifications in the years that followed, the 1865 statute remains essentially unchanged. However, over the years the midwife has acquired a number of additional areas of competence. She now has authority to prescribe certain types of medication, to correct the presentation of the baby for delivery, and to carry out suturing. This expansion of the midwife's role has allowed her to remain an independent practitioner.

The importance of the expansion of the midwife's role as a prerequisite for independent practice can best be illustrated by looking at the situation in neighboring Belgium. In the last century, both countries were united, which meant that the 1865 Act of Medicine was also in force in Belgium. Belgian midwives were then able to deal with an area of medicine and carry out normal deliveries independently. However, in Belgium midwives have not been granted any additional competence, a fact that increased the difficulty of independent practice (26). This has ultimately led to a virtual absence of midwives practicing independently in Belgium.

The position of the Dutch midwife is also protected in another way, via the health insurance system. Two thirds of the Dutch population are publicly insured, the remaining third consists of people with an income above a certain level, who must insure themselves privately. A number of years ago there was a competitive struggle between midwives and GPs in respect to the control of deliveries. To regulate this competition, the authorities enacted the 1941 Act on the Publicly Insured. Pursuant to this Act, the midwife received primacy in normal deliveries. This means that where a midwife is available in a certain area, mothers have to use her services to be eligible for full compensation for the cost of the delivery. If no midwife is available in an area, the GP attends the delivery and the cost is also fully compensated by the health insurance fund. The situation is slightly different for privately insured women. If they make use of a GP's services in an area where a midwife is available, they usually only receive the midwife's fee from their private Health Insurance Fund (11). In this case they have to pay the difference between a midwife's and GP's fee themselves (the latter being higher). If a midwife is not available in a particular area, in the case with the publicly insured, the cost of delivery by a GP will be fully compensated.

The 1941 Act on the Publicly Insured is an important basis of support for the midwife in independent practice in The Netherlands. It is frequently criticized by GPs, who see it as a measure that restricts their role within the provision of obstetric care. This measure is largely responsible for the ongoing controversy between midwives and GPs.

### The Screening System

The Dutch obstetric system has a generally accepted screening system for high-risk pregnancies. This is a list with indications and criteria on the basis of which the midwives, GPs, and obstetricians decide whether the woman is to give birth at home or in a hospital (28–31). The list was developed in the 1950s. At that time, the various health insurance funds often had to deal with pregnant women with new medical complications. The health insurance funds wanted a clear list of the likely complications. In part this arose because of the fear that the number of hospital deliveries would increase which, in turn, would lead to a rise in costs.

The standardized criteria for specialist treatment make it possible for the three professional groups to distinguish between physiologic and pathologic childbirth. If delivery is expected to be pathologic, the woman will be referred to an obstetrician and the delivery will take place in a hospital. All costs are then paid by the health insurance fund. If there is to be a physiologic birth, delivery can take place at home under supervision of a midwife or GP. In this case the costs of delivery are also paid by the health insurance fund. If, in the case of a physiologic birth, the woman chooses a hospital delivery, she has to pay the hospital costs herself.

A new list of medical indications for specialist treatment came into effect in 1987 (32). On the basis of a

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number of decisions, criteria, and the fundamental principle that deliveries can take place at home attended by the midwife or GP, a working group of midwives, GPs, and obstetricians developed an obstetric policy for each medical indication. In comparison with the old list, this has meant that a number of indications are no longer subject to referral to the obstetrician in the hospital, but require consultation between midwife or GP with the obstetrician beforehand. After the obstetrician has given his opinion, the midwife or GP decides whether the woman should be referred to the obstetrician.

This situation has caused considerable protest by the obstetricians, who believe that they, rather than the midwife or GP, should make the final decision. For this reason, a large number of obstetricians refuse to use the new list (33). In some regions of The Netherlands this has led to considerable friction among the three professional groups.

The importance of this screening system makes the government stress the importance of achieving a consensus on the revision of the old list among the three professional groups. Consequently, in the coming period, there will probably be a number of adjustments to the new 1987 list. Most important is that the basic idea of the selective system is to be retained.

## Maternity Home Care

Organized maternity home care is essential to the Dutch obstetric system. Without maternity home care, home confinement would not be possible in The Netherlands (34).

What does maternity home care mean in The Netherlands? The most intensive form of maternity home care is full-day maternity care. This means that a maternity nurse stays with the family for a period of 8 days for an average of 8 hours a day. On the first day the maternity nurse assists the midwife or GP during the delivery. During the next 7 days she helps the mother with physical care and washes and changes the baby's diapers, involving the parents as much as possible. Second, she helps the mother with breast feeding. Third, she gives general health information with emphasis on expert advice about the child. Finally, she looks after the family and does some housework, prepares meals, does the laundry, and cleans the home. There is also a less-intensive form of maternity home care, in which maternity home care is provided for just a few hours a day for a period of 8 days. The activities are the same as those in day care, except that no housework is done. Of those who receive maternity home care, 67% choose full-time support (35).

At present, 75% of all Dutch deliveries are followed by maternity home care. Because 31% of the deliveries take place at home, a great number of hospital deliveries (64%) are also followed by this form of care. This is, to a large degree, the result of the rapid increase in the number of short-stay hospital confinements. A short-stay hospital confinement is a confinement in which the delivery takes place in a hospital under the supervision of a midwife or a GP, but immediate pre- and postnatal care is entirely or partly at home. Hospital confinement lasts $\leq$ 36 hours. If the hospital stay lasts $>$ 36 hours, the confinement is considered medically indicated, and is supervised by an obstetrician.

Maternity home care is provided by maternity home care nursing assistants. These nurses take a 3-year training course. At present there are 5,600 maternity nurses in The Netherlands (35). In the past few years we have seen the number of maternity nurses somewhat decline. Because the demand for maternity home care has steadily increased in that same period, it is clear that not all demands for help can be met at present.

Thanks to maternity home care, a home delivery in The Netherlands is not synonymous with neglected delivery. If home births are to be reintroduced in other countries, it will only be possible with sound maternity care at home.

## Cultural Environment

In The Netherlands, home delivery is an accepted, culturally embedded phenomenon. According to Kloosterman (6), The Netherlands has developed a tradition of pregnancy and confinement that differs fundamentally from other western industrialized countries. In these other countries confinement at home is regarded as antisocial behavior that belongs to a subculture of self-neglect. In The Netherlands, however, it is a socially acceptable form of confinement. Klinkert (25) says that these differences reflect a basic Dutch idea that has been virtually discarded by other western nations: that the process of birth belongs to the domain of normal human activity and only requires medical assistance when disturbances of the normal pattern are indicated. In the surrounding countries, pregnancy and delivery have been placed under the special competence of members of the medical profession, and in most countries this has had important consequences for the manner in which obstetric care is delivered. Van Hall (38) stated that this medicalization results from continuous interaction between doctors, consumers, and pharmaceutical industries. It is the costly result when a society drifts away from, and increasingly loses respect for, nature.

In The Netherlands there is no uniformity of opinion among obstetricians regarding home confinement. Some promote hospital delivery under the supervision of a medical specialist as the only possible responsible choice. Other obstetricians—including some prominent ones—support the idea that pregnancy and birth are normal human activities (12).

As far as consumers are concerned

there is still a large percentage (40%) of the Dutch population who choose confinement at home (39, 40), and home deliveries are, in general, assessed positively (41). This result contrasts sharply with results from other countries. Morgan (42) showed in an inquiry among 1000 women in Great Britain that only 10% agreed that home deliveries should be encouraged.

## THE OBSTETRICAL CARE

When a Dutch woman becomes pregnant for the first time, she consults her GP for a confirmation of the pregnancy. In the case of a second or subsequent pregnancy, she will usually visit an independent midwife. At the first contact with the GP or midwife, a decision will be made about who is to provide the prenatal care and attend the delivery. If circumstances that might endanger a normal course of pregnancy are expected, the pregnant woman will be referred to an obstetrician, who will take over perinatal care and deliver the baby in a hospital. If no problems are expected, the GP or midwife will attend the delivery. The choice between a GP or a midwife is mainly influenced by the 1941 Act on the Publicly Insured, as mentioned previously. Together with the midwife or GP, the pregnant woman will then decide whether she would like to have her baby in the hospital or at home. The short-stay hospital confinement or home delivery is carried out by the GP or midwife who was responsible for prenatal care.

Prenatal care is primarily preventive and begins around the 8th week of pregnancy. From that moment, the attendant care giver (GP or midwife) regularly checks the pregnant woman for factors that could threaten the normal progress of the pregnancy. If there are problems, the woman is referred to an obstetrician. In the 8th month of pregnancy, the GP may carry out a medical examination, although this is not mandatory. Women who are attended by an obstetrician will go to the GP for this purpose. In this period, the expectant mother will have to report to a maternity center to be eligible for maternity care after the delivery.

After birth, the mother and child can have the services of a maternity nurse for 8 days. The baby is generally thoroughly examined 3 or 4 days after the birth. In the case of a normal delivery, the GP is expected to carry out this examination, and in the case of a medically indicated delivery in hospital, the pediatrician does so. During the first 2 weeks after delivery the midwife will check the baby almost daily.

The final medical examination of the mother, about 6 weeks after the delivery, is carried out by the GP (in case of normal delivery) or obstetrician (in case of a medically indicated delivery) and not by the midwife.

## THE "OBSTETRIC MARKET"

We have already seen that regulations and legislation are an important basis for the organization of Dutch obstetric care. They influence the distribution of deliveries among the three professional groups (midwives, GPs, and obstetricians) and the place of delivery (11, 12, 42). To describe the competition among these groups I would like to introduce the concept of "obstetric market," in which supply and demand play an important role. Over time, there are changes in the number of births (demand), and each of the three competing professions (supply) requires its share of the "market."

The Netherlands has a high birth rate (12.9%) compared with most other western industrialized countries (44). This is in part because the fall in birth rate in The Netherlands occurred later than in the surrounding countries. In most countries, the decline took place in the 1960s, whereas in The Netherlands, it happened in the 1970s. In absolute terms this meant a decrease from 290,000 births in 1970 to 180,000 in 1980. In recent years there has been a slight increase in the number of births. At present, the birth rate is 199,000 children per annum. Thus, the demand for obstetric care decreased in the 1970s, stabilized in the 1980s, and increased in the 1990s. How does this relate to supply? To find the answers, we shall have to look at the different professional groups separately.

### Midwives

The Netherlands has three training institutions for midwives. Each year, between 50 and 60 midwives complete a 3-year period of training (45). In the first 2 years the course consists of both theoretical and practical classes. The final year is devoted mainly to practice. This qualitatively good training system offers the midwife the opportunity to prescribe certain medicines, to supervise pregnancy from the 3rd month, to correct positive deviation of the fetus, and to suture and to carry out venepuncture (46).

The number of midwives has increased virtually every year in the last 20 years. In 1970, The Netherlands had 780 practicing midwives, and in 1992 there were 1167 (47). The steepest increase has occurred in the past 5 years. The great majority graduating quickly find employment. At present we can even speak of a shortage of midwives.

In The Netherlands 80% of midwives are in independent practice and carry out home as well as short-stay hospital deliveries. Almost 20% are attached to hospitals and carry out deliveries with an obstetrician in charge. The great majority of midwives work in the more densely populated parts of The Netherlands. Where population density is lower, it is often difficult to run a successful practice. Consequently, many deliveries in the countryside are carried out by GPs.

Regarding the number of deliver-

ies that midwives perform each year, we find the following distribution: 25% of the midwives carry out < 100 deliveries a year, 47% conduct between 100 and 150 deliveries per year, and 28% carry out > 150 births each year (33).

### General Practitioners

There are 6500 GPs in The Netherlands, and each year around 300 new GPs graduate (47). Only 25% of GPs supervise deliveries (33). This percentage has fallen sharply in the last 15 years. In the mid-1970s almost 60% of Dutch GPs were involved in confinements. The 1941 Act on the Publicly Insured, which gave primacy in normal confinements to midwives, is responsible for the fact that so few GPs now attend confinements. Almost 85% of Dutch GPs indicate that the presence of a midwife in their area is the most important reason for this. Furthermore, almost 60% of the GPs who no longer carry out deliveries believe that home deliveries should be part of their job (48).

Of the small group of GPs who still carry out deliveries, 53% perform ≤ 20 annually. Only 5% do > 50 a year. GPs who still conduct deliveries are primarily found in the countryside. These areas are too sparsly populated for a midwife to practice profitably without her practice area becoming unacceptably large, and hence endangering the accessibility for the patient.

After a 5-year period of basic training, GPs have to follow a special 2-year course of GP training. During this training period not much time is allowed for practical obstetrics. Course members generally attend 20 confinements. A large number of recent GP graduates find this too few. This small number of confinements attended during training has led to criticism of the ability of GPs to conduct normal deliveries (49). Van Alten and Treffers (50) stated in 1981 that unless there was an improvement in training, GPs would lose their position in obstetrics in the long term.

### Obstetricians

In 1992 there were approximately 610 obstetricians in The Netherlands (51). Since 1970 the number of obstetricians has almost doubled. The number of obstetricians per 100,000 inhabitants is one of the lowest in Europe (52). To become an obstetrician-gynecologist, a candidate must complete 6 years of training in obstetrics and gynecology after 5 years of medical school. Each year, approximately 25 obstetricians complete their training. Almost 78% of all obstetricians have their own practices, whereas 22% are in the service of a hospital.

Most obstetricians (87%) are men, although in recent years the number of women obstetricians has increased.

### Place and Supervision of Confinement

The fall in the number of births and the growth in the number of professionals in obstetrics perhaps explains some of the friction that has developed over the last 20–30 years among the three professional groups. This can be seen clearly in the distribution of the number of confinements among the three professional groups in the past years (Figure 1). The GPs' share has been substantially reduced from 46% of the total number of deliveries in 1950 to 10% in 1991. This fall had already begun in the 1960s. The share of the obstetrician, on the other hand, has increased in this period from 17% to 45%. The midwives' share fell in 1950–1965, but then rose to 45% in 1991.

One can conclude that over the past 30 years the relative importance of home deliveries has decreased considerably (Figure 2). In 1950 > 70% of all births were at home. In 1960–1980, there was a rapid fall in the number of home births. Since 1980 the percentage of home births has fallen slightly, to around 31% in 1991. The increase in the share of hospital confinements is partly due to the growing importance of short-stay hospital confinements. In 1991, short stays comprised 25% of all hospital confinements (13).

The proportion of home births in

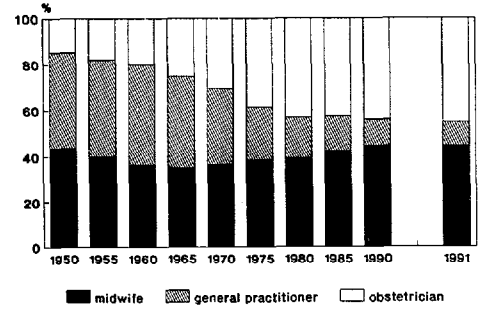


**FIGURE 1.**
Proportional distribution of births by obstetric assistance in The Netherlands during 1950–1991.

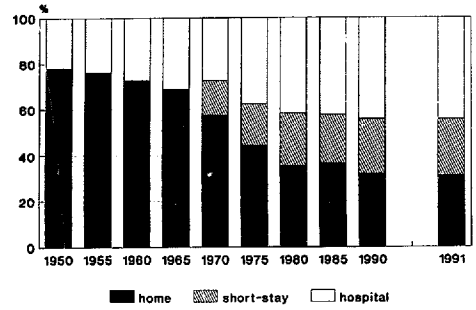


**FIGURE 2.**
Percentage of home, short-stay, and hospital deliveries in The Netherlands in 1950–1991.

The Netherlands is not equally distributed geographically. In some regions > 50% of all births occur at home, whereas in other regions this figure is < 15%. In the northern and (most of) the southern part of The Netherlands in particular, the proportion of home deliveries is large. These areas are characterized by relatively low population densities and fewer hospital facilities. Consequently, the hospital delivery option is taken less readily than in the urban centers.

## GOVERNMENT POLICY

Government policy in The Netherlands creates the preconditions for the system of obstetric care. Legislation and the encouragement of maternity home care ensure that primary care obstetrics stills plays an important role.

There are, however, a number of developments that are putting the Dutch system under pressure. In the first place, there are far-reaching plans to change the Dutch insurance system (53). The proposed changes are designed to provide a more market-oriented health care system in which competition will exist between the providers of care and the insurers. This would have important consequences for the midwives. In the new system there would be no room for the present legal primacy given to them. There will be open competition between midwives and GPs in particular. This will be strengthened by the proposal of the professional organization of GPs to increase the number of GPs active in obstetrics, with the result that the supply of primary obstetric care in certain areas could be higher than actually required. Because obstetrics is only part of the activities of the GPs and is the midwives' main activity, the professional existence of the midwives could be threatened as a result.

Although the government believes that midwives should retain an important place in the Dutch obstetric system, it faces a dilemma. The government wants to encourage more competition between providers of care—to decrease costs—and yet its current policy is to protect weaker parties such as the midwives.

We can also see that the government is looking for a model of obstetric organization in which the existence of the target group has adequate guarantees in the future. But it is not entirely clear what this model will look like or whether the various professional groups will be able to agree to it.

It is therefore conceivable that protective measures for midwives might be abolished before there is a replacement for them. This would undoubtedly have consequences for the organization of obstetric care in The Netherlands.

## RESEARCH

The topic of quality of care delivered by the three professional groups is an important aspect of research within Dutch obstetrics (54–59). This research focuses on the issue of whether deliveries should take place at home or in the hospital. It is also concerned with monitoring whether the professional groups are doing their work properly. These research studies are relatively isolated initiatives that are not part of a coordinated plan to study the quality of the system. Accordingly, there are a number of gaps in knowledge that often make it difficult to sketch a clear picture of the quality of Dutch obstetric care.

In recent years supporters and opponents of home deliveries have used research results to support their arguments. However, none of them has succeeded in convincing the opposition, nor have they given foreign countries a clear picture of the quality of Dutch obstetric care. To improve the quality of obstetric care in The Netherlands, more large-scale studies are needed. After all, The Netherlands, with its high percentage of home deliveries, is one of the few countries where such comparative research can be done.

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