# Medicalisation of childbirth in maternity health policies

Ethical evaluation of the use of medicalisation
in the Dutch and British maternity policies

Ester Cairoli, student 3407659
Master thesis
MA Applied Ethics

Supervisors:
Dr. Ineke Bolt
Dr. Mariette van den Hoven

Utrecht University
February 2010

Cover picture: Jacques Fabien Gautier d'Agoty, *Anatomie des parties de la génération de l'homme et de la femme*. 1773. Paris, National Library of Medicine

# Table of Contents

# 1 Introduction

There are several reasons why maternity is particularly interesting to analyse among other healthcare sectors. First, it not only concerns individuals but the reproduction of society. Secondly, unlike other medical categories, the focus in maternity care is not the treatment of illnesses but the supervision of a natural process. Finally, it occupies a fundamental role in the evaluation of a health system as rates of infant mortality are a major indicator to assess the quality of health care performance (WHO 1997).

Within maternity care, I will focus in particular on health policies regarding childbirth. In this specific category, the goals of successful policy are twofold. First, safety during childbirth must be kept at optimal levels, and morbidity indicators should be as low as possible both for both child and mother. At the same time, there is a case for ensuring mothers have a positive experience of birth, since that is fundamental for the healthy development of the child.

In recent decades, better performance in achieving both these goals has been associated to an increase in obstetrical intervention, which can lower rates of perinatal mortality and morbidity and alleviate the pain of birth for the mother. As a result, most western countries have progressively hospitalised childbirth, so that the whole process could be directly monitored by medical staff.

Since the beginning of the 20th century, the incidence of hospitalised childbirths in the western world has consistently grown, until up to a current average rate of 98-99 percent (UN 2000). Hospitalisation coincided with an increase in medical intervention during birth (Waldenstrom and Turnbull 1998), which I refer to with the name of *medicalisation of birth*[1].

The concept of medicalisation was first defined in the 1970s within social sciences. It indicates the process through which the medical institution extended its domain over daily life, transforming certain categories of people into 'patients' and certain attitudes or behaviours into 'illnesses' (Zola 1972). Most authors use the term 'medicalisation' with an implicit pejorative connotation, indicating a problematic

1 In this work 'medicalisation' thus refers to the use of medical intervention during birth resulting from hospitalisation. However, the link between these processes is not a given. In Scandinavian countries for instance almost all births take place in hospitals, but under the assistance of midwives and with minimal medical assistance (De Vries 2005). That said, in this work I will focus on those cases where hospitalisation also led to medical intervention.

extension of medical control over more and more aspects of private and social life (Illich 1977). Despite this frequent use of the term, medicalisation is not implicitly morally problematic (Verweij 1999,93). In my work I favour this neutral interpretation of the concept. Therefore, when referring to medicalisation of birth I simply indicate a certain approach to birth which casts obstetrician in the lead role in decision-making about the birth process and sets the birth in the hospital setting with intensive use of high technologies[2].

That I do not attribute any normative connotations to the term itself does not mean that I will not give any normative judgment about medicalisation. I will however separate the phenomenon of medicalisation from its moral evaluation. In other words, I will subject to a normative analysis the *use* of medicalisation within existing maternity policies, and not the concept as such.

My interest in this issue is fed by growing concerns -both in expert and in lay discussions- that the medicalisation of birth may be going too far (Johanson 2002). For instance, WHO guidelines prescribe that maximum rates of caesarean sections associated to good maternity care should not exceed 15 percent of all births. Almost every developed country exceeds this threshold (Walker 2002). The procedure-intensive maternity care routinely offered in western countries seems to have reached the "perinatal paradox: doing more and accomplishing less" (Sakala and Corry 2008).

In maternity policy debates there is pressure to develop strategies capable of halting and reversing the trend toward medicalisation without compromising its beneficial effects. I believe that such dilemma is not only interesting for health providers and policy-makers, but also for ethicists. An appropriate ethical analysis has the potential to offer an understanding of the moral implications of medicalising birth. Ethical theories can in fact help establishing in which circumstances medicalising is justifiable, or even obligatory, and when instead it might become morally problematic. This in turn would contribute to the formulation of increasingly just and impartial maternity policies.

Giving shape to such analysis is the central goal of this thesis. I will do this by setting a case study on two paradigmatic models of maternity care, namely the Dutch and the British. Explicitly or less, each policy operates several ethical assumptions about the use of medicalisation. In my work I will attempt to establish which of these is more ethically justifiable. In order to do this I will elaborate a specific ethical

2 For further clarification on my working definition of medicalisation, see section 3.1.3.

framework to evaluate policy decisions regarding medicalisation of birth. On the basis of this framework, I will address the following research question: *which policy decisions better fit ethical requirements on the use of medicalisation in childbirth?*

In chapter two I will introduce the policies and their respective approaches to childbirth. In chapter three I will expound the ethical framework of my analysis, namely the criteria for deciding how policy decisions regarding medicalisation have to be assessed. In the last chapter I will come to a proper ethical evaluation of the studied policies, and thus complete my answer to the proposed research question. I will conclude with general considerations on the intended purposes of this analysis.

# 2 Context

## 2.1 Medical intervention in childbirth

Childbirth is a physiological process that is both unpredictable and potentially dangerous. According to the WHO, about 15 percent of all women develop complications serious enough to require rapid and skilled medical intervention if they are to survive without lifelong disabilities (Johanson 2002). Providing comprehensive maternity care therefore requires the assistance of both trained midwives and expert obstetrical staff, in order to deal both with low and high-risk pregnancies.

Conditions that determine the need for specialist assistance may relate to the woman's general health, to her obstetric history, to various antenatal complications or complications during the process of labour and shortly after birth[3]. Medical assistance is fundamental to detect these conditions and ensure a timely intervention.

The most common medical interventions related to childbirth include[4]:

- screening tests to detect abnormal conditions in the fetus (amniocentesis and electronic fetal monitoring (EFM))
- induction of labour (through the administration of synthetic hormones or artificial rupture of membranes)
- forceps delivery (used in cases of fetal distress, growth retardation or premature rupture of membranes)
- administration of analgesia (narcotics, epidural or total anesthesia)
- oxytocine injection soon after birth (to separate placenta and prevent blood loss)
- episiotomy (incision of the perineum to avoid tears)
- caesarean section

3 Among the general conditions that may affect childbirth there are epilepsy, multiple sclerosis, diabetes, hypertension, or various operations to uterus or vagina. Previous obstetrical conditions might also render a pregnancy potentially risky. Such conditions can include previous cesarean sections or other obstetric interventions, primigravidas over 35 years or involuntary infertility. Antenatal complications may refer to a twin pregnancy, retardation of growth, premature rupture of membranes or hemorrhages during pregnancy. Situations that may require medical assistance during the process of labour and soon after birth include podalic presentation, fetal distress, block in the progression, requirement for analgesia, tears, retained placenta, hemorrhages, premature neonate (Oppenheimer 1993).

4 Cf. Smeenk and ten Have 2003.

Maternity statistics of most developed countries show that the average use of these medical interventions has been constantly rising in the last fifty years. This has largely been a result of increased hospitalisation, as in the hospital context technologies are more readily available.

The process of medicalisation that followed increasing hospitalisation of births can be interpreted under different perspectives. On one hand, it might be seen as a successful and desirable way to improve health performance by means of prevention. On the other hand, it may be criticised for leading to an increased rate of interventions without real medical need. In my work I want to contrast these two competing views of medicalisation of birth and decide which of them leads to more ethically justifiable policy decisions. For this reason, I have decided to set a case study on two maternity policies that present diverging views on this issue.

I find the British and Dutch maternity policies particularly suitable for such study because, while having similar performance in terms of perinatal mortality and morbidity (OECD 2009), they present two competing paradigms of childbirth (Lumey 1993, 173). The organisation of maternity care in the United Kingdom favours the hospitalisation of pregnant women as a matter of routine. This stems from the belief that potentially dangerous complications might occur at any stage of labour, requiring specialist assistance that is only available in a hospital. Instead, the Dutch maternity system prioritise the limitation of medicalisation to high-risk cases. This system views childbirth as a physiological process in which medical interventions on low-risk women should be restricted as much as possible.

In the next two sections I will describe these two maternity systems, focusing on their use of medicalisation and the justifications offered for the official policy decisions.

## 2.2 The midwifery model in the Netherlands

With its high percentage of home births and an unusual reliance on the care of a midwife, maternity care in the Netherlands represents an exception to the norm in comparison to other European countries.

The whole organisation of maternity services in this country is underpinned by the belief that pregnancy and birth are not medical conditions but normal physiological processes (Lumey 1993, Hingstman 1994). For this reason, every pregnant woman is initially assigned to the care of a midwife or a General Practitioner (GP) (primary care

line). She is referred to an obstetrician or a gynaecologist (secondary care line) only if complications arise during pregnancy or birth.

It is worth stressing that the choice of transfer from primary to secondary care is not left to the woman, but can only be made by the primary caregivers. In fact, health insurances[5] only cover primary care for a normal pregnancy and will not reimburse specialist medical assistance unless complications occur (De Vries 2005).

The effects of these unusual institutional arrangements are immediately apparent in the considerable percentage of home deliveries, well above the rates of other western countries. Since the 1970s, the percentage of home deliveries has fluctuated around 35 percent (Smeenk and ten Have 2003,155). The majority of these home births are attended by specially trained midwives.

Midwifery in the Netherlands has always been an autonomous medical practice, and this autonomy has consistently been supported and defended by the way the Dutch Health Department has shaped its maternity policies. For instance, up until 1999 midwives had a *primaat* (priority) on births, meaning that if a midwife was working where a GP also offered maternity care, the midwife was paid in preference to the GP (Smulders 1999).

This is unusual practice, as is noted by medical sociologist De Vries (2005). According to the conventional logic of professions, the occupational group with more power (i.e. doctors) would always control the turf of groups with less power (i.e. midwives or nurses). In the Netherlands, that this arrangement was possible highlights a cautionary approach to the medicalisation and technologisation of childbirth, and how this was mediated by political negotiation between the professional groups involved.

In this context midwives acted as 'gatekeepers' against the institutionalisation of a medical approach to maternity. It is this historical role of the midwives that has meant the present Dutch obstetric system remains an accommodation between low and high technology, the latter to be used only in case of high-risk pregnancies and the former for all normal cases (Smeenk and ten Have 2003). The boundaries between these two categories are defined by a nationally agreed list of obstetric indications that require specialist care (VIL, Verloskunde Indicatielijst)[6].

5 In the Netherlands everybody must have a standard health insurance, which has a nationally agreed price per capita. Additional insurances packets can then be purchased by people, at cost. What is covered or nor covered by a standard insurance is decided by the Dutch Government (for more details see De Vries 2005, 51-56).

6 This list was first issued in 1973 as “Kloosterman List”, and later revised by the government in 1987 and in 1994.

The professional focus of the midwife is to undertake specialised risk-assessment during pregnancy, and refer any case where obstetric conditions occur to medical specialists. In that case, the delivery is organised in the hospital under medical assistance. Low-risk women generally start labour at home, with the woman only being transferred to the hospital if complications occur.

Midwives generally promote a non-medicalised approach to pregnancy and birth. For instance, they eschew the use of EFM and prefer stethoscope auscultation instead (De Vries 2005). They also tend to dissuade women from the need of pain relief, emphasising the valuable function of pain for a more instinctive connection with the child and thus for a satisfying experience of childbirth[7]. By not promoting the use of such interventions they also defend their professional interest, since both EFM and pain relief are interventions that only specialists can administrate.

This strong professional consciousness of Dutch midwives derives from the specific education and training that they receive, different from any other European country[8]. The midwife is currently the only medical profession to have a vocational and not a university education in the Netherlands. This maintains the distance between the curriculum of a midwife and that of a doctor. While medical education is concentrated on pathologies and risks, the midwife has a better knowledge of the physiological processes connected to childbirth. The way a midwife and a doctor perceive pain is a perfect exemplification of this differences.

In summary, normal and high-risk births are very neatly separated, as they occur in different locations and are attended by different caregivers. As a result, interventions are limited to those cases where obstetric conditions as identified on the VIL occur. It is thus not surprising that the rates of caesarean sections are very low in this country, around 10 percent of all births (Walker 2002).

A animated national and international debate exists about the peculiar Dutch maternity policy. A crucial point in the debate is that European comparisons of perinatal mortality show an unfavourable position for the Netherlands (for a recent study see Mohangoo et al. 2008). It has been suggested that a possible cause of this is the emergency obstetrics that is often needed for women transferred from primary to

7 From De Vries (2005, 158). Here he refers to an interview he had with a Dutch midwife.

8 In the rest of Europe midwifery training generally consists of two years of specialisation after a Nursing Bachelor or equivalent. In the Netherlands, the education of a midwife is vocational. It consists of four years of specific training, and no previous qualifications are required to enter Midwifery Academies. This kind of education is extremely focused on practical training and criteria for risk assessment and referral.

secondary care (i.e. from home to the hospital) during labour. This situation is even more urgent since the referral rate is quite high in recent years: one third of all planned home deliveries end up in hospital, and for nulliparous women (those that have never given birth) this percentage is as high as 50 percent (Christiaens 2007).

On the other hand, several studies conducted in different years and with different methodologies have provided evidence that planning a home birth does not increase the risks of perinatal mortality and severe perinatal morbidity among low-risk women (Tew and Damstra-Wijmenga 1991, Berghs&Spanjaards 1995, Wiegers 1998, De Jonge et al 2009). This is provided the maternity care system facilitates this alternative through the availability of well trained midwives and through a good transportation and referral system (De Jonge et al 2009).

Following such controversy on research findings, there have been numerous pressures for increased hospitalisation of childbirth, based on the claim that the system of home births has detrimental effects on the health of the foetus (Nijhuis 2000). Reasons presented to support this claim include the absence of EFM in home birth; that preparation by the midwives is less than optimal as they are not skilled in recognising certain medical conditions that might cause perinatal morbidity; but especially the system of transferral from primary care to secondary care during childbirth (Eskes 1980).

Still, the official policy approach holds that increased hospitalisation from the onset of labour is not necessary if a safer and quicker transferral can be arranged (Kloosterman 1980). In addition, three points maintain and justify the Dutch midwifery model. First, it considerably limits the costs of maternity care. Second, it offers a satisfying care for mothers and families (Johnson et al 2007). Finally, by avoiding routine hospitalisation it limits the iatrogenic risk of medical interventions in low-risk pregnancies.

## 2.3 British maternity care

In the United Kingdom medical doctors represent the leading professional figure in maternity care as well as the main reference for pregnant women. Midwives receive a nurse education and their working area is restricted to hospitals, where they mostly work as assistants to obstetric specialists. Regardless of whether the birth is assisted by specialists, midwives, or GPs, in the UK childbirth is institutionalised in the hospital

setting. The incidence of home births in Britain is around 2.2 percent (Shorten and Shorten 2009).

The general philosophy of care behind this type of system is that "labour is normal but only in retrospect" (De Vries 2005, 202). In the hospital environment women have quick and easy access to medical technologies, therefore it is a safer option to systematically hospitalise deliveries. If it is true that ideas about maternity mirror the structure of the health system (De Vries 2005), we can infer that medical opinion had a major influence in the current arrangement of British maternity care.

Hospitalisation of childbirth started in the UK in the 1930s and corresponded with the diffusion of maternity related technologies. This approach was very quickly elected as the paradigm of modern childbirth. The rates of home births in England and Wales decreased from 85 percent in 1927 to 36 percent in 1936 and eventually to 1.1 percent in 1982 (Lumey 1993). In 1956, the Royal College of Obstetricians and Gynaecologists declared that "hospital confinement provides maximum safety for both mother and child" (DHSS 1970). This is supported by the strong statistical correlation between higher rates of hospitalisation and lower rates of perinatal mortality and morbidity during the second half of the 20$^{th}$ century (Tew 1998).

This process of hospitalisation was accompanied by the increasing medicalisation of birth. In other words, medical professionals progressively took over the responsibility for normal birth in addition to their involvement in complicated births (Johanson 2002). To give an illustrative example, caesarean sections increased from 12 percent of all births in 1990 to 24.6 percent in 2008 (NHS 2008) without any associated improvement in outcomes for babies (NHS 2009). Various explanatory factors for this link between processes of hospitalisation and medicalisation can be offered.

First, hospitalisation makes available a number of prenatal monitoring machines, such as EFM or cardiotocography, and it has been observed that their use seems to raise the number of caesarean and operative vaginal births (Alfirevic et al. 2006).

Secondly, the use of technology associated to hospitalisation ensures the monopoly of specialists over the whole process of childbirth. This results in a disempowerment of midwives in decision-making (Johanson 2002) and reconfirms the medical interpretation of childbirth as a potentially hazardous process.

Lastly, it has been suggested that medicalisation might be an effect of malpractice charges (Johanson 2002, De Vries 2005). The greatest percentage of legal litigation within obstetrics derives from delay or failure to intervene. Legal litigations

directly related to the use of EFM are not uncommon because of the retrospective identification of abnormalities in tracings that "should" have led to a caesarean delivery (Lyerly 2009). As a result, to intervene in case of doubt appears safer from a medico-legal point of view (Jones 2005).

In summary, there is an established *praxis* of medicalising childbirth and engaging in routine interventions, and a series of arrangements in the organisation of maternity service which favour this. However, medicalisation as such is not supported in the official policy. In fact, since the "Changing Childbirth" report (DoH 1993), the official policy focuses primarily on the choices of pregnant women.

In this document the Department of Health (DoH) recommended the NHS allow women more choice on the place of birth and prescribed their informed consent on the kind of interventions used. Also, the report prescribed greater autonomy and responsibility for midwives in delivering maternity care. More choice for women and better continuity of care were recognised as two key elements for better care and increased patient satisfaction (DoH 1993). Despite these recommendations however, no substantial changes in the organisation of maternity followed the report (Cahill 2000).

The more recent "Maternity Matters" report (DoH 2007) renews and reinforces these commitments. A crucial focus of this document is expressed in the following passage:

> *to enable the provision of high quality, safe and accessible services, by the end of 2009 all women will have choice in where and how they have their baby and what pain relief to use, depending on their individual circumstances.*

It is stated in this document that pregnant women can choose where to give birth from among the following: home birth supported by a midwife; birth supported by a midwife in a local midwifery facility such as a midwifery unit or birth centre; or hospital birth supported by a maternity team including midwives and obstetricians (DoH 2007, 12).

The official policy thus favours a value-free model of childbirth choices (Johanson 2002). However, the approach towards the medicalisation of birth is not as neutral. In fact, another goal of the document is to promote normality in childbirth and reduce interventions. The motivations offered in support of this statement relate to evaluations in terms of harm to women and cost effectiveness:

> *High rates of interventions, such as large numbers of caesarean sections, could lead to worse outcomes for mothers and their babies, as well as being less cost effective*

*for the NHS* (DoH, 2007, 21)

Lastly, commitment to strengthen the professional leadership of midwives is renewed. This move is also supported by reasons relating to efficiency:

> *Because recent directives have resulted in a reduction in doctors' hours, a new principle should guide the modern maternity services, namely that "all women will need a midwife and some need doctors too"* (DoH 2007, 15).

## 2.4 Ethical issues in maternity care

The Netherlands and the United Kingdom maternity systems both aim to provide safety in birth and a positive experience for the mother. As I have shown in this chapter, these same goals are pursued with different priorities, strategies, actors and policy justifications. I believe that it is possible to identify some possible ethical tensions in both systems between the policy in practice and the official justifications offered for it.

The medicalising *praxis* of the British system may result in advice to pregnant women that, in effect, promotes medical interventions. On the other hand, the official policy is extremely concerned with choice in childbirth, whilst explicitly favouring normality in childbirth. It seems to me that this complex combination of a *praxis* that promotes medicalisation, an official policy that preferably discourages it, and a national guarantee of choice to every pregnant woman, has the potential to create ethical tensions in the system.

On the other hand, the Dutch policy openly opposes the medicalising *praxis* for low-risk pregnancies through a strongly steered midwifery system that promotes home births. However, this comes at a cost. First, choice is restricted by the reimbursement system. Second, the overall rates of perinatal morbidity might be affected by a sub-optimal system of home to hospital transferral. There might thus be an ethical tension between the competing duties to minimise medicalisation as well as minimise risk for the newborn.

Some questions might arise as a response to these ethical tensions: in which exact circumstances and why does medicalisation become morally problematic? Is respecting choice more important than preventing unnecessary medicalisation? Should access to elective medicalisation be restricted in order to promote a fairer allocation of resources? What are the most pressing duties for maternity policy makers and healthcare

providers? Addressing these ethical questions is fundamental to improve the ethical justifiability of maternity policies, and to provide in turn a useful contribution to the reform process.

In order to provide satisfactory answers, a specific ethical framework for the use of medicalisation in childbirth is required. In the theoretical chapter that follows I will elaborate on essential references to this subject by means of literature review and conceptual analysis. In chapter four I will return to the discussion about the Dutch and the British maternity policies, and use the framework to evaluate them.

# 3 Ethical framework

In this chapter I formulate an ethical framework specifically designed to evaluate the use of medicalisation in childbirth policies. This constitutes an essential step towards answering the main research question: *which policy decisions better fit ethical requirements on the use of medicalisation in childbirth?*

I take as a main point of reference the theoretical framework of public health ethics. This implies that the ethical perspective I take is a collective one, thus my analysis relates to how maternity care as a whole is organised and not (only) to the position of individual pregnant women as patients.

With this feature I want to distinguish my work from other kinds of ethical reflections on the medicalisation of birth that focus on the concept of mothers' autonomy (Cosans 2004, Baker 2005). Neither will I relate to feminist discourse on medical authority as social control (Purdy 2001, Crossley 2007, Barker 1998, Cahill 2000).

After clarifying the theoretical coordinates of the discussion, in section 3.2 I formulate an analytical framework for my work. This will involve singling out those public health concepts that are most relevant in the case of medicalising birth, and combine them into a specific ethical framework.

## 3.1 Theoretical framework

Before deciding when the medicalisation of childbirth is ethically justifiable, it will have to be established in which context such justifiability is to be understood. Hence, in this section I expound the theoretical framework of my work, namely public health ethics. This will involve a brief introduction to public health, a review of the ethical discussion within this field and an explanation of why such a framework is suitable for the case of medicalisation of childbirth.

### 3.1.1 Public health: beyond clinical medicine

Public health is the societal approach to protecting and promoting health (Kass 2001). While clinical medicine is mostly concerned with the health of individuals, public

health aims to measure, explain, maintain and improve the health of the entire population (Holland 2007). The success of public health measures is thus measured by statistical mortality rates, and rates of incidence of diseases. Its practice is largely based on epidemiological research, which studies the multi-dimensional nature of health determinants and applies this knowledge to the control of health problems.

Public health measures do not necessarily involve medical interventions. Actually, many substantial advances in improving population health have been made through non-medical developments (safe water supply, air and housing sanitation, health and safety regulations), which help reduce ill health and premature death (NCB 2007,3). The most common public health measures of a medical nature include immunisation programs, screening for diseases, health education and promotion, etc.

Governments are the central providers of public health interventions, as they are arguably the only entities capable of assuming collective responsibility for protecting the common good and welfare of their populations (O'Neill 2002). The public health scenario is thus considerably wider in comparison to clinical medicine; while the central relationship in the latter is the patient-physician relation, there are many more relationships involved in the former (Childress et al 2002).

To stress such breadth, public health has been defined as the "science and art of preventing disease, prolonging life and promoting health *through organised efforts of society"* (see NCB 2007, xv). This means that not only healthcare institutions and politicians are involved, but also industries, urban planners and individuals. The development, implementation, and assessment of public health interventions are thus a truly civic endeavour, where cooperating behaviour is fundamental to guarantee success and effectiveness.

The extent of the public health scenario might create several problems of a moral nature. Public health providers have to struggle between the two equally important goals of reducing health threats and health inequalities in the population on one hand, and respecting the individual rights of citizens on the other. Attempts to resolve this tension in an ethical framework for public heath activity have intensified in recent years. In the following part I offer an overview of this discussion.

### 3.1.2 An ethical framework for public health

In recent years much consensus has been gathered on the use of ethical principles as

guidelines for clinical medicine. The popular Beauchamp and Childress (2001) approach concentrates for instance on four principles that constitute the ethical core of the physician profession. Although not every bioethicist agrees with the application of such an ethical framework, it constitutes an established theoretical approach and decision procedure in medical ethics, elaborated throughout decades of reflection and constructive discussion among academics and professionals.

Unlike medical ethics, public health ethics is a new discipline, where similar consensus has not yet been reached (Dawson and Verweij 2008). Because public health takes a population perspective, the ethical challenges raised in this field are not easily solved with the above mentioned principles, and their overarching concern for the individual patient (Upshur 2002) and his or her autonomy. As O'Neill (2002) has noticed, individual autonomy can hardly be a guiding ethical principle for public health measures, since many of them must be uniform and compulsory if they are to be effective. Therefore, a new "population-level bioethics" (Wikler and Brock 2007) is needed.

Public health ethics is a vast field in which suggestions from moral and political philosophy converge. In the implementation of public health measures, ethical issues might concern the moral standing of population health or trade-offs between collective goods and individual interests (Upshur 2002). In order to clarify these issues, I will provide a conceptual mapping of the ethical dimensions of the public health enterprise.

One moral theory that has a strong intuitive appeal for public health professionals is utilitarianism. This is suggested by the formula that the morally right thing to do is to maximise benefit, and health is a benefit, therefore any public health policy that will produce maximal health gain is morally justified (Holland 2007, 11).

The possible association between utilitarian reasoning and the goal of promoting public health does not imply that utilitarianism constitutes the only moral ground for public health activity. Rather, this theory focuses on one important aspect in public health justification, namely its effectiveness in promoting health for the greatest number of people. A utilitarian reasoning seems to fit well with this specific requirement, since it would declare an ineffective intervention morally unacceptable. However, there are other public health contexts where the intuitive appeal of utilitarianism fades.

Take for instance the public health scenario of protecting the population from the danger of tobacco smoke. Arguably a strict utilitarian perspective would justify the state's decision for banning the sale of tobacco, as most collective health benefits are

obtained by restricting the access to harmful substances (direct benefits for smokers and for people who are exposed to second-hand smoke), or could provide sound reasons for the state to engage in campaigns of behaviour modifications for all smokers. In this scenario it is not that evident anymore that utilitarianism is the best approach to public health, as it disregards the moral tensions connected with the intrusion of the state in the private choices of competent adults who might want responsibility for their own welfare themselves.

A purely utilitarian justification of public health is thus unacceptable because it fails to take into account a wide range of parallel moral considerations about individual rights and interests of citizens. Because both health and welfare of the public and the individual rights of citizens do matter, this tension needs to be reconciled if public health activity is to be effectively implemented.

Therefore several ethical frameworks have been proposed as an amelioration and expansion of purely utilitarian reasoning. There are several examples of these revised utilitarian frameworks for public health justification in the literature (Kass 2001[9], Childress et al 2002[10]). In this work I will use as a main reference the so called "stewardship model"[11] elaborated by the Nuffield Council of Bioethics (2007), because it offers a systematic and comprehensive approach to the topic[12].

In the definition of the creators, the stewardship model is a "value-rich framework against which policy-makers and others can assess existing policy, and develop new policy, by determining to what degree they achieve its goals, while minimising unnecessary burdens and constraints" (Baldwin et al 2009, 116).

This model is generated through progressive adjustments between collectivist

9 Kass (2001) identifies a six steps ethics framework for a public health program, structured in the following checklist:
1.What are the intended public health goals?
2.How effective is the program in achieving these goals?
3.What are the known or potential burdens of the program?
4.Can burdens be minimised? Are there alternative approaches?
5.Is the program implemented fairly?
6.How can benefits and burdens be fairly balanced?

10 Childress et al (2002) propose a set of five 'justificatory conditions' for public health activity. These are:
1.the proposed program expected effectiveness in realising the public health goal sought
2.the proportionality between the probable benefits and other moral infringements
3.the necessity of the policy
4.whether it involves the least infringement possible consistent with realizing the goal that is sought
5.its public justification

11 This name is given to the model because of the 'steward' function that the state assumes in the provision of public health services (NCB 2007, 26)

12 Although there has been some discussion on its validity as a framework for public health ethics (see Dawson and Verweij 2008).

claims and liberal objections to them. The resulting framework is one where the goals and the constraints of public health programmes are balanced (NCB 2007,26). Among the goals there are the reduction of risks of ill health that people might impose on each other, the regulation of environmental conditions for good health, the promotion of health, and ensuring equal access to medical services. Among the constraints there are the need not to coerce adults to lead healthy lives, and the minimisation of interventions that are intrusive in private choices or personal values.

At this point, one might ask why exactly the minimisation of interventions that intrude in personal choice has to be relevant in public health. After all, it has been said that autonomy cannot be the leading value in public health ethics as it was in medical ethics (O'Neill 2002). However, there is still room for the consideration of autonomy and choice in public health. It might in fact be morally problematic if a public health intervention restricts individual choice without corresponding benefits in achieving the intended public health goals.

To avoid this risk, an ethical framework for public health needs to include the prescription of least infringement. This implies that when the same goal can be reached with different public health strategies, the least infringing alternative should be preferred. The kind of possible infringements can include intrusion in personal choices or unilateral establishment of what constitutes welfare. Anyhow the prescription for least infringement is not categorical and needs to be implemented according to the ethical criterion of proportionality. This requires in turn that the probable public health benefits must outweigh the infringed moral considerations (Childress et al 2002,173).

The weight attributed to individual autonomy consequently varies depending on other moral considerations which are specific to the context; it might decrease if the intended public health goal (potentially) offers a great benefit to the collective, while it can become quite important -if not a priority- in a case where the public benefits are not obvious. Specific ethical judgment is needed in each case to establish which applies.

Let me illustrate these ethical considerations with the example of the public health goal of tobacco discouragement. Consideration of least infringement prescribes that information campaigns on the harmful effects of smoke should be preferred to direct bans on smoking. Consideration of proportionality adds an important nuance to this scenario, by emphasising that if it can be proven that direct bans are definitely more successful than informative campaigns in discouraging tobacco use, there would be reasons to override the obligation for least infringement. The moral duty for least

infringement is therefore a *prima facie* duty, i.e. it only holds all other things being equal.

The NCB concentrates all these considerations in the creation of an "intervention ladder" (NCB 2007, 42). This tool is meant to classify public health strategies from the most to the least coercive of individual rights to self-determination:

- eliminate choice
- restrict choice
- guide choice through disincentives
- guide choice through incentives
- guide choice through changing the default policy
- enable choice
- provide information
- do nothing and monitor the situation

The crux of the question here is not that the public health activity has a categorical duty to limit interventions to those at the bottom of the ladder. Instead, what is ethically required is that every step in the ladder is adequately justified, and that stronger justification are provided as the interventions approach the top of the ladder.

In ethical terms, the NCB approach can be described as a morally pluralistic view where different ethical theories merge. In fact, this framework includes both utilitarian calculus (effectiveness of interventions, distribution of benefits and burdens) and non-utilitarian claims (least infringement, proportionality). This pluralism is intended to structure a framework that can be practically used in policy analysis and development (Baldwin et al 2009, 116), since commitment to a specific moral theory might lead to an excessively rigid perspective on public health problems.

As Childress et al (2002,173) also observe, the exact point of having an ethical framework that combines different ethical theories is to ensure that in the ethical scrutiny of public health interventions those utilitarian moral considerations that are generally taken to instantiate the goal of public health (producing benefits, preventing harms, and maximising utility) are balanced with those that express other moral

commitments (e.g. individual liberty or justice).

Progressive adjustments between conflicting moral duties are obtained through a specific *moral judgment* for each public health situation. In this way, the framework remains flexible enough to adapt to the great variety of public health scenarios, ranging from infectious disease control to alcohol and tobacco regulation or to newborn screening.

Using moral judgment also implies that the ethical framework is not taken as an established reference for decision-making, but is developed within practice and adapted to each situation in order to grasp the specific ethical points at stake. Therefore, each time an ethical evaluation of a public health measure is proposed, some reflection on the framework itself needs to precede the actual assessment.

Weak sides of this pluralist approach can also be identified. The use of moral judgment has struck some philosophers as suspect (Timmons 2002,206), since it seems to leave the door open to arbitrariness in moral verdicts. In fact, in lack of a definite decision procedure there is the risk of reaching different or even contradictory moral conclusions on the same issue. Critiques of indeterminacy and arbitrariness may as well apply to the NCB approach to public health ethics. Let us take the intervention ladder tool as an example. It has been said that a more intrusive measure must be accompanied by a stronger justification. However, without established criteria to decide which moral justifications are better than others, assessing the moral acceptability of policy regulations in an impartial way seems impossible.

A full response to this objection is not feasible in the present discussion. Still, given the complex nature of public health ethics, I believe that some indeterminacy is unavoidable. Arguably a more definite decision procedure would have to sacrifice much of the flexibility and intuitive appeal of a pluralistic approach like the one of the NCB. After all, every moral theory engages in moral judgment *to some extent* (Timmons 2002,207), and there are no reasons to dismiss the process itself as unacceptably arbitrary.

These processes of moral judgment and progressive sharpening of the framework will be instantiated in the following sections by reference to the case of medicalisation of birth that I am considering in this work.

### 3.1.3 Hospitalisation of childbirth as a public health measure

Given the description of public health offered above, I take the hospitalisation of birth as a public health measure. Because this categorisation might not be so immediatly obvious, in this section I will offer reasons for contextualising it within a public health framework.

Hospitalisation of birth takes as a goal the reduction of the morbidity and mortality of a target population on the basis of epidemiological evidence on the determinants of maternal and perinatal health[13]. In doing so, it takes a 'public' perspective in ensuring the conditions in which not only mothers, but also newborns, can be healthy.

Additionally, hospitalisation is in line with one of the strongest emphasis of public health, namely preventive care (Dawson and Verweij 2007). Although childbirth is in principle a natural process, hospitalisation is recommended for reasons of prevention, primarily to ensure quicker assistance in case complications arise.

At this point some theoretical clarification is needed on how exactly the concept of medicalisation relates to the public health measure of hospitalising birth. So far I have used a neutral working definition of the concept of medicalisation. More precisely, in the introduction I have defined this concept as "an approach to birth which casts obstetrician in the lead role in decision-making about the birth process and sets the birth in the hospital setting with intensive use of high technologies".

My working definition appears rather narrow compared to the ones that have been offered in the literature. The definition offered by Smeenk and ten Have (2003,155) perceives medicalisation of birth at stake whenever "the physiological process of childbirth is increasingly approached by medical ways of thinking". In this interpretation a much wider range of phenomena is denoted by the concept of medicalisation than the ones I present in my working definition. In fact, medicalisation defined in this way does not only refer to the reliance on obstetrical care which results from hospitalisation. Instead, it might as well refer to the Dutch midwifery practice, since it is increasingly guided by medical advice and since some midwifes do favour technology to avoid the risk of calamity during childbirth (Smeenk and ten Have 2003,156).

I agree with Smeenk and ten Have that many aspects of the current Dutch midwifery practice can be be seen as effects of medicalisation, and therefore my

13 There has been a substantial scientific controversy on this point. For more details, see section 4.1

picturing such practice as “medicalisation-free” might seem inappropriate. However, I believe there is quite a difference in magnitude between the kind of medicalisation that might be present in midwifery care and the obstetrical care that is connected to routine hospitalisation. In my analysis I will show that the most relevant ethical implications of medicalisation are observable in correspondence of the latter case, both because of the peculiar education and training of specialist doctors, and because of the availability of high technology in the hospital context.

Therefore, for sake of clarity I here restrict my working definition of medicalisation of birth to those cases where medical interventions are operated by obstetricians, i.e. to those cases where medicalisation concurs with hospitalisation. This is why henceforth the two terms are taken as roughly equivalent.

Although I recognise that my definition of medicalisation does not take into account all the ethical implications of the concept, it well suits the present purposes of my argumentation. The concept of medicalisation as defined by other authors is in fact too general and potentially ambiguous to be practically applied in a policy analysis as the one I am structuring in this work.

That said, I find it appropriate to offer an ethical evaluation of the use of medicalisation in maternity policies by assessing the hospitalisation of birth as a public health intervention with the framework just provided. Before starting with the evaluation in earnest, in the next section I will examine how public health ethics (and the NCB approach in particular) can be reformulated into a specific analytical framework for the use of medicalisation in maternity policies.

## 3.2 Analytical framework

We have seen in the theoretical framework that in public health ethics utilitarian considerations about effectiveness and benefit/burden trade-offs are joined with considerations about proportionality and least infringement. In my ethical analysis of the use of medicalisation in childbirth policies I will follow this classification and first concentrate on the utilitarian nucleus of the problem, turning later to non-utilitarian moral considerations.

### 3.2.1 Utilitarian considerations

Following the theoretical framework, a fundamental point in the ethical evaluation of a public health measure is the urgency of its goals and the effectiveness of the proposed measure in addressing them (Kass 2001, Holland 2007, NCB 2007).

Therefore let us begin with an examination of the goal of policies of hospitalisation of birth. Historically and presently, these are aimed at lowering the risks within child delivery and the health threats for both mother and child. Ultimately, they aim at a statistical reduction of perinatal mortality and morbidity during labour and soon after birth. As such, the goal appears an urgent one, as perinatal mortality is one of the most important health indicators.

Having established the goal as acceptable, the utilitarian analysis then needs to explore whether the proposed intervention effectively addresses the intended goal. Medical assistance within the hospital context is commonly believed to increase the safety of birth, thus offering a reason to hospitalise all births. However, a belief is not sufficient support. For the decision of hospitalisation to be justified, it must be based on reliable epidemiological evidence on the determinants of perinatal mortality rates. The main idea is that evidence should precede, and not follow policy decisions, in order not to generate the fallacy of *policy-based evidence* instead of *evidence-based policy* (NCB 2007,33).

Realising an evidence-based approach within public health is more complicated than it might seem at first. Considerable complications are derived by the existence of different evidence standards in public health action (Upshur 2002, 103). In other words, a different weight is attributed to scientific evidence in various public health activities, and some public health interventions might well be justified with less than optimal recourse to evidence.

This is connected to the risk-assessment used in the public health context in question; if the risk is perceived as higher, it seems that there is a stronger case for public health intervention, even with lack of full scientific certainty. However, some clarifications are needed on when this reliance on risk-perception is acceptable and when it is not.

In the case where there is no reliable evidence but the possible harm of not intervening is considerable, a precautionary approach sustained by the classical *harm principle*[14] can justify intervention. This can be substantiated in the case of vaccine

14 As originally formulated by John Stuart Mill in *On Liberty* (1859)

trials. In case of a potential pandemic of a dangerous infectious illness, the threat of serious damage might provide reasons to introduce a vaccine even if the scientific evaluation of its validity and/or safety is not certain. Applied to the maternity context, this implies that lacking evidence on the safety of home birth, hospitalisation of birth would be justifiable on the basis of the harm principle, since it attempts to minimise risks of harm to mothers and newborns.

A different situation is one where a scientific risk assessment exists but this is biased by the *perception of risk*, which is influenced by subjective factors (Slovic 1987). For instance, it might be that although hospital birth is statistically more dangerous and risky, women perceive it as safer because of medical assistance and the availability of pain relief. If it is so, the perception of risk has the effect of reducing the objectivity of scientific data[15]. Therefore an evidence-based policy should avoid reliance on risk perception and credit instead statistical assessments of risk (NCB 2007, 35).

Evaluating the extent to which the measure of hospitalisation is evidence-based thus involves establishing which of the two above mentioned situations applies. If hospitalisation is motivated by a genuine harm avoidance intention, its ethical justifiability would increase. If instead there is a preferential reliance on perception of risk rather than its statistical measure, routine hospitalisation would result problematic to justify.

Another important aspect in the utilitarian evaluation of hospitalisation as a public health measure is a careful weighing of benefits and burden. The implications of this measure are varied in complexity and utility, and range from the availability of life-saving interventions to pain-relief techniques to mere monitoring purposes. Clearly different types of benefits may result from different interventions.

For high-risk pregnant women there is a great amount of benefit, as the fact of being in a hospital makes technological and obstetrical assistance readily available and accelerates potentially life-saving interventions. However, this only holds for complicated cases, which the WHO has estimated are around 15 percent of all births. Statistically speaking, the remaining 85 percent do not get the same direct benefits from hospitalisation, since they are unlikely to need medical interventions. There are also considerable burdens to take into account in low-risks cases, both on the physical and

15 There is a substantial controversy on this point. Some theorisations of risk claim that there is no such a thing as a purely scientific risk assessment, and that assessing risks always implies value judgments. This discussion is omitted here. For more details see the chapter on 'risk' in the Nuffield Council report (NCB 2007, 34).

the psychological level.

Most burdens derive from the risk of unnecessary medicalisation that is connected to the hospitalisation of birth. There is copious empirical evidence that childbirth interventions are more frequent in the hospital setting, even if they are not associated to an improvement in outcomes (Tew 1986, Waldenstrom and Turnbull 1998). Given the education and training of specialist doctors, which focuses on pathology and tends to make a precautionary use of technology, an increased reliance on medical intervention seems unavoidable in the hospitalised birth.

As all medical interventions involve iatrogenic risk, unnecessary interventions in childbirth do involve extra burdens for low-risk women. In fact, interventions are often escalating (cascade of intervention)[16] and can prolong postnatal need for medical assistance. Furthermore, homogeneous hospitalisation of birth involves an undifferentiated emphasis on the risks of birth, which can accumulate anxieties and uncertainties in healthy women that can eventually erode their confidence in the solidity of their health (Verweij 1999).

Detrimental effects on health on the psychological level also suggest that possibly the indicators used to measure people's health need to be revised. In fact, not only mortality and morbidity rates are relevant, but well-being and subjective quality of life should be a parameter as well (Verweij 1999,98). The WHO highlights this comprehensive definition of health as a "state of complete physical, mental and social well-being" (WHO 2006), and not merely as the absence of disease.

Clearly these are not necessary consequences of preventive medicalisation. Some women might feel more reassured by being encouraged to medical assistance, even when this is not strictly required. However, for all the reasons that I have just mentioned, it is fundamental that policies that encourage routine hospitalisation of birth carefully evaluate the distribution of benefits and burdens among high and low-risks pregnancies, since burdens are more likely to be suffered by low-risk pregnant women.

Last in the benefits/burdens considerations is the evaluation of the economical burden. This is specifically relevant here because a medicalised approach requires more funds than one based, for instance, on midwifery care (cf. DoH 2007). This factor, together with the risk of unnecessary medicalisation mentioned above, makes the cost effectiveness evaluation of primary importance for the realisation of optimal allocation of resources, especially in considering that the money spent on healthcare is public and

16 For instance, a failed induction normally requires a caesarean section (Cahill 2000).

thus needs to be invested in *public* welfare.

### 3.2.2 Non-utilitarian considerations

In the theoretical framework we have seen that public health ethics is not only based on utilitarian moral considerations. It also focuses on the importance for public health providers to minimise interference with the personal values of people and the necessity for consideration of proportionality in the implementation of policies.

Applied to the case of maternity policies, these considerations prescribe that a policy which enables choice between place of birth and between types of prenatal care and interventions received is *prima facie* more justifiable than one which restricts such choice.

Consequently, according to the intervention ladder presented above, a maternity policy which constrains choice in childbirth must provide a valid justification for doing so. The validity of the policy justification is to be assessed in accordance to the ethical criterion of proportionality. This means that the probable public health benefits must outweigh the infringement with individual choice. Failure to provide substantial public health benefits would undermine the ethical justifiability of the policy decision for constraining choice.

To assess the extent to which a maternity policy enables and promotes choice in childbirth, it is important to decide what exactly counts as genuine choice. That the official policy offers free choice in childbirth is in fact not enough. Options are not value-free simply because they are presented as such, as environments in which people make choices are not value-free (NCB 2007). For instance, preventive medicalisation of birth might affect the independent choice of the women, who might take a medical professionals' personal judgment and advice as authoritative[17] (Verweij 1999).

However, there are no environments that can be completely value-free, and taking any influencing circumstance as a factor that impairs free choice might set an excessively low standard of coercion, thus leading to implausible conclusions about what actually counts as free deliberation.

Wijsbek has claimed that “to be free in a practical sense does not mean to be the uninfluenced originator of all your thoughts and actions; rather, it means to be able to

17 This is not only morally problematic in the case of pregnancy and childbirth but in all cases of preventive medicalisation. For more details see Verweij (1999).

respond adequately to the circumstances in which you find yourself" (Wijsbek 2000, 458).

I believe this definition applies well to pregnant women, who need to arrange their childbirth decisions by adequately reflecting both on their desires and on factual requirements of the situation. Therefore for the present purposes I define choice in childbirth as the possibility for pregnant women to give their own response to the relevant available information provided by health professionals on their health situation.

As per the definition offered by Wijsbek, criteria of adequacy must apply to this response. For instance, a mother's decision for a home birth cannot be taken as an adequate choice when this is clearly going to put her child's or her own health at risk[18]. On the other hand, if the mother's decision does not unequivocally endanger her own or her unborn child's health, it should be respected even if it conflicts with the personal opinions of the health professionals who are attending her.

Essential to achieve this purpose is the reliance on a neutral risk assessment of the childbirth options during counselling and labour (Sakala and Corry 2008, Lyerly 2009). This might be reached by receiving multiple opinions during prenatal visits, for instance both from a midwife and from an obstetrician.

### 3.2.3 Recapitulation

With these considerations I conclude the analytical framework for assessing the use of medicalisation in maternity policies. This framework has offered a comprehensive overview of all the ethically relevant implications of the process of medicalisation of birth. As we have seen, these include both considerations from a utilitarian moral perspective and from a non-utilitarian one.

With regard to the former perspective, requirements for an ethically justifiable use of medicalisation in maternity policies can be formulated as follows:

18 In the first case (risk of harming the child) intervention is justified by reference to the classical harm principle as formulated by Mill. In the second case (risk of harming herself), intervention can be justified on the grounds of a weak-paternalist position, which is generally accepted in public health policy reasoning (Buchanan 2008,17). Weak paternalists take the position that interventions to prevent people from harming themselves are justified when there is a defect in their decision-making that leads them to engage in self-harming activity (ibidem). If for instance a woman with medical contraindications for natural birth is not willing to acknowledge the risks of choosing such option, her choice might be overridden as a non-autonomous decision. Autonomy in fact implies that a person can critically reflect upon her desires and values, and change them if necessary. Refusal to do so might be a reason for public health providers to hold a weak-paternalist position in order to protect the health of the woman.

1) hospitalisation and the use of medical interventions should be based on good epidemiological evidence
2) a careful evaluation of risks and benefits of medicalisation should be operated, including consequences on the psychological level and with special attention to the *distribution* of these between low and high risk pregnancies
3) a cost effectiveness assessment should be made by limiting expensive interventions to cases of medical necessity

On the other hand, non-utilitarian considerations prescribe that:

4) there is a *prima facie* duty for maternity policies to respect the choice of pregnant women about their childbirth. If the official policy constrains choice, the public health benefits obtained with such strategy must outweigh the intrusiveness in private choice
5) choice must be genuine and supported by an impartial risk assessment by caregivers
6) choice must also be adequate and take into appropriate account the (medical) circumstances of the case

The specific points I have just listed will be used as ethical criteria to assess the justifiability of policy decisions related to the use of medicalisation in childbirth. In this way, the present analytical framework will allow me to apply the theoretical approaches from the authors mentioned in the theoretical framework (NCB 2007, Kass 2001, Childress et al 2002) to the practical case of medicalisation of birth. In the next chapter I will therefore apply this evaluation tool to the policies considered in my case study.

# 4 Evaluation of maternity policies

On the basis of the theoretical reflections made in the previous chapter, I will now return to the Dutch and British policy approaches to maternity and see to what extent they satisfy the analysed ethical framework. With this evaluation I will offer my final answers to the proposed research question: *which policy decisions better fit ethical requirements on the use of medicalisation in childbirth?*

## 4.1 Evidence-based maternity care

In the analytical framework I have offered different reasons why a maternity care should be evidence-based, and I have shown which ethical requirements refer to this definition. I have said that the decision for hospitalising birth should rely on epidemiological data on childbirth safety, and so should decisions for organising a system of home births. Let us now examine which of the two maternity policies better fulfils the requirement of being evidence-based.

In the UK there is little evidence to inform on childbirth safety in relation to the place of birth (NICE 2007). This is understandable as the fact that most births are hospitalised makes it very difficult to systematically evaluate potential differences in outcomes between planned home and planned hospital births[19]. One of the main problems is the impossibility to carry out randomised research on place of childbirth on a sufficiently large sample, as women normally want to choose that by themselves (De Jonge et al 2009). Even if this was made possible, assigning the place of birth could affect the results as a woman assigned to an undesired method might have higher levels of anxiety (De Vries 2005).

Still, we would expect that at some point policy-makers did rely on epidemiological evidence to justify routine hospitalisation. The strong correlation between higher rates of hospitalisation and lower rates of perinatal mortality and morbidity during the first half of the 20th century has generally been taken to be such evidence. However, this justification is fallacious. It is well known to epidemiologists that correlation does not imply causation (Parascandola & Weed 2001). Improvement in

19 Actually, it seems that the Netherlands is the only western country that can provide a large enough data set to show such differences (de Jonge at al 2009).

hygiene and environmental conditions may well have influenced the rates of infant mortality more than hospitalisation of birth.

Actually, studies conducted in the 1980s in England by the epidemiologist Marjorie Tew revealed that perinatal mortality is much higher when obstetric interventions are used, as in consultant hospitals, than when they are little used, as in unattached general practitioner maternity units and at home. In her conclusions we find the following words:

> *the organization of the maternity service stands indicted by the evidence. Despite the beliefs of those responsible, it has not promoted, and cannot promote, the objective of reducing perinatal mortality* (Tew 1986)

Had the British policy approach taken evidence into account, it would at least have taken this surprising discovery as a stimulus for further investigation. Instead, the "inertia of the established clinical practice" (De Vries 2005, 184) prevailed, and the community of obstetricians was actually obstructionist towards these findings (Tew 1998, De Vries 2005, 183).

What I see as the main reason for the British *praxis* of hospitalising and medicalising birth is then exclusive reliance on the opinion of powerful professional categories such as obstetricians or gynaecologists, and not evidence. Thus, my judgment is that the British system in this respect is not ethically justifiable.

The Dutch policy is instead strongly grounded on research evidence. Safety comparisons between planned home and hospital births have been organised by obstetrics researchers (Tew and Damstra-Wijmenga 1991, Berghs&Spanjaards 1995, De Jonge et al 2009) and even commissioned by the Dutch Department of Health (Wiegers 1998). Due to the great amount of studies demonstrating that home birth is as safe as hospital birth, if not safer, for low-risk pregnancies, policy-makers addressing maternity care can support the system of home births. This makes the Dutch system satisfactorily evidence-based with respect to the decision of where childbirth should occur[20].

## 4.2 Benefits and burdens

Framing benefits and burdens represents the bulk of the utilitarian evaluation of public

20 This statement does exhaust the discussion on the Dutch system being evidence-based. For a discussion on the Dutch debate on high perinatal mortality see following sections.

health interventions. As emphasised in the analytical framework, such evaluation should take into special account the distribution of risks and benefits among high and low-risk women. The latter are more likely to suffer the burdens of hospitalisation instead of enjoying its benefits because of the iatrogenic risk connected to unnecessary medicalisation. Additionally, the expenditure of public funds in medical interventions that do not increase the overall utility in maternity might also be morally problematic. Such points will be developed in the following paragraphs.

### 4.2.1 Unnecessary medicalisation

In the analytical framework its has been suggested that the phenomenon of unnecessary medicalisation in childbirth is morally problematic. This is because by creating iatrogenic risk it fails to provide a fair distribution of risks and benefits among low and high-risk women. Therefore, it has been established that policies should aim at avoiding its occurrence as much as possible.

Research can provide useful information on which medical interventions are overused (or underused) in clinical practice. Avoiding unnecessary medicalisation is effectively achieved if maternity care decision-makers systematically review the best available research on the beneficial and harmful effects of medical interventions and implement such findings in practice (Sakala and Corry 2008).

Avoiding unnecessary medicalisation is a priority in the Dutch midwifery model. The institution of the VIL (Verloskunde Indicatielijst, List of Obstetrical Conditions) as a reference to distinguish normal pregnancies from risky ones is supported by this specific intention. According to doctor Kloosterman (one of the creators of this official list), appropriate detection of risky pregnancies can avoid the false assumption that all deliveries are potentially risky (Kloosterman 1980). The VIL is indeed based on research findings, and regularly updated according to the advice of independent study groups[21]. The VIL is thus an effective tool to circumscribe the interventions to those conditions where their safety and effectiveness is medically proved.

Also, the government's decision to entrust the management of low-risk pregnancies to midwives has the effect of providing authoritative counterparts to the medical opinion. Their particular vocational training strongly focuses on experience in

21 Created in 1973, the list was then review by a government work group and made official in 1987. In 1994 it was further revised by a new work group (De Vries 2005,59).

the physiology of birth. In this way, midwives act as gatekeeper for the medical over-interventionist attitude, and preserve the use of effective non-medical interventions that are underused in a medical context[22].

However, the negative effects of these institutional arrangements deserve as much as attention. Cases of unexpected complications in labour during a planned home birth can lead to the phenomenon of emergency obstetrics. This has been largely criticised both on a national and international level, especially because its has proved to have a correlation with an increased perinatal mortality (Mohangoo et al 2008). Additionally, transferral to the hospital creates an enormous stress in the labouring woman, possibly affecting the health status of her child (and her own). Dr. Nijhuis, head of Obstetrics & Gynecology at Maastricht University, has declared his aversion to this system of home birth for this reason, claiming that "the foetus deserves more" (Nijhuis 2000).

This is an extremely urgent issue in the Dutch policy debate, since the referral rate is increasing in recent years[23]. If the rate cannot be lowered, it is worth wondering whether preserving such institutional arrangements is sensible, as an increasing number of pregnant women will be exposed to the risks of emergency obstetrics and the annoyance of a burdensome transferral to the hospital during labour.

Additionally, there are other factors that threaten the survival of the system of home births, among which are: the rising age at which women have their first child (considering that hospital birth is medically advisable for nulliparous over 35), and the closing of smaller hospitals, which makes the system of transferral during labour even more complicated. In summary, the remarkable Dutch performance in addressing the distribution of burdens and benefits through the VIL is strongly limited due to the high rate of emergency transferrals during labour.

In the UK the problem of unnecessary medicalisation is also addressed in the official policy. This is especially so since the increasing rate of caesarean sections has almost become a medical urgency (NHS 2009). In the attempt of reversing such a trend, the official policy explicitly promotes normality in childbirth (DoH 2007). Despite this intent however, rates of interventions are constantly growing in maternity statistics (NHS 2008). As it has been shown above, this largely depends on the reliance on

22 E.g. prenatal hand-to-belly maneuvers, non-supine position during labour, or mother-baby skin contact immediately after birth (Sakala and Corry 2008, 5).

23 One third of all planned home deliveries end up in hospital, and for nulliparous women (those that have never given birth) this percentage is as high as 50 percent (Christiaens 2007).

specialist care for low-risk cases. Because obstetricians are not trained in physiological birth, it is unavoidable that they are more inclined towards *active* prevention through screening technologies rather than an *expectative* approach with simple equipment. And this, in turn, unavoidably raises the rates of further interventions (Alfirevic et al 2006).

The effects of malpractice in the UK might also work as a barrier to an unbiased use of medical interventions. In the Netherlands for instance the charges for medical malpractice are handled by a type of disciplinary court, which in case of a medical mistake issues no pecuniary punishments, only disciplinary ones (De Vries 2005). In case of doubt then, this structure thus sets the medical priority on non-maleficence towards the patient, and does not favour an over-interventionist attitude[24].

In sum, the UK proposes good strategies to limit unnecessary medicalisation in official policy, but these are not yet effectively implemented in practice. Plus there are also some factors that openly contradict them (the system of malpractice, and the professional authority of medical specialists who might set the standard for intervention too low in low-risk cases).

### 4.2.2 Cost efficiency

Economic evaluation in the implementation of a public health measure is fundamental. The allocation of resources for healthcare needs to reach the balance between ensuring that everybody under the responsibility of the state has access to healthcare and the provision of high level standards for each of these individuals. Again, we have the tension between a collective goal and individual claims.

In the maternity sector, the money saved by limiting expensive medical interventions to the minimum necessary can possibly be spent on improvement of maternity services, and thus redistributed among all pregnant women. Therefore, there seems to be a *prima facie* moral obligation to reduce unnecessary intervention. However, this obligation is altered by the fact that carefree government cost-cutting efforts might create the impression that patient care is being jeopardised (Baker 2005).

The Dutch system effectively circumscribes medicalisation of birth, which consequently limits the expenditure in medical interventions to the mimimum necessary. Additionally, expenses in maternity departments are kept under tight control by the Dutch Health Ministry through a unique remuneration arrangement that reimburses

24 Personal communication during an interview to a Dutch gynaecologist (De Vries 2005, 177)

obstetricians the same fee for a delivery regardless of if it is a natural birth or a caesarean section (De Vries 2005, 56). This avoids the potentially adverse effects of a system where caesarean sections attract more funds than normal vaginal births, as it does in the UK (DoH 2007, 21). This is an important detail, since it has been suggested that every 1 percent rise in the annual rate of caesarean sections means an expenditure of £5 million (Jones 2005).

However, cost effectiveness for the Dutch system also depends on how low the rate of transferrals is maintained. In fact, Nijhuis (2000) has denounced that the system of referrals from primary to secondary care implies an extra 29.5 million Euro expenditure of maternity funds every year. This happens because in the case of a transferral from home to hospital the delivery is billed twice, both by the midwife and by the obstetrician (De Vries 2005, 218). Therefore the justifiability of the Dutch system depends on its capacity for limiting the recourse to primary to secondary care transferrals.

In conclusion, it cannot be claimed that one policy is definitely more cost effective than the other. Still, it is interesting that the Dutch policy uses the element of cost effectiveness as a good reason to limit the freedom of low-risk mothers, while the British policy contemplates higher expenses in order not to sacrifice the freedom of women to choose the type of care they want to receive. This different evaluation of the role of cost effectiveness considerations leads us to the discussion on choice in childbirth.

## 4.3 Choice in childbirth

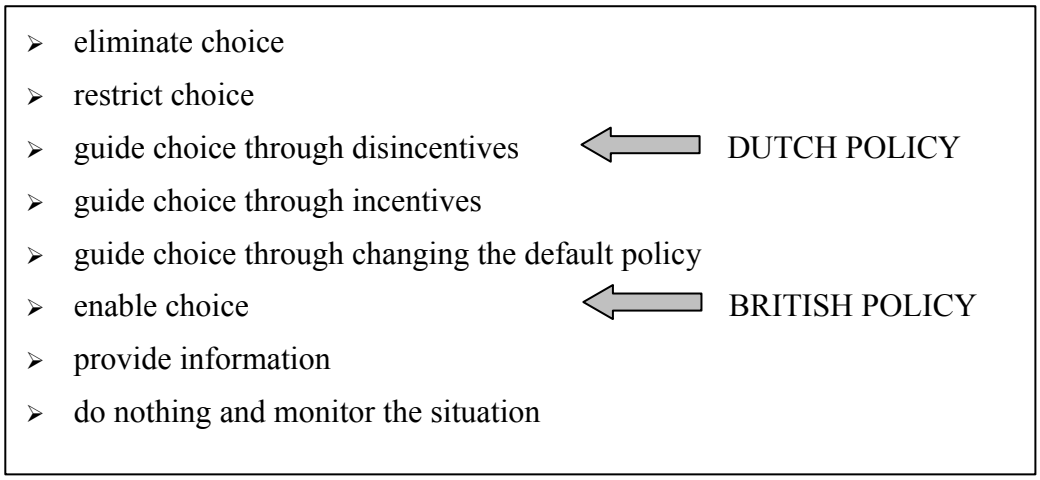
In the analytical framework I have shown how considerations of proportionality and least infringement apply to the use of medicalisation in maternity policies. In this paragraph I will examine to what extent the Dutch and British maternity policies respect these prescriptions.

Before starting let me recall the "intervention ladder"[25] theorised by the Nuffield Council of Bioethics (NCB 2007, 42) to assess the level of intrusiveness of public health measures. The fundamental function of this tool is to establish and assess the level of justification required for public health intervention. In other words, every step requires justification, but the higher the step, the stronger the justification needs to be.

25 This tool has been introduced in section 3.1.2

As I show on the list, I place the Dutch maternity policy in the step of 'guiding choice through disincentives', as the options of childbirth are not yet restricted but considerably steered by the system of reimbursement, which does not cover obstetrical care in absence of a referral request from the primary line caregivers. The position of the British policy is instead be in the step of 'enabling choice', and it intrudes less in pregnant women's personal choices.

The emphasis of the intervention ladder as an evaluation tool is not on the position on the ladder as such, but on the justification offered in support of it. Therefore, let us take a look at this aspect of the analysed policies.




Since 1993 British policy has officially favoured choice in childbirth (DoH 1993, 2007), thus honouring the *prima facie* duty of respecting childbirth choices. In section 3.2.2 I have said however that genuine of choice should not be not merely stated on the policy documents, but also supported by an appropriate system of prenatal counselling.

In this respect, the fact that in the United Kingdom women can choose to be assisted by both midwives and obstetricians contributes well to the enhancement of choice. At the same time however there are signals that women's choice might not be optimal. For instance, after more than 10 years from the first policy opening to choice in childbirth the rate of home birth is still as low as 2.2 percent (Shorten and Shorten 2009). It has been suggested that the limited evidence on the safety of planned home birth might undermine the confidence of women's choice (de Jonge at al 2009). Moreover, the biased risk assessment provided by specialist medical staff might have

the same result and discourage home birth (Crossley 2007). In summary, the medicalising *praxis* of the British system collides with the official policy of respecting choice.

The effects of this medicalising *praxis* on choice became a serious concern some years ago when it was estimated that as many as 1 in 10 of the caesarean sections performed in NHS hospitals are elective (Jones 2005). In the article cited, Jones argues that whether or not women are "too posh to push" largely depends on the explanation about risks offered to them by their caregivers. In other words, women willing to opt for a caesarean to avoid pain and the discomforts of natural childbirth[26] might well change their perception were they properly counseled about its risks (e.g. in terms of surgical complications), four times higher than a natural childbirth[27] (WHO 1997).

One way in which the official policy addresses this problem is by explicitly promoting a normal and physiological approach to childbirth (DoH 2007), and by introducing constraints on the adequacy of mothers' choice. In this respect, Stephen Ladyman has declared on behalf of the DoH that:

> *If a woman requests a caesarean section because she is frightened of childbirth, she should be offered support and counselling to help her address these fears. We need to strike a balance between offering choice in childbirth on the one hand and clinical necessity on the other especially if the choice on offer significantly increases risk (...) This Government has never suggested that people should have absolute choice even when it involves a more dangerous or unnecessary procedure. (Ladyman 2004).*

I conclude that the British decisions regarding choice in childbirth offer a well balanced justification in the policy level by both *prima facie* respecting choice and at the same time identifying situations where problematic choices can be overridden. It is however essential to translate it into practice by addressing those elements which sustain a medicalising *praxis* in the current organisation of maternity care. For instance, midwives should be better trained in physiological births and effectively empowered in decisions about medical intervention, and the systems around remuneration and malpractice should also be adjusted to not unduly favour an interventionist attitude.

On the other hand, the Dutch policy is openly more intrusive in personal choice,

26 Relaxation of pelvic muscles, possible urinary incontinence for the weeks following childbirth, discomfort during sexual intercourse, etc.

27 This only holds for low-risk pregnancies.

and has often been criticised for this coerciveness (Van Teijlingen et al 1994). The insistence of midwives that labour should begin at home (De Vries 2005, 229)[28] and positive dissuasion from them requesting medical intervention might be seen as an undue interference with choices of women about their childbirth. Also, the pattern of reimbursement for health services are used to control the behaviour of clients (De Vries 2005, 52), so that a woman will not be free to choose obstetrical care unless she is referred to it by primary caregivers such as midwives.

According to the intervention ladder, the justification for such a system must be as strong as its intrusiveness in personal choice. The justification offered by the Dutch system for constraining women choice is based on two crucial points, namely cost effectiveness and the avoidance of possible iatrogenic harms in low-risk pregnancies. If these two goals were effectively achieved, the Dutch policy would appear consistent with its own goals and thus justified.

However, we have seen in section 4.2 that a successful performance of the Dutch system in achieving these goals revolves around its capacity for minimising the burdens of referrals from primary care to secondary care. If the rate of transferrals is maintained as high as it is currently, both the cost effectiveness of the Dutch system and the overall rate of benefits to low-risk women will be affected, undermining in turn the ethical justification offered for the constrainsts made on pregnant women's choice.

Therefore I conclude that at present the intrusiveness of the Dutch system is not justifiable, since the strengh of its policy justification is undermined by an ineffective system of transferrals. The development of more possibilities for polyclinic birth under the supervision of a midwife could be a good solution to avoid emergency obstetrics and enable more choice, while at the same time preserving a non-medicalising approach.

28 During an interview with De Vries, a Dutch midwife tells him that their protocol to defend home birth implies that all women have to start labour at home, even if they want to have a polyclinic birth. They do this because, if the birth is easy, it can be completed at home.

# 5 Conclusion

The goal of this thesis has been to contribute to the discourse of maternity reform by offering an ethical evaluation of the use of medicalisation in childbirth policies. For this reason, a case study has been set on the ethical justifiability of policy decisions regarding the medicalisation of childbirth. With special reference to the Dutch and British case, it has been established when the use of medicalisation is obligatory, when it is beneficial and when instead it is morally problematic. On such basis, the central question has been designed as: *which policy decisions better fit ethical requirements on the use of medicalisation in childbirth?*

The two policies analysed have been evaluated using public health ethics as a theoretical context for the discussion. A specific framework has subsequently been elaborated to comprehend all the relevant moral considerations about medicalisation of birth. Finally, I have evaluated the policies according to this specific framework.

In conclusion of my analysis, answers to the central question can be presented as follows. I have found that each of the studied policies has weak and strong points in its ethical justifiability, therefore it is not be possible to declare one approach as altogether more acceptable than the other. Per contra I offered precise answers about the ethical justifiability of the decisions of each policy, which I will here detail.

The Dutch policy decision of limiting medicalisation to high-risk cases through a strongly steered midwifery model well fits utilitarian requirements, since:

- it relies on good epidemiological evidence
- it successfully maintains an optimal distribution of burdens and benefits between low and high-risk women
- it effectively limits maternity expenses by avoiding routine hospitalisation

At the same time, the Dutch decision of favouring home birth over hospital birth has been found to be morally problematic, because it involves frequent transferrals from primary to secondary care during labour. It has been shown that the overall utility of the Dutch system is threatened by this arrangement, which implies both health risks and cost-inefficiency. If this point is not addressed effectively, the whole utilitarian justifiability of the Dutch system might be compromised.

The decision for constraining choice of the pregnant woman about the kind of

prenatal care desired has also been found to be morally unacceptable in the Dutch policy, since the justification offered for it is not strong enough. More precisely, the justification is weakened by the problematic system of transferrals just mentioned. If the limitation of choice could provide unquestionable benefits in terms of utility (circumscription of medicalisation to cases of proven medical risk, cost effectiveness), arguably the justification for the policy intrusion in private choice would be morally acceptable. However, because such benefits are compromised by the ineffective system of transferrals, the validity of the justification is also compromised.

On the other hand, the British policy is more responsive to the non-utilitarian considerations which have proved to be relevant in the organisation of maternity care. Choice in childbirth is a primary commitment, which makes this policy decision well justifiable in terms of two important public health ethical considerations, namely proportionality and least infringement.

Still, a better commitment to translate policy documents into practice is required to strengthen the British justification. This includes addressing those features of the current organisation of maternity which favour a medicalising *praxis*, such as the system of malpractice, the billing system for maternity departments and the excessive reliance on specialist care for low-risk pregnancies.

In conclusion, the findings of my case study illustrate that different arrangements are possible in policy decisions and justification; a utilitarian approach that prioritises the collective benefits, and a non-utilitarian one that emphasises the importance of individual choice. In this work I do not intend to decide whether one ethical approach is preferable to the other, and I take them as equally important in the public health justification of maternity policies. Per contra I have clarified the internal ethical tensions that each system contains with respect to its own official justification, and I have suggested how this could be improved.

Since policy analysis is an essential step to policy reform, I believe the ethical analysis that I have structured in this thesis can give precious contributions to the process of policy development, by clarifying and evaluating the (implicit) moral justifications used in the implementation of policies. Although it has been elaborated with special reference to the policies in the Netherlands and United Kingdom, my suggestion is that the present analysis can be used as a flexible tool for ethical evaluation of maternity health policies of other developed nations where a similar debate on the medicalisation of birth exists.

## Summary

This thesis explores the ethical justifiability of medicalisation of childbirth in maternity health policies. This is done by setting a case study on the Dutch and British approaches to childbirth. The former takes the avoidance of medicalisation in low-risk births as a priority, while in the latter the priority goes to enhancing and respecting women's choice. I address the question of which of these approaches leads to more justifiable policy decisions from an ethical point of view. In order to answer this question, I structure a specific ethical framework and I apply it to the policies analysed. At the end of my ethical evaluation I find that the Dutch system is more justifiable from a utilitarian point of view, as it successfully maintains the balance between avoiding risks for high-risk pregnancies and limiting the burdens of medicalisation for low-risk ones. On the other hand the British official policy takes a non-utilitarian approach to maternity care, where the consideration of choice in childbirth is a central concern. In conclusion I suggest that this thesis can contribute to the discourse on maternity reform by clarifying the ethical assumptions of policy decisions.

# References


Alfirevic Z., Devane D., Gyte G. 2006: Continuous cardiotocography (CTG) as a form of electronic fetal monitoring (EFM) for fetal assessment during labour. *Cochrane Database of Systematic Reviews,* issue 3.

Baldwin,T., Brownsword, R., Schmidt, H. 2009: Stewardship, Paternalism and Public Health: Further Thoughts. *Public Health Ethics*, 2(1), 113–116.

Baker, M. 2005: Childbirth practices, medical intervention and women's autonomy: safer childbirth or bigger profits? *Women's Health and Urban Life,* 4(2), 27-43.

Barker, K. 1998: A ship upon a stormy sea: the medicalization of pregnancy. *Social Science & Medicine*, 47 (8), 1067-1076.

Beauchamp, T. and Childress, J. 2001: *Principles of Biomedical Ethics* (5th ed). Oxford: OUP.

Berghs G.; Spanjaards E.; Driessen L.; Doesburg W.; Eskes T. 1995: Neonatal neurological outcome after low-risk pregnancies. *European Journal of Obstetrics and Gynecology and Reproductive Biology,* 62 (2), 167-171.

Buchanan, D. 2008: Autonomy, paternalism, and justice: ethical priorities in public health. *American Journal of Public Health,* 98 (1), 15-21.

Cahill, H. 2000: Male appropriation and medicalisation of childbirth: an historical analysis. *Journal of Advanced Nursing,* 33 (3), 334-342.

Childress JF, Faden RR, Gaare RD, Gostin LO, Kahn J, Bonnie RJ, Kass NE, Mastroianni AC, Moreno JD, Nieburg P. 2002: Public health ethics: mapping the terrain. *Journal of Law, Medicine and Ethics.* 30(2), 170-178.

Christiaens, W., Gouwy, A. and Bracke, P. 2007: Does a referral from home to hospital affect satisfaction with childbirth? A cross-national comparison. *BMC Health Services Research.* 7 (109).

Cosans, C. 2004: The Meaning of Natural Childbirth. *Perspectives in Biology and Medicine,* 47 (42), 266-272.

Crossley, M. 2007: Childbirth, complications and the illusion of 'choice': a case study. *Feminism and Psychology*, 17 (4), 543-563.

Dawson, A., and Verweij, M. 2007: Introduction: ethics, prevention and public health. In *Ethics, prevention and public health,* eds. Dawson, Verweij, 1-12. Oxford: OUP.

Dawson, A., and Verweij, M. 2008: The Steward of the Millian State. *Public Health Ethics*, 1(3), 193–195.

De Jonge A, van der Goes BY, Ravelli ACJ, MP Amelink-Verburg, BW Mol,JG Nijhuis,J Bennebroek Gravenhorst,SE Buitendijka. 2009: Perinatal mortality and morbidity in a nationwide cohort of 529 688 low-risk planned home and hospital births. *International Journal of Obstetrics and Gynaecology*, 116, 1177-1184.

De Vries, R. 2005: *A Pleasing Birth. Midwives and maternity care in the Netherlands.* Philadelphia: Temple University Press.

Department of Health (DoH). 1993: *Changing childbirth. Report of the Expert Maternity Group.* London: HMSO.

Department of Health. 2007: *Maternity matters: choice, access and continuity of care in a safe service.* Available from: http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_074199.pdf (accessed 15/11/2009).

Department of Health and Social Security. 1970: *Domiciliary and Maternity bed needs. Report of the Subcommittee of the Standing Maternity and Midwifery Advisory committee.* London: DHSS.

Eskes, T. 1980: Pleidooi voor bevallen in het ziekenhuis. In *Controversen in de geneeskunde*, ed. A. Querido and J. Roos, 180-190. Utrecht: Uitgevererij Bunge.

Higstman, L. 1994: Primary care obstetrics and perinatal health in the Netherlands. *Journal of Midwifery and Women's Health*, 39(6), 379-386.

Holland, S. 2007: *Public Health Ethics*. Cambridge: Polity Press.

Illich, I. 1977: *Limits to medicine. Medical nemesis: the expropriation of health.* Harmondsworth: Penguin.

Johanson, R. 2002: Has the medicalisation of childbirth gone too far? *British Medical Journal*, 324, 892-895.

Johnson, T., Callister, L., Freeborn, D., Beckstrand, R., and Huender, K. 2007: Dutch Women's Perceptions of childbirth in the Netherlands. *American Journal of Maternal Child Nursing,* 32 (3), 170-177.

Jones, H. 2005: Too posh to push? Available at: http://www.netdoctor.co.uk/health_advice/facts/pregnancy_too_posh_003739.htm (accessed 8/12/2009).

Kass, N. 2001: An ethics framework for public health. *American Journal of Public Health,* 91(11), 1776-1782.

Kloosterman, G. 1980: Pleidooi voor de mogelijkheid tot de bevalling thuis. In *Controversen in de geneeskunde*, ed. A. Querido and J. Roos, 191-197. Utrecht: Uitgevererij Bunge.

Ladyman, S. 2004: Promoting normality in childbirth. Available at http://www.dh.gov.uk/en/News/Speeches/Speecheslist/DH_4083369 (accessed 05/01/2010).

Lumey, L. 1993: Illness versus Natural Process: Competing Paradigms in Great Britain and the Netherlands. In *Successful Home Birth and Delivery. The Dutch Model,* ed. Abraham-van der Mark, 173–190. Amsterdam: Het Spinhuis.

Lyerly, A.; Mitchell, L.; Armstrong, E.; Harris, L.; Kukla, R.; Kuppermann, M.; Little, M. 2009: Risks and the Pregnant Body. *Hastings Center Report*, 9, 34-42.

Mohangoo AD, Buitendijk SE, Hukkelhoven CW, Ravelli AC, Rijninks-van Driel GC, Tamminga P, Nijhuis JG. 2008: Higher perinatal mortality in The Netherlands than in other European countries: the Peristat-II study. *Nederlands Tijdschrift voor Geneeskunde,* 152(50), 2718-2727.

National Health Service (NHS). 2008: Maternity Statistics 2007-2008. Available at: http://www.ic.nhs.uk/pubs/maternity0708 (accessed 15/12/2009).

NHS Institute for Innovation and Improvement. 2009: Toolkit for reducing caesarean section rates. Available at: http://www.library.nhs.uk/qualityandproductivity/ViewResource.aspx?resID=330743&tabID=289 (accessed 15/12/2009).

National Institute for Health and Clinical Excellence (NICE). 2007: Intrapartum Care. Care of Healthy Women and Their Babies During Childbirth. London: RCOG. Elaborated by the National Collaborating Centre for Women's and Children's Health. Available at: http://www.nice.org.uk/nicemedia/pdf/CG55FullGuideline.pdf (accessed 15/12/2009).

Nijhuis, J. 2000: *De foetus verdient meer: inaugurele rede*. Maastricht: Universiteit Maastricht.

Nuffield Council on Bioethics (NCB). 2007: *Public Health: Ethical Issues.* Available at: http://www.nuffieldbioethics.org/go/ourwork/publichealth/publication451.html (accessed 15/12/2009).

O'Neill, O. 2002: Public health or clinical ethics: thinking beyond borders. *Ethics and International Affairs,* 16(2), 35-45.

Oppenheimer, C. 1993: Organising midwifery led care in the Netherlands. *British Medical Journal*, 307(6916), 1400-1402.

Organisation for Economic Co-operation and Development (OECD). 2009: Health data: Infant mortality, Deaths per 1000 live births. Available at: http://www.oecd.org/document/16/0,3343,en_2649_34631_2085200_1_1_1_1,00.html (accessed 05/01/2010).

Parascandola, M, Weed, D. 2001: Causation in Epidemiology. *Journal of Epidemiology and Community Health*, 55(12), 905-912.

Pavlova M, Hendrix M, Nouwens E, Nijhuis J, van Merode G. 2009: The choice of obstetric care by low-risk pregnant women in the Netherlands: Implications for policy and management. *Health Policy*, 93(1), 27-34.

Purdy, L. 2001: Medicalization, medical necessity and feminist medicine. *Bioethics*, 15(3), 248-261.

Sakala, C. and Corry, M. 2008: Evidence-based maternity care: What it is and what it can achieve. Available at http://www.childbirthconnection.org/pdfs/evidence-based-maternity-care.pdf (accessed 04/01/2010).

Shorten, A. and Shorten, B. 2009: Independent midwifery care versus NHS care in the UK. *British Medical Journal*, 338, 1454-1455.

Slovic, P. 1987: Perception of Risk. *Science*, 236 (4799), 280-285.

Smeenk, A. and ten Have, H. 2003: Medicalization and obstetric care: An analysis of developments in Dutch midwifery. *Medicine, Health Care and Philosophy*, 6(2), 153-165.

Smulders, B. "The Place of Birth: The Dutch Midwifery System". Paper presented for the conference Future Birth: The Place to be Born, Camperdown, Australia, February 1999.

Tew, M. 1986: Do Obstetric Intranatal Interventions Make Birth Safer? *British Journal of Obstetrics and Gynaecology*, 93, 659–674.

Tew, M. 1998: *Safer Childbirth? A Critical History of Maternity Care* (3rd edition). London: Free Association Books.

Tew, M. and Damstra-Wijmenga, S. 1991: Safest birth attendants. Recent Dutch evidence. *Midwifery,* 7(2), 55-63.

Timmons, M. 2002: *Moral Theory: An Introduction*. New York: Rowman&Littlefield Publishers.

United Nations (UN) 2000: *The World's Women: Trends & Statistics.* New York: UN.

Upshur, R. 2002: Principles for Public Health Ethics. *Canadian Journal of Public Health*, 93, 101-103.

Van Teijlingen, E., Mascarenhas, L., Biervliet, F., Gee, H. and Whittle, M. 1994: Dutch Model Of Maternity Care. *British Medical Journal*, 308 (6924), 342.

Verweij, M. 1999: Medicalization as a Moral Problem for Preventive Medicine. *Bioethics,* 13, 89-113.

Waldenstrom, U. and Turnbull, B. 1998: A Systematic Review Comparing Continuity of Midwifery Care with Standard Maternity Services. *British Journal of Obstetrics and Gynaecology*, 105, 1160–1170.

Walker, R., Turnbull, D., Wilkinson, C. 2002: Strategies to address global caesarean section rates: A review of the evidence. *Birth*, 29(1), 28-39.

WHO, 2006: Constitution of the World Health Organization (45th edition). Available at: http://www.who.int/governance/eb/who_constitution_en.pdf (accessed 15/12/2009).

WHO, UNICEF & United Nations Population Fund. 1997: *Guidelines for Monitoring the Availability & Use of Obstetric Services*. New York: UNICEF.

Wiegers, T., 1998: Home or hospital birth: a prospective study of midwifery care in the Netherlands. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 79(2), 139-41.

Wijsbek, H. 2000: The pursuit of beauty: the enforcement of aesthetics or a freely adopted lifestyle? *Journal of Medical Ethics*, 26, 454-458.

Wikler, D. and Brock, D. 2007: Population-level bioethics: Mapping a new agenda. In *Ethics, prevention and public health,* eds. Dawson, A. and Verweij, M., 78-94. Oxford: OUP.

Zola, I. 1972: Medicine as an institution of social control. *Sociological Review,* 20, 487-504.