The role of primary care midwives in the Netherlands. Evaluation of midwifery care in the Dutch maternity care system: a descriptive study
Verburg, M.P.

Citation for published version (APA):

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: http://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.
CHAPTER 7

Evaluating and Validating a Perinatal Mortality Audit through Feedback to the Health Care Providers Involved

M.P. Amelink-Verburg
J. van Roosmalen
J.M.T. Roelofsen
J.H. Wolleswinkel-van den Bosch
S.P. Verloove-Vanhorick

English version of Nederlands Tijdschrift voor Geneeskunde 2003;147 (47): 2333-2337
Abstract

Objective. To evaluate a perinatal mortality audit by providing the health care providers involved with the results of the audit, so as to establish whether or not feedback may improve perinatal care and whether the auditing procedure employed was adequate.

Design. Descriptive study.

Method. For privacy reasons, the results of the previously conducted regional perinatal mortality audit were published in a generic report which did not identify any of the parties involved. At their own request, two participating hospitals received panel assessment reports of their own cases. The auditing procedure, the 77 panel assessments and the care provided in the 77 cases at hand were then evaluated with the health care providers involved at closed meetings.

Results. Five panel assessments of audited cases of mortality were found by the health care professionals involved to be ‘too lenient’, whereas one panel assessment was found to be ‘too harsh’ (Cohen’s $\kappa$: 0.98). The extensive case descriptions submitted as part of the auditing procedure turned out to be of vital importance. While generic reporting of audit results provides an insight into factors contributing to substandard care, feedback of results on a patient-by-patient basis was found to result in concrete suggestions for improvements in the fields of medical care, the relationship between the patient and the care provider, and collaboration between the various types of care providers themselves. None of the parties involved objected to being identified as the care provider in a given case in the discussions of the feedback.

Conclusion. The provision of feedback on the results of the perinatal audit to the care providers involved and the subsequent discussions of these results led to concrete suggestions being made for improvements in the fields of collaboration, reporting and policy-making, both at the level of the hospitals involved and on the individual level.
Introduction

Within the framework of an European perinatal audit study in various European regions (the EuroNatal study), in 1999 a large population-based audit was conducted in the Netherlands.\textsuperscript{1-5} The study, including all levels of perinatal care, focussed on the relationship between perinatal mortality and shortcomings in the care provided (hereinafter referred to as ‘substandard factors’). The so-called NederNatal study included 332 perinatal deaths which had occurred in the Northern South-Holland district in the years 1996 and 1997. The audit panel, comprised of care providers who were not personally involved in any of the cases at hand, issued a score to each of the reported deaths (Table 7.1). For confidentiality reasons, these scores were only communicated in a generic paper which did not identify any of the parties involved.\textsuperscript{6} This method had its disadvantages, the main one being the fact that individual care providers had no means of finding out how their own cases had been assessed. Therefore, two of the twelve audited hospitals requested feedback on the panel’s assessments of their own cases on a patient-by-patient basis.

Such feedback is useful for several reasons. Firstly, because a care provider has the right to know what other parties have done with the data he/she has provided. Secondly, because feedback enables those involved to assess the auditing procedure itself: is it possible to perform an auditing procedure in which case descriptions and the subsequent evaluations adequately reflect clinical reality as perceived by those involved? Does feedback result in suggestions for improved care? Such questions are vital now that perinatal audits are becoming increasingly popular\textsuperscript{7,8} and the professional groups are establishing a nationwide system for perinatal auditing, as described in the Obstetric Manual, a document published by the Dutch Health Insurance Board.\textsuperscript{9}

In cases of perinatal mortality in which more than one obstetric- or neonatal care provider was involved, no feedback could be provided without breaching the anonymity which the care providers had been guaranteed beforehand, because inspection of one particular hospital’s results would inevitably give readers access to assessments of the quality of care provided by other care providers involved in the cases at hand. Therefore, we established a method for providing certain care providers with the requested feedback in a way which would not identify other care providers. In this paper we describe this method and its results.
The feedback primarily focussed on the following questions:
(a) Do the care providers agree with the audit panel’s assessments of their cases, and will feedback on the cases concerned result in (proposed) improvements to the perinatal care?
(b) Will the care providers’ response to this feedback give rise to changes in the auditing procedure?

Method

Participants
Two hospitals, Leiden University Medical Centre (LUMC) and Zoetermeer Lange Land Hospital (ZLL), requested detailed feedback on their audit scores. All cases pertaining to these two hospitals (77 cases in total) were extracted from the NederNatal database and examined, after which all the care providers involved in these cases were requested to consent to their identities being disclosed, and invited to a closed meeting at their own hospital.

Cases
To prepare for the meeting, all participants received the anonymised case descriptions previously submitted to the audit panel, plus the scores issued to these cases by said panel. In addition, all participants received copies of the panel discussions concerning the cases in which they had been involved, plus the personal details of the patients involved. All documented ZLL cases were discussed at the Zoetermeer meeting. Since the LUMC cases were too numerous to discuss at one meeting, an obstetrician and a researcher each selected a number of cases which they felt might lead to discussion, e.g. because they had provoked much discussion among the audit panel. All case descriptions deemed relevant by either one or both of the meeting conveners were put on the agenda. The remaining files were submitted to the care providers involved. If they felt that the audit panel had made an incorrect assessment of their case, or if they were of the opinion that the case merited special attention, these cases were put on the agenda alongside the cases selected by the meeting conveners.

Meeting
At the meetings convened to discuss the selected cases, the care providers involved in said cases were granted the opportunity to reflect on the events of each case and on the panel’s assessment. This reflection was followed by a plenary discussion. All parties involved in each case were asked whether they agreed with the panel’s
assessment. At the end of the evening, the attendees participated in a written anonymous survey of the auditing procedure employed and of the meeting itself, and attendees were encouraged to express their opinion on perinatal audit in general.

**Results**

**Participants**
In addition to the two hospitals mentioned above, sixteen midwifery practices and two general practices participated in the feedback project. All care providers involved consented to their cases being discussed. The meetings were attended by six obstetricians, sixteen primary-care midwives, three clinical midwives, and one resident. If more than one care provider was involved in a case, at least one of them attended the meeting.

**Cases**
All 23 cases previously submitted to the audit panel by ZLL were put on the agenda for the Zoetermeer meeting, while 18 of the 54 cases previously submitted by LUMC were put on the agenda for the Leiden meeting. Since in the LUMC, in its function as a tertiary centre, many serious medical conditions associated with pregnancy are concentrated, the inevitability of many of the perinatal deaths reported at this hospital was beyond debate, irrespective of the quality of care. Therefore, the care providers involved in the 36 cases which were not selected for discussion did not attempt to have these cases put on the agenda, stating explicitly that they agreed with the scores issued by the audit panel.

All 41 cases put on the agendas for the two meetings were discussed. Each evaluation looked into the appropriateness of the referral or diagnosis, the quality of the care provided, and suggestions for improvements. Attendees disagreed with seven scores issued by the audit panel. In five cases the care providers felt that the audit panel had been too lenient. In one case the score remained the same but the care providers expressed doubt as to how that score had been arrived at, and in one case the panel’s assessment was felt to be too harsh (see Table 7.1).
Table 7.1 - Scores issued to cases of perinatal mortality reported in 1996 en 1997, classified as to the degree in which the fatal outcome was assessed to be related to substandard care. The numbers in the table reflect the numbers (percentages) of the cases.

<table>
<thead>
<tr>
<th>Score*</th>
<th>All cases in the district (n = 332)</th>
<th>All cases at Leiden University Medical Centre and Zoetermeer Lange Land Hospital (n = 77)</th>
<th>Assessment by care providers involved, as compared with panel assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Assessment by audit panel</td>
<td>Assessment by audit panel</td>
<td>In agreement</td>
</tr>
<tr>
<td>Consensus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>147 (45)</td>
<td>40 (52)</td>
<td>37</td>
</tr>
<tr>
<td>1</td>
<td>88 (27)</td>
<td>18 (23)</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>63 (19)</td>
<td>12 (16)</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>20 (6)</td>
<td>4 (5)</td>
<td>4</td>
</tr>
<tr>
<td>No score issued due to insufficient data</td>
<td>11 (3)</td>
<td>3 (4)</td>
<td>3</td>
</tr>
<tr>
<td>No consensus</td>
<td>3 (1)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* No substandard factors identified by the panel (score of 0); one or more substandard factors identified, which were unlikely to be related to the perinatal death (score of 1), which were possibly related to the perinatal death (score of 2), or which were probably related to the perinatal death (score of 3).
† Score of 0 raised to score of 1 (once) or to score of 2 (twice).
‡ Score of 2 lowered to score of 1 (once); score of 2 raised to score of 3 (twice). In one case the causes contributing to a fatal outcome were redefined, while the score remained unchanged.

Evaluation of the auditing procedure

Generally speaking, the care providers who attended the meetings felt that the case descriptions matched clinical reality, judging from the discussions held at the meetings and the responses provided in the survey. In some cases relevant data were found to be missing from the case descriptions, usually due to vague record-keeping or missing details in the patient’s records. In some cases the audit panel was found to have been given incomplete information, since the panel’s records did not include details on the patients’ diagnoses. The care providers who attended the meetings felt that this had led to an unjust assessment in two cases (see Table 7.1). In one of these cases, the panel had attached great importance to the words ‘abnormal blood glucose values’ in the case description. Since the blood glucose values in question were in fact only slightly abnormal, the care providers involved were of the opinion that the case should have received a score of 1 rather than 2. In the second case, cardiotocography (CTG) results were described as ‘good’ in the patient’s records and copied...
as such in the description of the case, which was issued a score of 2. According to
the care providers involved, who later found that the CTG results showed in fact a
terminal condition, this case should have been issued a score of 3.

The lack of information about the patients’ social backgrounds in the case des-
criptions was generally deplored but found to be more or less inevitable. When
such subjective information was volunteered at the meetings, it often helped those
discussing the cases gain a greater insight into the reasons for the occurrence of
substandard factors. However, in no case did this information alter a score, which
shows that it was not vital to the assessment-making process.

Feedback meetings
The survey results show that all respondents found the discussions of the audit
results useful, even though the cases concerned were none too recent (Table 7.2).
Table 7.2 also shows how the respondents evaluated the meetings in their own
words. Inevitably, the care providers were identified as having been involved in cer-
tain cases during the meetings. The survey results show that none of the attendees
objected to being identified, or had noticed colleagues finding hard to take being
identified, even when their cases had been issued a score of 2 or 3. This was because
‘the discussion was very objective’ and ‘the atmosphere of the meeting was plea-
sant’, and also because the cases in question had been discussed intra-disciplinary
before (see Table 7.2).

Nationwide perinatal audit
All respondents indicated that they felt the establishment of a nationwide perinatal
auditing system, as described in the Obstetric Manual9, would be useful. Likewise,
all respondents indicated that they felt that the panel members should be involved
in perinatal care. Nearly all respondents felt that it was important, for the sake of
objectivity, that the panel members not engage in auditing activities in their own
working districts (see Table 7.2).
Table 7.2 - Opinions expressed in written survey by health care providers who attended feedback meetings to discuss selected cases of perinatal mortality (n = 24)

<table>
<thead>
<tr>
<th>Structured questions</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Discussion of results of external audit – useful or not?</td>
<td>22</td>
</tr>
<tr>
<td>Results of perinatal audit</td>
<td></td>
</tr>
<tr>
<td>- Increase ‘awareness of quality’?</td>
<td>22</td>
</tr>
<tr>
<td>- Did discussion led to reflect on your practice?</td>
<td>23</td>
</tr>
<tr>
<td>- Did discussion cause you to change your habits and ways of doing things?</td>
<td>13</td>
</tr>
<tr>
<td>- Discussion caused you to change the way you record things?</td>
<td>15</td>
</tr>
<tr>
<td>- Discussion made you feel insecure?</td>
<td>1</td>
</tr>
<tr>
<td>The health care providers’ anonymity is lifted at feedback meetings</td>
<td></td>
</tr>
<tr>
<td>- Was this a problem for you?</td>
<td>23</td>
</tr>
<tr>
<td>- Did you think this was a problem for other attendees?</td>
<td>18</td>
</tr>
<tr>
<td>Would establishing a nationwide perinatal auditing system be useful?</td>
<td>24</td>
</tr>
<tr>
<td>Was the composition of the audit panel adequate? (Obstetrician, gynaecologist and paediatrician, chaired by a general practitioner)</td>
<td>20*</td>
</tr>
<tr>
<td>Should perinatal audits only be conducted by panel members who do not practise in the audited district?</td>
<td>20</td>
</tr>
</tbody>
</table>

Comments volunteered by attendees

With regard to the various echelons:
- Discussion leads to better communication and greater understanding of the other party’s reasons
- Interdisciplinary auditing improves communication
- Interdisciplinary discussion and/or discussion with outsiders leads to new points of view
- Substandard care may be delivered at primary and secondary and tertiary level. It may occur under many circumstances.

With regard to ‘evaluation of health care provided’:
- Evaluation helps one understand that medical care can always be improved
- Looking back on a case which occurred a long time ago enables evaluation at a more abstract level
- Discussion gives rise to making of new policies and policy revision
- Evaluation shows clearly that medical records should contain sufficient detail for others to be able to interpret them correctly

With regard to the feedback meetings:
- The meetings helped attendees understand how the perinatal audit was conducted, and what it achieved
- The audit panel’s occasional leniency encouraged attendees to take part in discussions
- Attendees found it ‘exciting’ to be able to discuss their own medical practice so openly
- Fear that outsiders would be judgemental turned out to be unfounded
- Open atmosphere, no reproachful vibe
- Audit panel’s and investigators’ objectivity was pleasant and important
- A feedback option should be offered to other audited hospitals, as well

*S Suggestions included: give the general practitioner a larger say in the proceedings, and in some cases add a psychologist, anaesthetist or pathologist to the panel.
Discussion

Perinatal audit is a process aimed at providing an insight into which parts of the care system require structural improvements, e.g. regulated collaboration, adjustments in protocols, new ways of forming a diagnosis, etc. The previously published generic report outlining the NederNatal audit results provided such an insight at a general level. The high percentage of cases which were found to have involved substandard factors in the care provided led to commotion among perinatal care providers, mostly due to incorrect quotations on the subject in the Dutch media. However, care providers turned out to have considerable difficulty drawing up concrete plans for improvement based on the generic results. Judging from the surveys completed by the care providers who attended the feedback meetings, the care professionals needed feedback on their own work in order to draw up concrete steps for improvement, both in terms of medical aspects (e.g. ‘being alert on the signal of recurrent cystitis’) and in terms of the relationship with the client (e.g. ‘better instructions to the pregnant woman as to which complaints warrant contacting the midwife or the doctor’). The sessions were most successful in producing concrete suggestions for improvements with regard to collaboration of the various professionals, e.g. recording findings more clearly, and ensuring that there are clear agreements in place as to who is to take the lead in cases involving patients with multi-morbidity (where treatments administered by different specialists may mask obstetric problems). Whether or not these changes will actually be implemented remains unclear; it is outside the scope of this study. However, the first steps have obviously been taken, because awareness and reflection are important aspects of quality medical care.

The audit panel used a scoring system under which 0 or 1 means that there is no direct relationship between the delivered care and the recorded death; 2 means that there is a possible relationship, while 3 means that there is a probable relationship. In other words, the difference between a score of 1 and a score of 2 is clinically relevant. From this point of view, the care providers who attended the feedback sessions felt that two of the scores issued by the audit panel were too lenient, whereas one score was deemed to be overly harsh. This implies that the collated auditing results presented in the generic report differed from the care providers’ perceptions by a mere 1.2 per cent (Cohen’s $\kappa$: 0.98), which means that the auditing procedure employed by NederNatal largely reflects clinical reality. The accuracy of the auditing procedure, in which detailed case descriptions were found to play a vital part, could be improved by making all diagnostic data (as well as other objectifiable data) available to the auditing panel.
The meetings showed that perinatal mortality is a sore subject. Five to six years had passed since the cases discussed at the meetings took place. Even so, several persons involved in the cases got emotional when discussing them, saying things like, ‘I still regret not performing a Caesarean one day earlier’ or ‘I feel bad about the care delivered to that lady’. The attendees’ emotional responses were not always directly related to the scores their respective cases had received. Of course, any retrospective assessment of a case will inevitably be affected by an awareness of an adverse outcome, which will make care providers more likely to focus on what more they could have done, or what they could have done differently, rather than on whether it might have been beneficial to do less. The care providers attending the meetings were remarkably hard on themselves. In seven cases, care professionals disagreed with the panel’s verdicts on their cases. In five of these cases, the parties involved felt that the panel’s assessment had been too lenient. In none of these cases did the care providers in question allow themselves to be ‘reassured’ by the panel’s mild verdict; instead they all opined in the survey that the panel had been wrong.

When care providers are given an opportunity to discuss their affairs in an atmosphere where the word ‘substandard’ is not automatically interpreted to mean ‘avoidable’ or ‘culpable’, loss of anonymity appears not to be much of an issue: none of the attendees seemed to object to being identified as a care provider involved in a given case, even if the case in question had received a harsh score. Moreover, the participants indicated that guidance by objective outsiders led to the cases being analysed at a more abstract level, with greater attention being paid to care provision in general. It is hard to gauge to what extent proper collaboration between primary- and secondary/tertiary-care providers at LUMC and ZLL contributed to the success of the feedback meetings. However, the participating parties felt that, if their own experiences were anything to go by, hospitals plagued by poor communication between primary-care and secondary-care could benefit from feedback meetings, as well.

Our conclusion is that perinatal audit, if defined and performed carefully, is not perceived by care providers as a threat, but rather as something which will motivate them to focus on high-quality care. Feedback on a patient-by-patient basis is an essential part of this process. Therefore, we feel that feedback on and discussion of certain (selected) cases assessed by an audit panel should be incorporated into the nationwide perinatal audit which is currently being developed.
Acknowledgements

This study would not have been possible without certain midwives’, obstetricians’ and general practitioners’ participation in the NederNatal study and their subsequent attendance at the feedback meetings. Furthermore, we would like to thank Ms I. Mourits, Ms A. Dieleman, Ms C.J. Maan and Ms J.M. Zuiderwijk, midwives, and Ms J.M. Middeldorp, obstetrician, for their input into an earlier version of this article.

Conflict of interest: none reported. Financial support: ZonMw (project number 2010.0964,01).

References