

## *Quality improvement report*

### Effect on rates of breast feeding of training for the Baby Friendly Hospital Initiative

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#### Abstract

**Problem** Breastfeeding rates and related hospital practices need improvement in Italy and elsewhere. Training of staff is necessary, but its effectiveness needs assessment.

**Context** Eight hospitals in different regions of Italy.

**Design** Controlled, non-randomised study. Data collected in three phases. Training after the first phase in group 1 hospitals and after the second phase in group 2.

**Strategies for change** Training of trainers and subsequent training of health workers with a slightly adapted version of the 18 hour Unicef course on breastfeeding management and promotion.

**Key measures for improvement** Hospital practices, knowledge of 571 health workers, and breastfeeding rates at discharge, three, and six months in 2669 mother and baby pairs.

**Effects of change** After training hospitals improved their compliance with the "ten steps to successful breast feeding," from an average of 2.4 steps at phase one to 7.7 at phase three. Knowledge scores of health professionals increased from 0.41 to 0.72 in group 1 (training after phase one) and from 0.53 to 0.75 in group 2 (after phase two). The rate of exclusive breast feeding at discharge increased significantly after training: 41% to 77% in group 1 and 23% to 73% in group 2, as did the rates of full (exclusive plus predominant) breast feeding at three months (37% to 50% in group 1 v 40% to 59% in group 2) and any breast feeding at six months (43% to 62% in group 1 v 41% to 64% in group 2).

**Lessons learnt** Training for at least three days with a course including practical sessions and counselling skills is effective in changing hospital practices, knowledge of health workers, and breastfeeding rates.

#### Introduction

Exclusive breast feeding for about six months has many advantages,<sup>1</sup> but its prevalence in infants less than 4 months is low in many countries.<sup>2</sup> There is some evidence that the implementation of the "ten steps to successful breast feeding" of the Baby Friendly Hospital Initiative will lead to an increase in breast feeding.<sup>3</sup>

Such policy requires changes in healthcare practices to be brought about by properly trained health professionals. Unfortunately, their knowledge and competence was always considered below standard when tested,<sup>4-10</sup> and the effects of training have rarely been assessed.<sup>11</sup> Of the courses available from Unicef and WHO,<sup>12,13</sup> the latter was shown to improve knowledge, clinical, and counselling skills.<sup>14</sup> Little is known, however, on the effect of training on hospital practices.<sup>15-17</sup> A recent paper showed the effectiveness of the Unicef course on breastfeeding rates in Belarus, where maternity hospital practices are similar to those in Western Europe 20 to 30 years ago.<sup>18</sup>

We examined the effects of the Unicef course on hospital practices, knowledge of health workers, and breastfeeding rates at discharge and three and six months later in a high income country.

#### Background

##### Outline of problem

In Italy not one hospital has been designated as "Baby Friendly."<sup>19</sup> The available figures on the knowledge of some health professionals are discouraging.<sup>9</sup> Not surprisingly, the rates of breast feeding are low,<sup>20</sup> certainly below the recommended levels.<sup>1,21</sup> Our initial assessment of the situation confirmed that only one to three of the ten steps were implemented in the assessed hospitals; the mean score attained by health professionals in a knowledge test was low; and the rate of exclusive breast feeding at discharge was far from satisfactory.

##### Outline of context

Eight hospitals agreed to participate in our project. We allocated the eight hospitals to one of two groups, each with three general hospitals and one teaching hospital and with similar catchment populations. The hospitals of group 1 (southern Italy) were bigger than those of group 2 (central and northern Italy), with 30-80 versus 16-40 maternity beds, and had differences in numbers of annual live births (960-1960 v 374-2957 between 1996 and 1998), caesarean section rate (31-44% v 13-21%), proportion of low birthweight babies (7-15% v 3-9%), stillbirth rate (0-0.9% v 0-0.55%), and neonatal mortality (0.56-2.6 v 0-0.26%). The maternity unit of one hospital

**Table 1** Assessment of usual practices by hospital group and by phase. Figures are proportions

Feature	Group 1*			Group 2†		
	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3
Time of assessment	0545-1900	0500-2345	1100-1700	1100-1700	0100-1115	1500-2100
Mother-baby pairs observed	60	55	68	36	47	40
Rooming in	68	95	88	86‡	49	87
Exclusive breast feeding	84	88	90	83‡	67	97
Use of formula feed	16	11	10	6	15	0
Use of glucose water	18	4	2	19	17	5
Use of feeding bottle	18	11	11	25	31	0
Use of pacifier	16	5	3	50	50	13

\*Intervention after phase 1. †Intervention after phase 2.

‡Apparent good performance on these indicators was due to misinterpretation of definitions in one hospital—that is, rooming in and exclusive breast feeding were checked in self assessment form even if baby was separated from mother during night and had received some glucose water since birth.

in group 2 closed because of regional reorganisation of maternity units soon after the initial assessment.

## Assessment of problems and strategy for change

### Details of approach taken

After the initial assessment in June 1996 (phase one) we implemented our training programme. Trainers in group 1 underwent training in September 1996. From October 1996 to February 1997 courses were offered to health professionals of the four group 1 hospitals by local trainers. In June 1997 (phase two) we carried out the second assessment after a short period to allow for changes, and in September 1997 the trainers in group 2 received their training. From October 1997 to February 1998 courses were offered to health professionals of the three group 2 hospitals. In June 1998 we carried out the third and final assessment (phase three).

Overall, the four hospitals of group 1 trained 377 of a possible 536 health professionals (71-130 per hospital) who would have needed a course and the three hospitals of group 2 trained 194 of a possible 237 (57-72 per hospital). Training covered 54% (29-100%) of obstetricians, 72% (39-100%) of paediatricians, 84% (45-100%) of midwives, and 68% (20-100%) of nurses.

### Intervention

We chose the Unicef 18 hour course<sup>12</sup> because our priority was to change hospital practices. Having realised the importance of counselling, we integrated into the course a two hour session from WHO's 40 hour course.<sup>13</sup> We added two chapters to guide course directors and facilitators. The final product included these guides, 17 classroom sessions, three clinical practices, references, glossary, and appendices: the Baby Friendly Hospital Initiative tool for self assessment of the hospital, slides, transparencies, and a questionnaire for evaluation of the course. The recommended schedule covered 18 hours over three days. For training of trainers, however, we conducted the course in 24 hours over four days, asking future trainers to participate in the preparation of some sessions and allowing more time for discussion of specific subjects.

### Measurement of problem

We used three tools to collect data during each phase. Firstly, we used the self assessment tool of the Baby Friendly Hospital Initiative, with a series of criteria (one to four) for each of the ten steps and an assessment of usual hospital practice at a point in time randomly chosen (see table 1). Each of the ten steps was considered

fulfilled when all the criteria were met. We gave a self administered questionnaire to the trainees, with eight questions on knowledge and variables on professional characteristics. Mothers were interviewed at discharge, followed by a telephone interview after three and six months. The interview used the questionnaires recommended by WHO to get information on exclusive (no other food or fluids), predominant (non-nutritive fluids allowed), full (exclusive plus predominant), and complementary (food and nutritive fluids, including formula milk, added to breast milk) breast feeding.<sup>22 23</sup>

We required 130 consecutive mother and baby pairs for the interviews at discharge and at three and six months for each hospital and assessment. With a projected 20% loss to follow up this would result in groups of about 400 women which would allow us to identify a difference in breastfeeding rates (exclusive at discharge, full at three months, any at six months) of at least 10% from a baseline of 50% with 1-a=95% and 1-b=80%.<sup>24</sup> Infants with birth weight under 2000 g or a severe disease that required admission to the neonatal ward were excluded. The data were analysed with EpiInfo and SPSS. Breastfeeding rates were adjusted with direct standardisation by parity (associated with age of the mother and previous breastfeeding experience), type of delivery, and birth weight. We then developed a logistic model to examine which practices would have the best effect on the rate of exclusive breast feeding at discharge. Finally, we used logistic regression to study the factors associated with higher breastfeeding rates.

The ethical committee of the Istituto per l'Infanzia in Trieste, where the research was coordinated, approved the research protocol, and each participant enrolled signed an informed consent.

## Effects of change

All hospitals improved their compliance with the ten steps, from one to three steps before to six to ten steps after training. Improvement was easier for steps four to nine—that is, for hospital routines. The performance was worse on steps one (written guidelines), two (training at least 80% of staff), and ten (community support). Table 1 shows the results of the assessment at various times. At phase one we found materials featuring names, logos, or brands of infant food manufacturers in only one hospital (in group 1); these materials were removed after training. We also found messages contrary to the ten steps in two hospitals of group 1. Messages in favour were present in one hospital of

**Table 2** Characteristic of mother and baby pairs and some feeding practices during hospital stay. Figures are number (percentage) of mothers unless stated otherwise

Variable	Group 1*			Group 2*†		
	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3
No of mothers	529	515	516	483	342	284
Mean (range) age (years)	29.0 (15-44)‡	29.1 (15-43)‡	29.3 (16-43)‡	30.0 (17-43)‡	30.2 (19-41)‡	31.0 (19-44)‡
Multiparous	262 (49)	278 (54)‡	272 (52)	225 (46)§	134 (39)‡§	134 (47)§
Previous child breast fed	214 (83)	227 (84)	212 (82)‡	195 (87)	123 (87)	119 (90)‡
Caesarean section	207 (39)‡	209 (41)‡§	166 (33)‡§	77 (16)‡	56 (16)‡	42 (15)‡
Mean (range) birth weight (g)	3299 (2150-5480)	3305 (2020-5300)	3283 (2000-4820)	3351 (2050-5170)	3340 (2080-4650)	3331 (2050-4870)
Mean (range) time to first breast feed (hours)	9.1 (0-72)‡	5.8 (0-76)‡	4.2 (0-48)‡	6.7 (0-76)‡	6.1 (0-72)‡	3.3 (0-48)‡
Breast fed within 1 hour	64 (12)‡§	112 (22)‡§	141 (28)‡§	149 (32)‡	123 (37)‡§	166 (60)‡§
Breast fed after 12 hours	143 (27)‡§	89 (17)§	46 (9)§	94 (20)‡	56 (17)§	31 (11)§
Breast fed on demand	437 (83)§	494 (97)§	455 (90)‡§	372 (80)§	329 (97)§	279 (99)‡
Formula supplement	179 (35)§	83 (17)‡§	75 (15)‡	148 (31)‡	27 (8)‡	21 (8)‡
Use of feeding bottle	302 (58)‡§	69 (14)‡§	97 (19)‡§	365 (77)‡§	230 (70)‡§	70 (26)‡§
Use of pacifier	291 (56)‡§	99 (19)‡§	94 (18)‡	344 (72)‡§	213 (63)‡§	145 (52)‡§
Full time rooming in	372 (72)‡§	456 (89)‡§	460 (89)‡	110 (23)‡§	122 (36)‡§	219 (77)‡§
Shown latching on	350 (67)‡§	450 (88)‡§	455 (88)‡	412 (86)‡§	262 (77)‡§	263 (93)‡§
Shown how to express breast milk	314 (60)§	384 (75)‡§	404 (78)	270 (57)§	145 (43)‡§	202 (72)§

\*Intervention after phase 1 in group 1 and after phase 2 in group 2.

†Difference in sample size between phase one and two due to reduction in number of hospitals from four to three, and between phase two and three to loss of 60 datasets. Difference within phases between groups (‡) and between phases within group (§) significant at at least P<0.05.

group 1 and two of group 2. By the third phase all the hospitals were displaying favourable messages.

Knowledge of health workers improved after training. The mean score, weighted by age, year of graduation, and years working in the same position, went up from 0.41 to 0.66 to 0.72 in group 1 and from 0.53 to 0.53 to 0.75 in group 2 at the three phases, respectively. The response rate was stable in group 2 (52-55% of trainees) but dropped by half (from 66% to 34-36%) in group 1 after phase one. Most respondents were women (between 81% and 91% in different groups); most men were physicians (89%) and most women were nurses and midwives (75%). All health professionals were represented, with more nurses (34%-59%) and midwives (13%-24%) than obstetricians (5%-19%) and paediatricians (4%-26%). The mean age varied between 37 and 43 years, with degrees obtained between 1954 and 1994.

Table 2 shows some features of the enrolled mother and baby pairs, and some feeding practices during their stay in hospital. The difference in sample size between phase one and two in group 2 is due to the reduction from four to three hospitals (but exclusion of data from the fourth hospital did not change the results). The difference between phase two and three is due to the loss of 60 data collection forms. Characteris-

tics of mothers and infants in both groups were similar, except for slight differences in age, parity, and employment. These differences were taken into account in the standardisation of breastfeeding rates and in the logistic regression model.

Table 3 shows the crude rates of exclusive, predominant, complementary, and no breastfeeding at discharge (recall period since birth) and at three and six months (recall period of 24 hours). The standardised rates do not differ significantly (P=0.34). Exclusion of the hospital withdrawn from group 2 after phase one does not change the results. In both groups the differences before and after training in exclusive breast feeding at discharge, full breast feeding at three months, and any breast feeding at six months are significant (at least P<0.05).

Four factors were significantly associated with exclusive breast feeding at discharge: first breast feed within one hour, rooming in (where the baby stays in the same room as the mother rather than being kept in a separate nursery), not using a pacifier, and instructions on expressing breast milk. The logistic model showed that absence of these factors would lead to about 29% exclusive breast feeding at discharge. When all these factors were present the expected rate increased to over 82%. These four variables probably

**Table 3** Feeding at discharge and at three and six months in two hospital groups. Figures are number (percentage) of participants

Group and type of breast feeding	At discharge			At three months			At six months		
	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3
<b>Group 1 (training after phase 1)</b>									
No of mothers	518	503	510	506	500	510	485	368	366
Exclusive	212 (41)	398 (79)	393 (77)	101 (20)	167 (33)	129 (25)	3 (1)	8 (2)	3 (1)
Predominant	127 (25)	19 (4)	40 (8)	85 (17)	91 (18)	127 (25)	6 (1)	10 (3)	4 (1)
Complementary	175 (34)	80 (16)	71 (14)	129 (25)	98 (20)	94 (18)	197 (41)	218 (59)	219 (60)
None	4 (1)	6 (1)	6 (1)	191 (38)	144 (29)	160 (31)	279 (58)	132 (36)	140 (38)
<b>Group 2 (training after phase 2)</b>									
No of mothers	464	320	271	471	318	280	454	275	233
Exclusive	105 (23)	96 (30)	194 (72)	69 (15)	67 (21)	127 (45)	4 (1)	10 (4)	30 (13)
Predominant	210 (45)	196 (61)	55 (20)	118 (25)	75 (24)	43 (15)	4 (1)	2 (1)	9 (4)
Complementary	135 (29)	26 (8)	21 (8)	107 (23)	55 (17)	31 (11)	178 (39)	116 (42)	110 (47)
None	14 (3)	2 (1)	0	177 (38)	121 (38)	79 (28)	268 (59)	147 (53)	84 (36)

## Key learning point

Training for the Baby Friendly Hospital Initiative leads to improved knowledge, better hospital practice, and higher breastfeeding rates at discharge and up to six months in high income countries with a modern healthcare system

represent the effect of training; grouped together, they were significantly associated with exclusive breast feeding at discharge (odds ratio 6.78; 95% confidence interval 5.65 to 8.14). Other factors associated with the same outcome were normal delivery (1.49; 1.21 to 1.84) and previous experience of breast feeding (1.45; 1.21 to 1.74). Full breast feeding at three months was significantly associated with exclusive breast feeding at discharge (1.96; 1.63 to 2.36) and previous experience of breast feeding (1.58; 1.34 to 1.87); training health workers had a positive but not significant association (1.20; 1.00 to 1.44;  $P=0.0543$ ). At six months any breast feeding was significantly associated only with full breast feeding at three months (12.83; 10.32 to 15.95) and with exclusive breast feeding at discharge (1.33; 1.07 to 1.65).

## Lessons learnt and next steps

We found that training had an effect on hospital practices and breastfeeding rates, as has been reported previously from Belarus<sup>18</sup> and the United Kingdom.<sup>25</sup> Previous research looked only at hospital practices and at knowledge, attitudes, and practices of health workers<sup>5 14-17</sup> or at the effect of changing policies rather than training.<sup>26</sup> Our study was not a randomised trial, but the design allowed for control before and after in each group of hospitals. We could also separate the effect of the intervention from the possible effect of uncontrolled variables—a secular trend or a chance improvement after training that does not persist in time. Standardisation took care of other differences. Moreover, data were collected on several outcomes. Confounding, some loss to follow up, and some incompleteness of data may compound the interpretation of the effect of training on single outcomes, but the consistent overall picture suggests that this effect is real.

The rates of exclusive breast feeding at three and six months are still not satisfactory, compared with what is recommended.<sup>1 21</sup> Also, we consider that rates obtained with 24 hour recall may overestimate the real rates that might be obtained with longitudinal follow up every date from birth.<sup>27</sup> The falling rate of exclusive breast feeding after discharge may be due to a lack of adequate support: many paediatricians lack the necessary competence,<sup>9</sup> and there are no other support groups except for some lactation and La Leche League consultants in some Italian towns. Extended networks of peer counsellors, whose effectiveness in supporting breast feeding has already been described,<sup>28-30</sup> could integrate the skilled support and follow up provided by trained health professionals.<sup>31</sup>

To conclude, we recommend that effective training on breast feeding (over least three days, with practical sessions and emphasis on counselling skills) be included in all undergraduate courses leading to healthcare degrees and in all plans for in-service train-

ing in high income countries. For in-service training, it is important to target multidisciplinary groups of health workers involved in breast feeding at hospital and community levels. The implementation of effective interventions should not be limited to the healthcare system; it should cover a wider range of activities, aimed at changing the cultural representation of breast feeding<sup>32</sup> and at defending breast feeding from the marketing of breast milk substitutes.<sup>33</sup>

### Members of the working group

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Contributors: AC formulated the hypothesis, designed the study, developed the data collection tools, supervised data collection, checked the completeness and consistency of data, and coordinated the whole study. He analysed the results and wrote the paper with RB. All the members of the working group read, discussed, modified, and eventually approved the paper. Riccardo Davanzo, Carla Pavan, and Sofia Quintero Romero translated and adapted the 18 hour Unicef manual and acted as trainers of trainers. Mara Baldissera, Tea Burmaz, and Susanna Centuori helped with data entry, checking and analysis. The members of the working group based in the eight hospitals were trainers for the several courses conducted in each hospital and collected all the data. One of them was appointed as local coordinator and filled in the hospital self assessment tool.

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- 1 Work Group on Breastfeeding. American Academy of Pediatrics. Breast-feeding and the use of human milk. *Pediatrics* 1997;100:1035-9.
- 2 WHO. Nutrition Unit. *Global data bank on breastfeeding*. WHO, Geneva, 1996.
- 3 WHO. *Evidence for the ten steps to successful breastfeeding*. Geneva: WHO, 1998.
- 4 Becker GE. Breastfeeding knowledge of hospital staff in rural maternity units in Ireland. *J Hum Lact* 1992;8:137-42.
- 5 Bradley JE, Meme J. Breastfeeding promotion in Kenya: changes in health worker knowledge, attitudes and practices, 1982-89. *J Trop Pediatr* 1992;38:228-34.
- 6 Williams EL, Hammer LD. Breastfeeding attitudes and knowledge of pediatricians-in-training. *Am J Prev Med* 1995;11:26-33.
- 7 Freed GL, Clark SJ, Sorenson J, Lohr JA, Cefalo R, Curtis P. National assessment of physicians' breast-feeding knowledge, attitudes, training, and experience. *JAMA* 1995;273:472-6.
- 8 Freed GL, Clark SJ, Lohr JA, Sorenson JR. Pediatrician involvement in breast feeding promotion: a national study of residents and practitioners. *Pediatrics* 1995;96:490-4.
- 9 Del Santo M, Davanzo R, Quintero Romero S, Ruiz L, Centuori S, Burmaz T, et al. Le conoscenze dei pediatri sull'allattamento al seno. *Quaderni dell'Associazione Culturale Pediatri* 1998;4:10-2.
- 10 Schanler RJ, O'Connor KG, Lawrence RA. Pediatricians' practices and attitudes regarding breastfeeding promotion. *Pediatrics* 1999;103:e35 www.pediatrics.org/cgi/content/full/103/3/e35
- 11 NHS Centre for Reviews and Dissemination. Promoting the initiation of breastfeeding. *Effective Health Care* 2000;6:1-12.
- 12 Unicef. *Breastfeeding, management and promotion in a baby friendly hospital: an 18-hour course for maternity staff*. New York: Unicef, 1993.
- 13 WHO. *Breastfeeding counselling: a training course*. Geneva: WHO, 1993.
- 14 Rea MF, Venancio SI, Martines JC, Savage F. Counselling on breastfeeding: assessing knowledge and skills. *Bull World Health Organ* 1999;77:492-8.

- 15 Prasad B, Costello AML. Impact and sustainability of a "baby friendly" health education intervention at a district hospital in Bihar, India. *BMJ* 1995;310:621-3.
- 16 Westphal MF, Taddei JA, Venancio SI, Bogus CM. Breastfeeding training for health professionals and resultant institutional changes. *Bull World Health Organ* 1995;73:461-8.
- 17 Valdes V, Pugin E, Labbok MH, Perez A, Catalan S, Aravena R, et al. The effects on professional practices of a three-day course on breastfeeding. *J Hum Lact* 1995;11:185-90.
- 18 Kramer MS, Chalmers B, Hodnett ED, Sevkovskaya Z, Dzikovich I, Shapiro S, et al. Promotion of breastfeeding intervention trial (PROBIT): a randomized trial in the Republic of Belarus. *JAMA* 2001;285:413-20.
- 19 Unicef. *Baby-friendly hospital initiative: progress report*. New York: Unicef, 1999.
- 20 Cattaneo A, Davanzo R, Ronfani L. Are data on the prevalence and duration of breastfeeding reliable? The case of Italy. *Acta Paediatr* 2000;89:88-93.
- 21 WHO. *Complementary feeding of young children in developing countries. A review of current scientific knowledge*. WHO, Geneva, 1998.
- 22 Division of Diarrhoeal and Acute Respiratory Disease Control. *Indicators for assessing breastfeeding practices*. Geneva: WHO, 1991.
- 23 WHO/Unicef. *Indicators for assessing health facility practices that affect breastfeeding*. Geneva: WHO, 1993.
- 24 Armitage P, Berry G. *Statistical methods in medical research*. Blackwell, Oxford, 1994.
- 25 Radford A. Unicef is crucial in promoting and supporting breastfeeding. *BMJ* 2001;322:555.
- 26 Wright A, Rice S, Wells S. Changing hospital practices to increase the duration of breastfeeding. *Pediatrics* 1996;97:669-75.
- 27 Aarts C, Kylberg E, Hörnell A, Hofvander Y, Gebre-Medhin M, Greiner T. How exclusive is exclusive breastfeeding? A comparison of data since birth with current status data. *Int J Epidemiol* 2000;29:1041-6.
- 28 Schafer E, Vogel MK, Viegas S, Hausafus C. Volunteer peer counsellors increase breastfeeding duration among rural low-income women. *Birth* 1998;25:101-6.
- 29 Morrow AL, Guerrero ML, Shults J, Calva JJ, Lutter C, Bravo J, et al. Efficacy of home-based peer counselling to promote exclusive breastfeeding: a randomised controlled trial. *Lancet* 1999;353:1226-31.
- 30 Haider R, Ashworth A, Kabir I, Huttly SR. Effect of community-based peer counsellors on exclusive breastfeeding practices in Dhaka, Bangladesh: a randomised controlled trial. *Lancet* 2000;356:1643-7.
- 31 Sikorski J, Renfrew MJ. Support for breastfeeding mothers. *Cochrane Database Syst Rev* 2000;(4):CD001141.
- 32 Henderson L, Kitzinger J, Green J. Representing infant feeding: content analysis of British media portrayals of bottle feeding and breastfeeding. *BMJ* 2000;321:1196-8.
- 33 Taylor A. Violations of the international code of marketing of breast milk substitutes: prevalence in four countries. *BMJ* 1998;316:1117-9.

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## Violence in the workplace

In the following personal view, a nurse practitioner describes her experience of being assaulted during the course of her work. We invited a nurse, a patient, and a lecturer from a school of health science to comment.

### The nurse's experience

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It began as real life drama always unfolds. A routine call, a routine night. This one had barely begun when I was called to review an agitated patient who was trying to leave the ward.

The patient, a tall, well built 46 year old man had been admitted with diabetic ketoacidosis to a busy medical ward the previous day. He had now decided he wanted a drink and a cigarette. Despite their best efforts, the three nurses on duty had been unable to persuade him to stay. I could hear his bellowing long before I reached the ward. He targeted me the moment I arrived. With clenched fists held in front of him he pushed me out of his way, hurling abuse at me as he left the ward. Medically he was unfit to be discharged so the police were called. They found him quickly and returned him to the ward. The minute he walked back on to the ward the verbal abuse started again. As they were concerned the police agreed to stay while I spoke to him. With a policeman on either side of him in case he tried to lash out I approached him.

What happened next shocked all that witnessed it. He couldn't reach me with his fists so he kicked me in the stomach with such force that I was sent reeling to the floor. For the first few seconds I felt completely numb, then I felt the sharp, stabbing pain in my abdomen. Tears were streaming down my face, everyone came to my aid, but I couldn't move. I don't know how long I stayed on the floor, it seemed an eternity. By the time I had recovered sufficiently to carry on working he was sleeping peacefully.

Since I was assaulted many people have asked me how I am and the answer is always OK, but if I am totally honest I feel utterly helpless and extremely vulnerable. I was doing my job, a job I love, and the price

I have had to pay for the privilege of caring is an assault on my person.

In 1998 a survey was conducted by the NHS Executive. The resulting statistics were shocking. Every month there are seven reported violent incidents per thousand NHS staff. This is equivalent to about 65 000 acts of violence against NHS staff each year. Last year the government launched their Zero Tolerance Campaign, stating that acts of aggression towards those working in the public sector would not be tolerated and would result in prison sentences for those found guilty. My assault was witnessed by two police officers, but I have been told that if the man who assaulted me has no criminal record he will be cautioned.

Surely if a patient has assaulted a member of staff during the course of a hospital admission they pose a threat to staff in the future. Would it not make sense to ensure these patients are easily identifiable from their hospital records. We have a moral and legal responsibility to treat these patients. By developing a system that alerts us to previous problems we can at least try to keep ourselves safe.

The Human Rights Act 2000 came into force last October. As health professionals we strive to ensure that the rights of our patients are maintained at all times, but carers have rights too. While I support the implementation of this legislation, we must ensure that as professionals we work together with the police to develop guidelines for dealing with abusive and violent patients, thus protecting the human rights of all who encounter these situations at work.

I am not sure how I will feel when faced with my next aggressive patient; one thing is sure—I will do everything in my power to ensure that I am not a victim again.