

Training needs survey of midwives, health visitors and voluntary-sector breastfeeding support staff in England

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Abstract

This study, which was part of a learning needs assessment of health professionals in England, reports a survey of the training needs of healthcare practitioners in breastfeeding support skills. Respondents rated their competence on 26 breastfeeding support skills, importance of update, actual and potential helpfulness of training, and accessibility in the next 2 years. Perception of organizational barriers to breastfeeding support and practitioners' knowledge of policies and guidance on breastfeeding were measured. Data are reported on 549 healthcare practitioners, mostly midwives and health visitors working for public health services, and some voluntary-sector practitioners, 58% had worked with women and their infants for more than 10 years, and 56% were currently spending at least 25% of their working time providing direct care to breastfeeding women. Those already competent were most likely to want more updating. Those with longer experience of breastfeeding support were more competent on three of the four competence subscales. Relationships between self-assessed competence and current intensity of breastfeeding experience were inconsistent. Respondents preferred training with a practical component. Respondents had poor knowledge of evidence-based policy, and only 51% had access to a breastfeeding policy. Organizational barriers to breastfeeding support were experienced by all, and especially by those with fewer years of experience ($t = -2.32$, d.f. = 547; $P = 0.02$) and those currently spending less time supporting breastfeeding women ($t = -10.35$, d.f. = 547; $P < 0.0001$). Core training is relevant to all practitioners, and practice-based training with access to evidence-based policies is required.

Keywords: breastfeeding, infant feeding, infant nutrition, training, training needs.

Introduction

In England, the drive to improve training of practitioners who can support breastfeeding mothers comes from public health targets for increasing the

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initiation of breastfeeding by two percentage points each year from April 2004 (Department of Health 2002). Action to promote more skilled care, through improving pre-registration and continuing education, is supported by the European Commission's *Blueprint for Action* (EU Project on Promotion of Breastfeeding in Europe 2004). This study reports on a training needs analysis commissioned as part of the five-part learning needs assessment (LNA) described in McFadden *et al.* (2006).

There is little similarity in requirements for inclusion of knowledge and skill in supporting breastfeeding in pre-registration and post-qualification training among professionals involved in caring for mothers and infants in the UK. None of the UK professions require core content on breastfeeding in pre-registration training, including midwives (NMC 2004). Even at the postgraduate level in paediatrics, competences for infant feeding are quite generic (RCPCH 2004). The content of training in these professions is focused on the physiology of lactation, with scant attention to the psychosocial, cultural and socio-economic aspects of breastfeeding (Smale *et al.* 2006).

Post-registration continuing professional development for breastfeeding is not mandatory for any health practitioner group (Smale *et al.* 2006). Mitchell (1997) found that over 90% of midwives identified their learning needs through informal discussion with colleagues, while the least used strategy was consulting educationalists and through direct appraisal of breastfeeding skills. Research on the training needs of professionals that might support breastfeeding worldwide is not only of generally low quality, but its applicability to the UK is very much constrained by differences in overall training and working practices. Hellings & Howe (2000) undertook a study in the USA of nurse practitioners' and nurse-midwives' knowledge, experience and attitudes of breastfeeding using a mailed questionnaire, and found that 70% of respondents considered themselves effective in meeting the needs of breastfeeding mothers, although they were not very knowledgeable about specific management strategies. Nurse practitioners and midwives had a better understanding of the benefits of breastfeeding and better understanding of what is effective in managing breastfeeding problems in comparison with

physicians. A study conducted in Australia provided evidence that although midwives were knowledgeable about the benefits of breastfeeding and common management issues, they also had serious knowledge deficits in key areas: low milk supply, immunological value of human milk and management of breast abscess during feeding. Despite those shortcomings, 90% of responding midwives were confident in their skills and considered themselves to be effective in meeting the needs of breastfeeding women. The results showed that the best predictors of a high level of knowledge of breastfeeding were possessing a lactation qualification, having personal breastfeeding experience that lasted more than 3 months, and having more clinical experience (Cantrill *et al.* 2003). In England, a study of health visitors and community midwives showed that their advice was tailored to the socio-cultural characteristics of the mother, that is, what a health visitor believed a particular mother would respond to, rather than what was advised from research evidence and guidance (Shaw *et al.* 2003). Hall Moran *et al.* (2005) in the UK used the Breastfeeding Support Skills Tool, a 30-item questionnaire that tested knowledge and practical skills aspects of breastfeeding, including positioning, attachment, suckling and breast pathology. Although all participants had attended a breastfeeding training course of some description, results showed that voluntary supporters had significantly better breastfeeding support skills than midwives. The authors did not report whether there were particular skill areas that differentiated between these two groups.

The training needs survey reported here was commissioned to inform a national LNA and action plan for learning in England. The work was coordinated overall by the Public Health Collaborating Centre for Maternal and Child Nutrition. Other elements of the LNA have been reported previously (McFadden *et al.* 2006; Renfrew *et al.* 2006). The aim of the present study was to establish the training needs of a diverse sample of healthcare practitioners in breastfeeding support skills, and determine whether practitioners' views of their needs differed according to factors that service managers might use to inform allocation of resources. These included the intensity of work exposure to breastfeeding mothers, and practitioners'

self-assessed competence and preference for types of training activities.

The following areas related to breastfeeding support were examined:

1. work-related factors, i.e. professional group, length of time working with women and their infants who may breastfeed (breastfeeding duration experience), and amount of current working time with these women and infants (breastfeeding);
2. self-assessed competence of the sample on 26 breastfeeding skill areas;
3. extent to which respondents believed they would benefit from updating their skills in the next 2 years;
4. types of training preferred [e.g. training mode: practical, didactic, etc., and training activities, such as UNICEF UK Baby Friendly Initiative (BFI) courses];
5. the organizational barriers to supporting breastfeeding in their workplace; and
6. their knowledge of public health breastfeeding policy.

Four directional hypotheses were tested:

1. Greater competence in breastfeeding skills will be associated with (a) spending more time at work with breastfeeding mothers (intensity of breastfeeding experience); and (b) having worked more years with breastfeeding mothers and infants (breastfeeding duration experience).
2. More areas for update will be identified by those practitioners who (a) spend more time at work with breastfeeding mothers (intensity of breastfeeding experience), and (b) assess themselves as less competent.
3. Greater knowledge of breastfeeding policies and guidance will be associated with being practitioners who (a) spend more time at work with breastfeeding mothers (intensity of breastfeeding experience), (b) have worked with breastfeeding mothers for longer (duration of breastfeeding experience), and (c) rate themselves as more competent.
4. More organizational barriers to breastfeeding will be experienced by practitioners who (a) spend more time at work with breastfeeding mothers (intensity of breastfeeding experience), (b) have worked with breastfeeding mothers for longer (duration of breastfeeding experience), and (c) rate themselves as less competent.

Materials and methods

The survey of healthcare staff was conducted alongside the survey of medical practitioners, reported in Wallace & Kosmala-Anderson (2006). The self-report questionnaire was developed in consultation with professional bodies, potential participants, and colleagues in the Public Health Collaborating Centre for Maternal and Child Nutrition.

The healthcare questionnaire consisted of five sections.

Section 1: 'Your job and experience': Participants were asked descriptive questions regarding the type of organization they worked for, job title, professional qualifications and grade, as well as questions regarding their experience of working with breastfeeding women, their babies and infants. Participants were also asked to agree or disagree with 12 statements describing their experience with breastfeeding support and attitudes towards breastfeeding in the organization.

Section 2: 'Training activities (breastfeeding and infant nutrition)': From a list of 11 training activities, participants were asked (a) to indicate which of the eight forms of training they had experienced (yes/no); (b) to rate their helpfulness on a 3-point scale; (c) to rate their expected helpfulness on a 3-point scale; and (d) to rate their accessibility in the next 2 years (yes/no).

Section 3: 'Approaches to learning (breastfeeding and nutrition)': Participants self-assessed the helpfulness of 12 different ways of learning.

Section 4: 'Areas of breastfeeding support': Participants were presented with a list of 26 skill areas. Respondents were asked (a) to indicate which skills applied; (b) to self-assess their competence level (not competent, adequate, competent or expert); (c) to indicate whether this skill has importance for update in the next 2 years; (d) to rate on a 3-point scale how important each skill is for update in the next 2 years.

Section 5: 'Policies and guidance on breastfeeding': Participants were asked multiple-choice questions regarding current UK government policies and specific guidance on breastfeeding, and whether or not they have access to a local breastfeeding policy.

Appendix S1, showing analyses performed for scale construction, is available as supplementary

material. Please see the end of the paper for details on how to access it.

Procedure

The study was conducted in a period of 2 months between 1 February 2005 and 31 March 2005 as part of a larger study. Each organization was allocated a code to enable identification of the source of data obtained. The questionnaire was designed to be delivered in a paper format and via a dedicated web page. The requested version of the questionnaire (paper or electronic) was sent to the organization's staff member who had volunteered to distribute the questionnaires among colleagues in the organization. An incentive for distribution was an offer to produce a detailed report of the aggregated and anonymized results for that particular organization if more than 10 of its staff responded.

The mailing list included National Health Service (NHS) primary care and maternity services, in London, the West Midlands and Leeds, across both rural and urban centres of population that worked in partnership with the Public Health Collaborating Centre. Prior to launching the survey, ethics approval was obtained from the NHS Multi-centre Research Ethics Committee, and site registration was achieved for 41 NHS trusts. Analyses were conducted in the statistical package Statistica (Version 6.0, Statsoft, OK, USA).

In all, 1624 paper versions of the questionnaires were sent out, and 256 were returned (16%). In addition, 43 distributors agreed to circulate the electronic version of the questionnaire; from this a further 319 were completed, giving a total of 575 respondents. It is unknown how many questionnaires were distributed to respondents in either paper form or electronic form. There were almost no missing data in the returned questionnaires.

Results

Description of the sample's work-related characteristics

Most participants were working for the NHS. Some 58.8% ($n = 323$) worked for primary care NHS organizations, and 25.3% ($n = 139$) were employed in

other NHS organizations, such as the maternity unit of general hospital trusts. Sure Start employed 6.7% ($n = 37$) of participants, and 6.9% ($n = 38$) worked for voluntary organizations (e.g. La Leche League, National Childbirth Trust, Maternity Alliance), and 2.1% worked for other organizations or none ($n = 12$).

Most of the participants were currently working as midwives ($n = 212$, 36.9%) or health visitors ($n = 189$, 32.9%). There were 148 participants (27.0%) who worked as non-qualified voluntary breastfeeding supporters ($n = 40$, 6.9%), Sure Start workers ($n = 11$, 1.9%), nursery nurses ($n = 30$, 5.2%), and healthcare assistants ($n = 22$, 3.8%), and 45 respondents (7.8%) were included in the 'other' category. Due to small numbers, the paediatric nurses ($n = 23$, 4.0%) and general practice nurses ($n = 3$, 0.5%) were excluded from the analyses below, leaving $n = 549$.

With regard to providing direct care to breastfeeding women, the sample was divided into practitioners who spent up to 25% of their time at work on providing direct care to breastfeeding women ($n = 307$, less intensity) and those who spent more than 25% of their time at work on providing direct care to breastfeeding women ($n = 242$, more intensity).

The majority of participants ($n = 318$, 57.9%) had worked with women, their babies and infants for more than 10 years, while 15.5% ($n = 85$) had worked with women and babies for up to 5 years, and 26.6% ($n = 146$) had worked more than 5 but less than 10 years. For duration of breastfeeding experience analyses, the sample was divided into practitioners who had worked with women and babies for less than 10 years (less time, $n = 231$) and those who had worked with women and babies for 10 years or more (more time, $n = 318$).

Competence in 26 breastfeeding skill areas

Participants rated their level of competence in the 26 areas of breastfeeding support (see Table 1).

Dealing with specific problems and sources of self-care advice

There was modest confidence in current skills. Table 1 shows that advising about engorgement was relevant for most practitioners, but only 34% out of 534 felt

Table 1. Self-rating of being competent or expert in 26 breastfeeding support skills

Skill	% competent/expert	Out of (<i>n</i> total after excluding n/a for the item)
Dealing with specific problems and sources of self-care advice		
Nipple trauma	78	467
Mastitis	76	461
Teaching hand expressing	76	423
Thrush	75	418
Advising on services	73	441
Milk insufficiency	69	458
Pain management	44	452
Engorgement	34	534
Provision of information and support		
Understanding physiology of lactation	54	549
Encouraging initiation	54	526
Facilitating antenatal group discussion	52	532
Giving antenatal education	37	454
Practice skills		
Supporting/informing regard to early breastfeeding concerns	63	464
Breastfeeding for unwell/Caesarean-section mothers	61	446
Demand feeding	60	489
Breast refusal	58	419
Skin to skin care	56	544
Positioning and attachment	54	501
Breastfeeding for Special Care Unit/unwell babies	53	455
Socio-cultural aspects of breastfeeding support		
Advising about return to work	81	427
Understanding local cultural practices on infant feeding	79	463
Working with refugees	76	373
Working with teenage mothers	76	408
Working with peer supports/volunteers	71	428
Working with minorities	69	447
Advising about weaning	68	441

n/a, not applicable.

that they were competent or expert in advising about engorgement, while 78% felt that they were competent or expert in advising about nipple trauma, but somewhat fewer felt this was an applicable skill for them ($n = 467$).

Provision of information and support

Skill deficits were identified by more than half of all practitioners in all areas. The area in which fewest practitioners assessed themselves as either competent or expert was providing antenatal group education about breastfeeding, and this was also the area that fewer practitioners ($n = 454$) thought was applicable to them.

Practice skills

There were skill deficits for just under half of the sample for whom it was relevant. Of the skills relevant to nearly all participants, 44% (out of 544) were less than competent with skin-to-skin contact, and 46% (out of 501) claimed not to be competent for positioning and attachment.

Socio-cultural aspects

Participants more often gave ratings of 'expert' or 'competent' in this subset of skills, but these skills were thought to be relevant to a somewhat smaller number of participants. Fewer participants believed that working with refugees was relevant ($n = 373$), but

of those who thought it was relevant, 76% believed they were at least competent.

The difference in self-assessed competence level in 26 skill areas between the three practitioner groups: midwives ($n = 212$), health visitors ($n = 189$), and voluntary-sector and health service support staff without midwifery or nursing registration ($n = 148$), revealed no statistically significant group differences.

Hypothesis 1 (a): Greater competence in breastfeeding skills will be associated with spending more time at work with breastfeeding mothers (intensity of breastfeeding experience).

For the subscale of practice skills, the relationship between self-assessed competence level and amount of time spent providing direct care to breastfeeding women was statistically significant ($t = -3.11$; $P < 0.001$, less intensity mean = 3.26, SD = 0.88; more intensity mean = 3.00, SD = 1.07). However, the direction of effect was not as expected, in that greater intensity of breastfeeding experience was associated with lower self-assessed competence in practice skills. The results for three other subscales, 'dealing with specific problems and sources of self-care advice', 'provision of information and support' and 'socio-cultural aspects', were not statistically significant. Time spent in current work with the client group is not a good guide to determining training priorities.

Hypothesis 1 (b): Greater competence in breastfeeding skills will be associated with having worked more years with breastfeeding mothers and infants (breastfeeding duration experience).

Experience was statistically associated with subscale scores in the domains of 'provision of information and support' ($t = 15.4$, $P = 0.0001$), 'practice skills' ($t = 4.0$, $P = 0.001$), and 'socio-cultural aspects' ($t = 2.72$, $P = 0.006$); but not with those in the domain of 'dealing with specific problems and sources of self-care advice'. Therefore, for three out of four skill areas, longer experience of working with the client group is associated with greater self-assessed competence.

Perceived benefit from updating their skills in next 2 years

Results are presented as percentages of those participants to whom this area of skill was deemed relevant.

Subscale 1: generic skills

Generic skills were reported as relevant for update for over three-quarters of participants, and quite or very important for three-quarters or more of these respondents (see Table 2).

Subscale 2: role-specific skills

Under half to a quarter of the sample believed that these skills were relevant to them. However, of these participants, at least two-thirds (68%, for pain management) to around 90% (for positioning and attachment) thought that they would benefit from update in the next 2 years (see Table 3).

Table 2. Self-rated importance for future update – subscale 1: generic skills

Skill	% quite/very important	Out of (n total after excluding n/a for the item)
Working with teenage mothers	82	470
Working with minorities	81	476
Working with peer supports/volunteers	81	471
Teaching hand expressing	81	455
Advising about mastitis	79	467
Advising about thrush infection	79	426
Advising on services	78	455
Advising about weaning	78	420
Working with refugees	77	477
Advising about return to work	76	392
Advising about trauma to nipples	75	407

n/a, not applicable.

Table 3. Self-rated importance for future update – subscale 2: role-specific skills

Skill	% quite/very important	Out of (<i>n</i> total after excluding n/a for the item)
Advising about positioning and attachment	90	380
Giving antenatal breastfeeding education	87	396
Breastfeeding for Special Care Baby Unit/unwell babies	86	371
Skin-to-skin care after delivery	85	392
Assisting mothers in demand feeding	83	343
Breastfeeding for mothers who are unwell/recovering from Caesarean section	83	332
Facilitation antenatal discussion about breastfeeding	77	376
Encouraging mothers to initiate breastfeeding	74	411
Advising about pain management	68	430

n/a, not applicable.

Differences in subscale scores of perceived importance for update were tested using one-way ANOVA: midwives ($n = 212$), health visitors ($n = 189$), and voluntary-sector and support staff without midwifery or nursing registration ($n = 148$). There were no statistically significant differences, again suggesting that professional group was not a key determinant of perceived training need.

Hypothesis 2 (a): More areas for update will be identified by those practitioners who spend more time at work with breastfeeding mothers (intensity of breastfeeding experience).

T-tests were used on subscale scores by the variable of time spent in current work on breastfeeding support: results were significant for subscale 1 ($t = -5.5$; $P = 0.001$, less intensity mean = 2.5, $SD = 0.47$; more intensity mean = 2.20, $SD = 0.83$), but not for subscale 2. In this case, the result was contrary to the hypothesis, i.e. respondents spending less time with breastfeeding mothers perceived more skill areas as important for future update. There was an inverse relationship between current intensity of breastfeeding work and perceived need for update.

Hypothesis 2 (b): More areas for update will be identified by those practitioners who assess themselves as less competent.

Contrary to the hypothesis, it was found that more areas for update were identified by those practitioners who rated themselves as more competent in three broad skill areas: 'dealing with specific problems and sources of self-care advice' ($r = 0.13$; $P = 0.002$), 'provision of information and support'

Table 4. Helpfulness of different training activities experienced

Training activities	% helpful	Out of (<i>n</i> total after excluding n/a for the item)
NCT BF counsellor course	62	142
NCT CoNeCT days	58	154
NCT study days	57	116
Formal university-based modules	55	225
BFI understanding breastfeeding	40	164
Locally based training	37	265
Regional/national events	32	241
Self-study	32	258
La Leche League training events	28	178
BFI breastfeeding management	22	132

BF, breastfeeding; BFI, Baby Friendly Initiative; NCT, National Childbirth Trust; n/a, not applicable.

($r = 0.22$; $P = 0.0001$) and 'practice skills' ($r = 0.53$; $P = 0.0001$), and the generic skills update scale. Similar results were found for the three broad skill competences: 'dealing with specific problems and sources of self-care advice' ($r = 0.29$; $P = 0.0001$), 'practice skills' ($r = 0.13$; $P = 0.002$) and 'socio-cultural aspects' ($r = 0.24$; $P = 0.0001$), and the more role-specific areas for update (subscale 2). That is, those who believed they were more competent wished to be updated in these skill areas.

Training experienced and preferred: helpfulness of different forms of professional training

Results are presented in Table 4 for the helpfulness of training experienced. The training activities that

were found to be helpful by the highest number of participants were all three National Childbirth Trust (NCT) training activities: breastfeeding counsellor course, CoNeCT days and NCT study days. These training activities were rated as helpful by about 60% of participants who had experienced them. More than a half of the sample (55%) who had attended formal university-based modules found this training activity helpful. The UNICEF UK BFI Understanding Breastfeeding Course and locally based training were rated as helpful by 40% and 37%, respectively, of respondents who had experienced them. Regional/national events and self-study were rated as helpful by about a third who had experienced them. Of those who experienced La Leche League courses and UNICEF UK BFI Breastfeeding Management Course, about a quarter found them helpful.

Chi-squared analyses showed significant associations between affiliation to professional group and rated helpfulness for only one form of professional training: attendance at university-based modules ($\chi^2 = 9.1$, d.f. = 15; $P = 0.05$). This form of professional training was rated as most helpful by midwives (28.1%), followed by health visitors (21.2%) and non-qualified and voluntary breastfeeding supporters (11.1%), but this could be an artefact of multiple testing. It seems that the professional group is not relevant in rating the usefulness of prior training.

Training activities in next 2 years: expected training access

Sixty-eight per cent of all respondents expected to undertake formal university courses, and over half expected to attend NCT and La Leche League events. Nearly half expected to undertake a UNICEF UK BFI course and regional events; over a third (39%) expected to attend local training or undertake self-study. The mean scale score of the expected training access was 3.38 (SD = 3.04), with a maximum number of different types of professional training activities being 9. Given that resources are generally scarce in the public sector, it is unlikely that most will undertake several types of training, so this may be optimistic. There were no professional group differences in training access scores.

Table 5. Breastfeeding training activities that would be helpful in next 2 years

Training activities	% would be helpful in next 2 years ($n = 549$)
Locally based training	69
Regional/national events	55
BFI breastfeeding management	51
BFI understanding breastfeeding	50
Self-study	49
NCT study days	47
La Leche League training events	42
NCT BF counselors course	35
Formal university-based modules	32
NCT CoNeCT days	25
Other	11

BF, breastfeeding; BFI, Baby Friendly Initiative; NCT, National Childbirth Trust.

Helpfulness of training activities that might be accessed in next 2 years

The most likely to be rated as potentially helpful were NCT courses, although fewer participants overall rated these as relevant. Of the methods most likely to be available, local or regional events were believed to be potentially useful for just a third of participants. Some courses, particularly the two BFI courses, are targeted at different levels of seniority and experience of staff. It is likely that staff will self-select towards one, but not both, courses, resulting in overall only moderate ratings for the sample on anticipated helpfulness. University courses were anticipated to be useful for only 32% of participants, which may reflect perceived barriers to access by staffing lacking formal qualifications (see Table 5). There were no significant differences for professional groups on each type of preferred activity.

Approaches to learning

Preferred approaches to learning included those types of training involving practical observation (48%, out of 446), with more polarized views about other options, but about a third found personal study, learning from trained service users and practical skills workshops useful, and only 14% favoured

unidisciplinary events. Overall, the more practical methods were rated as most useful.

Chi-squared analyses were conducted on professional group (midwifery, health visiting, other) by preference for each of the 10 types of learning format listed in Table 6. Only one chi-squared test was significant, which is likely to be a chance effect of multiple testing. The preferences for the whole sample are shown in Table 6.

Knowledge of policies and guidance on breastfeeding

Only 51.5% ($n = 284$) of respondents reported having access to a policy or guidance document on breastfeeding for their organization, with no differences by professional group. The percentage correct for each item of the knowledge scale is presented in Table 7. Almost two-thirds (61.6%) of participants correctly identified the current national rate of initiation of

Table 6. Approaches to learning breastfeeding support skills rated as helpful

Approaches to learning	% helpful	Out of (n total after excluding n/a for the item)
Practical observation	48	446
Personal study	38	464
Learning from trained service users	34	481
Practical skills workshops	31	503
Being mentored	28	427
Events delivered by local practitioners	22	516
Multidisciplinary events	20	499
Events led by national programme personnel	17	515
Formal skill development	15	444
Unidisciplinary events	14	482

n/a, not applicable.

Table 7. Knowledge of policies and guidance on breastfeeding – correct and incorrect answers ($n = 549$)

	n	%
Can you identify the government target for breastfeeding?		
Increase the number of mothers exclusively breastfeeding at 4 months	85	15.5
Increase the number of mothers who start to breastfeed by 1% per year	82	14.9
<i>Increase the number of mothers who start to breastfeed by 2% per year</i>	315	57.4
Increase the number of mothers who start to breastfeed by locally set targets	67	12.2
For how long does WHO suggest mothers should exclusively breastfeed their babies?		
As long as they can	79	14.4
For 6 weeks	70	12.7
For 4 months	346	63.1
<i>For 6 months</i>	54	9.8
What is the youngest age at which current government guidance suggest solid foods are introduced?		
3 months	85	15.5
4 months	81	14.8
<i>6 months</i>	317	57.7
8 months	60	10.9
When baby appears ready for solids	6	1.1
What is the current national rate of initiation of breastfeeding in England?		
50% mothers begin to breastfeed	85	15.5
60% mothers begin to breastfeed	71	12.9
<i>70% mothers begin to breastfeed †</i>	338	61.6
80% mothers begin to breastfeed	55	10.0

Italic: correct response. †Hamlyn *et al.*'s (2002) survey 'headline' figure is 70%, although technical adjustments mean that it can be interpreted as 62%, but the most widely known figure is 70%. WHO, World Health Organization.

breastfeeding in England. The standard was set at 70%, because this is the percentage widely publicized in the UK government's Infant Feeding Survey conducted in 2000. Technically, the percentage is closer to 62% when using scores corrected for social class bias in the national study, but it was judged that practitioners and the public would more reasonably be expected to know the 'headline' figures (Hamlyn *et al.* 2002). The government target of two percentage points per annum increase in initiation of breastfeeding in England was correctly identified by 57.4% of the sample. However, only 9.8% of participants knew the UK government and World Health Organization (WHO) guidance that mothers should exclusively breastfeed their babies for 6 months. Most participants (63.1%) incorrectly endorsed 4 months, which previously had been UK government advice. Similar figures are shown for current UK government guidance on the minimum age for introduction of solids, where only 57.7% of respondents gave the correct answer (6 months). It is of concern that 15.5% of respondents incorrectly endorsed 3 months and 14.8% incorrectly endorsed 4 months, as introduction of solids too early can be harmful (Kramer & Kakuma 2002).

The association between professional group and knowledge of policies and guidance on breastfeeding was statistically significant ($F = 3.8$, d.f. = 2, 546; $P = 0.001$). On average, midwives had more accurate knowledge of policies and guidance on breastfeeding (mean = 2.16, SD = 1.24), followed by health visitors (mean = 1.88, SD = 1.73), and non-qualified voluntary breastfeeding supporters (mean = 1.77, SD = 1.40).

Hypothesis 3 (a): Greater knowledge of breastfeeding policies and guidance will be associated with being practitioners who spend more time at work with breastfeeding mothers (intensity of breastfeeding experience).

There was no relationship between the level of knowledge of policies and guidance on breastfeeding and intensity of breastfeeding work.

Hypothesis 3 (b): Greater knowledge of breastfeeding policies and guidance will be associated with being practitioners who have worked with breastfeeding mothers for longer (duration of breastfeeding experience).

Practitioners who had worked with women and their babies for more than 10 years had better knowledge of policies and guidance on breastfeeding than those who had worked with women and their babies for less than 10 years ($t = 4.47$, d.f. = 547; $P = 0.0001$; less time mean = 1.76, SD = 1.36; and more time mean = 2.26, SD = 1.89).

Hypothesis 3 (c): Greater knowledge of breastfeeding policies and guidance will be associated with being practitioners who rate themselves as more competent.

It was assumed that greater knowledge of policies and guidance on breastfeeding would be associated with higher competence levels, which was found to be the case for the broad skill areas: 'dealing with specific problems and sources of self-care advice' ($r = 0.19$; $P < 0.001$), 'provision of information and support' ($r = 0.24$; $P < 0.001$) and 'practice skills' ($r = 0.21$; $P < 0.001$).

Organizational barriers to breastfeeding

All respondents experienced organizational barriers, and almost 60% experienced at least two organizational barriers. The most commonly experienced organizational barriers were that the facilities and accommodation provided by the organization were not helpful to breastfeeding women, and that some staff did not adhere to local breastfeeding guidelines. Over half indicated that mothers were given conflicting advice in their organization, and that staffing levels were too low to provide breastfeeding women with adequate support. Some 44% of respondents reported that the way that other people in their organization viewed breastfeeding was unhelpful (i.e. the culture is unsupportive). Some 32% of respondents indicated that in their workplace, there are no breastfeeding practice guidelines. These findings hold true irrespective of professional group (see Table 8).

Hypothesis 4 (a): More organizational barriers to breastfeeding will be experienced by practitioners who spend more time at work with breastfeeding mothers (intensity of breastfeeding experience).

Contrary to the hypothesis, practitioners who spent up to 25% of their time at work providing direct care to breastfeeding women reported experiencing more organizational barriers to breastfeeding

Table 8. Organizational barriers to providing breastfeeding support skills

Organizational barriers	% of 'agree' responses (<i>n</i> = 549)
Facilities/accommodation we provide are not helpful	58
Staff do not adhere to the guidelines for breastfeeding	56
Mothers are given conflicting advice	51
Staff's level is too low to provide mothers adequate support	48
Culture is unsupportive	44
It is difficult to recommend breastfeeding to mothers with other problems	32
There are no guidelines for staff regarding breastfeeding	32
Problems with keeping up to date	31
Guidelines for staff are difficult to follow in practice	28

than respondents who provided direct care to mothers for more than 25% of their time ($t = -2.32$, d.f. = 547; $P = 0.02$).

Hypothesis 4 (b): More organizational barriers to breastfeeding will be experienced by practitioners who have worked with breastfeeding mothers for longer (duration of breastfeeding experience).

Contrary to the hypothesis, practitioners who had been working with women and their babies for less than 10 years reported experiencing more organizational barriers for breastfeeding in comparison with practitioners who had worked with women and their babies for more than 10 years ($t = -10.35$, d.f. = 547; $P = 0.0001$).

Hypothesis 4 (c): More organizational barriers to breastfeeding will be experienced by practitioners who rate themselves as less competent.

The hypothesis was confirmed in regard to three out of four broad skill areas: 'provision of information and support and sources of self-care advice' ($r = -0.39$; $P = 0.0001$), 'practice skills' ($r = -0.15$; $P = 0.0001$) and 'socio-cultural aspects' ($r = -0.16$; $P = 0.0001$).

Discussion and conclusions

This survey provides a detailed picture of practitioners' training needs and preferences. However, there are methodological limitations that must be considered. First, the sample is not large enough to guarantee its representativeness of the hundreds of thousands of practitioners who may work with this

client group. Moreover, it is likely that questionnaires were distributed and completed by those with an interest in breastfeeding who may well have been biased towards more favourable attitudes and self-assessed competence in breastfeeding skills; for example, there was a high number of lactation consultants and supervisors of midwives in the sample. Second, self-report tools are open to many self-presentational and social desirability biases. This cannot be said to be true of the short multiple-choice knowledge section, although it is possible that if respondents were unsure, they might refer to texts for an answer. In this instance, results were quite inaccurate, thus strengthening the view that respondents were truthful in answering these questions. Third, it is not possible to determine the response rate because it is unknown exactly how many questionnaires were distributed.

The results show some expected and some unexpected results. First, current competence varies between respondents, but all 26 skill areas are important at least to some extent for nearly all practitioners. Perhaps because not all respondents worked in acute clinical environments, a sizable minority of respondents admitted to being not competent in managing unwell babies and mothers. Similarly, lower confidence in formal aspects of antenatal education, and advising about weaning, may reflect that some practitioners need these skills less frequently in their role with the client group. However, it is of more concern that only a third to a half of practitioners felt that they were at least competent in areas

almost universally regarded as part of the practitioner's role. It is of concern, for example, that only 54% of practitioners believed that they were competent or expert in positioning and attachment, a skill that leading practitioners believe is very important to successful breastfeeding (see Woods *et al.* 2002; Inch *et al.* 2003a,b; Wallace *et al.* 2006). Similarly, the most common reasons for giving up breastfeeding are reported to be milk insufficiency and pain (e.g. Hamlyn *et al.* 2002), yet a significant proportion of the sample did not rate themselves as competent in managing breast refusal (42%), milk insufficiency (31%) and pain (56%). Clearly, addressing these skill gaps could have major benefits for the care of most women.

In general, participants welcomed update in most areas. Of note is the greater interest in socio-cultural aspects of breastfeeding, which was not closely associated with current skill level. This may be because practitioners recognize the inequalities gradient in breastfeeding prevalence (Hamlyn *et al.* 2002), and because basic training has not prepared them for working with socially and ethnically diverse populations (Shaw *et al.* 2003).

However, managers may want to target scarce training resources on those who are least competent and who identify the greatest need for update. The results of this survey show that using self-assessed competence to predict which staff might be less competent is not straightforward. Taking self-assessed competence first, there were no differences by professional group, between midwives, health visitors and voluntary support staff without midwifery or nursing registration. Further, it was assumed that practitioners who worked more intensively with breastfeeding mothers would be more competent in common skill areas. This hypothesis was confirmed only in regard to 'practice skills', but the relationship was the reverse, and not significant for other skills. It was also assumed that the longer practitioners worked with breastfeeding mothers (duration of breastfeeding experience), the more competent they would believe they were, and this was supported by three out of four subscales. Therefore, trainers are not advised to use professional group, or intensity of breastfeeding support experience to identify those in

most need of training, while duration of breastfeeding experience is more likely to highlight skill deficits in areas other than socio-cultural aspects of breastfeeding. However, overall these are crude indicators for identifying those most likely to assess themselves as not fully competent.

Using variables that managers might access to differentiate between staff who may benefit from update, we examined professional group, self-assessed competence, and aspects of prior and current breastfeeding experience. There were no group differences, between midwives, health visitors and voluntary support staff without midwifery or nursing registration, in perceived importance for update of different skill areas. Managers might assume that staff who assessed themselves as most competent would believe that they do not require update. But the converse was found, i.e. those who believed that they were competent also wished to remain competent, while those who assessed themselves as less competent did not seek update. Therefore, it would appear that self-assessed competence is not a good guide for targeting training resources, as has been found by others, for example in relation to the public health role of primary care nurses (Newby *et al.* 2005).

Practitioners with greater current intensity of breastfeeding work were less likely to want updating in the more generic skill set on the subscale, but this did not hold for the more role-specific skill set. Contrary to the hypothesis, it may be concluded from this survey that practitioners who spend less time on providing direct care believed that they need more updating in core breastfeeding support skills, while those who spend more time with breastfeeding women believed that they keep themselves updated through 'on the job' experience. This was the case except for role-specific areas, such as managing unwell mothers. Based on these findings, it is recommended that short update courses on generic skills should be offered to those with less direct working time with breastfeeding mothers. Update in role-specific areas may need to be at two levels, i.e. general awareness courses for all staff on the needs of women in relation to Caesarean section and Special Care Baby Unit babies, but more intensive update for those who expect to be responsible for

delivering skilled support as a routine part of their work.

Managers may also seek to determine provision of update by considering how staff evaluate the training they have received, what they think would be useful, and training that is available to them. There were no differences by professional group in regard to forms of training that are expected to be available to be undertaken in the forthcoming 2 years. Views of the modes of training experienced showed unremarkable results, with few professional group differences and a general preference for practically oriented learning such as observation of skilled breastfeeding support.

Because many staff self-select their own training, it is important to understand the types of training that were most often received, how helpful they were, and future choices they expect to make. Locally based training, and regional or national events were most frequently received, and these were most often also expected to be helpful, but expected training access was low for both of these, and prior experience of these suggested they had not been the most helpful types of training. Formal university-based nutrition modules, particularly favoured by midwives, are expected to be accessible by about two-thirds of the sample, but anticipated helpfulness is low. A more restricted number of staff have accessed NCT courses, and many found these to be helpful, but these are not the most favoured options for future training. However, the reality is probably that fewer staff are able to access many of the more intensive courses. These results are difficult to interpret, because it is not known how much personal choice is influenced by prior experience. In other words, some modes of training may be usefully accessed once but not repeated (e.g. a UNICEF UK BFI Understanding Breastfeeding Course), while others, such as local events, may be expected to meet new or wider training needs. Also, future choice may be confounded by perceptions of both accessibility and helpfulness. These results would suggest that prior experience and anticipated access and helpfulness are not useful means of planning training across widely differing staff groups.

Regarding factual knowledge of breastfeeding policies and guidance, about a half of respondents in all

three professional groups had access to policies and guidance documents on breastfeeding for their organizations. Midwives had the most accurate knowledge of policies and guidance on breastfeeding, followed by health visitors and voluntary support staff without midwifery or nursing registration.

It is of concern that only 9.8% of respondents knew WHO recommendations for exclusive breastfeeding. This lack of knowledge could result in introduction of liquids or solids too early. Just over half of participants knew the correct answers for three other knowledge questions. It was assumed that practitioners who spent more time at work with breastfeeding mothers would have greater knowledge of breastfeeding policies and guidance; but the findings supported the converse relationship, perhaps reflecting a relationship between seniority and access to evidence-based guidance. However, practitioners who worked with breastfeeding mothers and their infants for more years have better knowledge of policies and guidance. Better knowledge is also associated with higher self-assessed competence level in three broad skill areas involving problems, self-care advice, provision of information and support, and skills.

Training provision and self-assessed competence are unlikely to be sufficient to achieve effective care if practitioners experience organizational barriers to implementing skilled breastfeeding support. Barriers included lack of facilities, staff not adhering to breastfeeding guidelines, different approaches to care, conflicting advice given to mothers, and an organizational culture that does not support breastfeeding. These issues are potentially amenable to action by managers, and should be addressed alongside training solutions.

Unexpectedly, greater intensity of breastfeeding work, and longer career experience of breastfeeding were associated with fewer organizational barriers. This may reflect how practitioners who are very committed to breastfeeding seek to minimize the negative impact of the organization on their practice. It may be that practitioners with particular competence in these areas feel able to support breastfeeding mothers with less impact from other practitioners, the work environment or the absence of evidence-based policy.

Recommendations

1. Particular emphasis is needed to ensure that all practitioners are kept up to date in those skills identified as essential to improving breastfeeding initiation and duration, such as correct positioning and attachment, preventing and managing common problems (such as pain and apparent milk insufficiency). Role-specific skills may need short awareness raising inputs for all practitioners and more intensive update for those expected to deliver these skills as core to their role. Most practitioners recognized the need for update in supporting women in more deprived groups.
2. The modes of training on offer were most welcomed when there was a practical component, especially observation of skilled practice, whereas didactic methods were common but least well received.
3. Courses on offer, from NHS and other providers, are not all 'fit for purpose', and caution should be taken in repeatedly offering such courses without rigorous evaluation. Preferences for future training may be poor guides for targeting resources, particularly with regard to local provision and informal/self-study, which may vary in content, quality and relevance in ways that make evaluation unreliable.
4. A systematic approach to establishing the training needs of practitioners is required in all healthcare sectors. Reliance on self-selection will lead to widening skill gaps. This should include auditing of participants' experience of breastfeeding training, and evaluation of skills and knowledge achieved from training completed. Training could usefully be provided on a 'health economy' wide basis, by a range of agencies, to encourage interdisciplinary and inter-agency working.
5. Staff were surprisingly inaccurate in their knowledge of local, national and WHO policies, and this should be addressed by training and updating on sources of guidance at a local level with reference to these key policies.
6. Action at the executive level in healthcare and voluntary-sector bodies is required to address the organizational barriers to breastfeeding practice that may impede the application of skilled practice.

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Supplementary material

The following supplementary material is available for this article:
Appendix S1. Analyses performed for scale construction

This material is available as part of the online article from:
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