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Caring for the dying: how well prepared are general practitioners? A questionnaire study in Wales

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Context: General practitioners (GPs) and generalist hospital doctors provide the majority of palliative and terminal care in the UK. Studies have revealed problems with symptom control and communication in these settings and inadequate training for clinical students and junior doctors. **Objectives:** To investigate the training of GPs in Wales in palliative medicine throughout their careers, with a focus on the Welsh Valleys, an area of social deprivation and high levels of chronic ill health. To compare these data with those previously obtained from a survey of GPs in East Anglia. To develop regression models that enable the prediction of less well trained medical students and GPs. **Methods:** A postal questionnaire survey of a random sample of GPs, stratified by practice location (Valleys or elsewhere in Wales). Responders were invited to recall their training in five topics of palliative care (pain control, other symptom control, use of syringe drivers, communication skills and bereavement care) during four career stages (clinical students, junior doctors, GP registrars and GP principals). **Results:** The response rate was 67.6%. Available data enabled evaluation of generalizability and response bias. Contrary to an initial hypothesis, no significant differences were found between Valleys and non-Valleys responders' reported training, although the study was adequately powered. As medical students, 27% reported receiving no training in any topic, 75% no training in bereavement care and 50% no training in communication skills. Training varied across medical schools and was more common for more recent graduates. As junior doctors, 25% reported no training in any topic, 75% no training in bereavement care and 77% no training in communication skills. The GP registrar year provided significantly more coverage of communication, bereavement and syringe drivers than the combined preceding 6 years of general professional training. As GP principals, a high level of training is reported in all topics. The training experience of GPs in Wales is very similar to that previously reported by GPs in East Anglia: this lends support to the generalizability of these data. Logistic regression analysis indicated that the only predictor of less common training as medical students was having qualified less recently. The main predictors of less common training as GP principals was having become a GP more recently and not being a GP trainer. **Conclusions:** There is still some way to go in ensuring that medical students, junior hospital doctors and GPs are all adequately trained for their important role in caring for dying patients. *Palliative Medicine* 2003; **17**: 27–39

Key words: education; medical student; palliative care; postal questionnaire; vocational training

Introduction

Most care for patients at the end of life in the UK is provided by doctors and nurses who are not specialists in

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palliative care. In 1997, 47% of cancer deaths occurred on acute hospital wards, 36% in the community and 16% in specialist hospices.¹ Most of the last year of life is spent at home under the care of a general practitioner (GP) and other members of the primary health care team (PHCT):² home is the preferred place of death for most patients³ and their relatives,⁴ supported by familiar members of the PHCT.⁵ National Health Service (NHS) policy has long recognized the central place of generalists in

palliative care,⁶ and continues to support the development of such services.⁷

Although specialist services have greatly expanded over recent years, their role is advisory for most patients. Their relationship with their generalist colleagues, one of support rather than substitution, was eloquently summarized by the medical director of St. Joseph's home care team, writing 'It is better to help a colleague with a difficult case than to tell him he is wrong and should make way for the expert'.⁸

Generalist hospital doctors and GPs are thus central in palliative care, although there continues to be problems with symptom control and communication.^{2,4,9} Therefore, the question arises: how well prepared are doctors for this aspect of their role during general professional training?

While palliative care has been taught in some medical schools for many years,¹⁰ it has only relatively recently become an explicit part of the curriculum. In 1980 Wilkes recommended that a terminal care element be included in medical student training.¹¹ Subsequently, the General Medical Council (GMC) has stated the importance of training all medical students in palliative care: the core curriculum of 'Tomorrow's doctors'¹² includes 'the amelioration of suffering and the relief of pain in the care of the dying' (p. 11).

While medical students will have had some contact with dying patients by the end of their course, many find this a source of worry, with little time given to the issues arising.¹³ They are anxious about communicating with dying patients,¹⁴ coping with their own emotions when breaking bad news¹⁵ and coping with relatives' grief. Most feel inadequately trained in the care of the dying,¹³ and not competent to discuss death with a dying patient.¹⁶ Many have poor knowledge concerning basic pain control issues.¹³ Although training given is well received,¹⁷ there has been little evaluation of its effectiveness and it rarely features in final exams.

Training in palliative care perhaps does not fit comfortably with the culture and discourse of science, diagnosis and cure, which dominates the corridors of medical schools.¹⁸ Students need to learn to be sensitive to the needs of the dying, developing insights into their own attitudes to death.¹⁹ Lifetime attitudes are formed during the student years: all too often medical education encourages an emotional aloofness, a 'mask of relaxed brilliance'.²⁰

There is, however, evidence of a rise in student training in palliative medicine over recent years.²¹ A 1994 study found all but one UK medical school had formal teaching in this area, the amount and variety of teaching having grown considerably over the previous decade.¹⁰

The pre-registration house doctor year is regarded by the GMC as the final year of basic medical education. The induction programme should include 'pain relief, the

management of the dying patient and coping with bereavement'²² (p. 7), with in-service training covering 'communication, pain relief, care of the dying...and the stages of bereavement'²² (pp. 8–9).

Concerning junior hospital doctors, the GMC states that 'acute and chronic pain relief, and managing terminal illness and bereavement' are to be 'covered through in-service training'²³ (p. 10). Junior doctors carry considerable responsibility for care of the dying:¹³ their wards are the commonest place of death.¹ Frequently poorly supported, they find dealing with dying patients causes similar levels of stress to those caused by their long working hours.²⁴ Breaking bad news is often delegated to the most junior member of the team: most feel inadequately prepared¹³ and lack knowledge of key issues in pain relief.²⁵ Little training is provided,^{25,26} and their role models are at times unsatisfactory. The British Medical Association (BMA) cohort study of 1995 medical graduates has revealed widespread problems with the training aspects of senior house officer (SHO) posts: 20% of SHO posts were reported to be of little if any educational value, with 47% having no protected teaching time and 16% being unable to take study leave.²⁷

Since 1981, aspiring GPs have undertaken a year as GP registrar (trainee), after three or more years as a junior doctor:²⁸ many chose to do so before then. Communication skills training is now an essential component of this year: video assessment of consultations are now a compulsory part of Vocational Training Summative Assessment and the Membership of Royal College of General Practitioners (MRCGP) exam. Most GP registrars will be involved in the care of a dying patient at home,¹³ and will receive training during educational sessions,²⁹ for which the Association for Palliative Medicine and Royal College of General Practitioners have jointly written a curriculum.³⁰ Deficiencies in GP registrars' knowledge base of symptom control issues have been reported:³¹ during this year, their self-reports of their skills in palliative care have been found to increase, although their anxiety in caring for the dying did not decrease.³²

Upon entering practice as a GP principal, the individual doctor assumes responsibility for meeting his/her own educational needs. The early years in practice are a time of particular need for educational support, as are the educational needs of the growing number of GP locum doctors.³³ Hospital postgraduate centres run meetings on all aspects of medicine, with hospices frequently providing courses in palliative care:³⁴ GPs may choose to attend or not. A curriculum in palliative medicine for GPs and other specialists has been published³⁵ and Macmillan Cancer Relief is establishing a national network of GP facilitators, with a remit of visiting local practices to provide training in cancer and palliative care.³⁶ GPs most frequently request education

in symptom control for non-cancer patients: drug control of pain and other symptoms is less in demand, although more popular among inner city GPs.³⁷ Communication and bereavement are the least popular issues.³⁷

Although many doctors may be well trained, it is known that GPs in areas of social deprivation and high levels of chronic ill health have more work, larger lists, less hospital support and less efficient traditions of consultation than in less deprived areas. Tudor-Hart expressed this as an 'Inverse Care Law', 'the availability of good medical care tends to vary inversely with the needs of the population served'.³⁸ The Valleys of South Wales have a long history of social deprivation, especially since the closure of the coal mining and iron smelting industries in the 1980s and 1990s. In addition, the Valleys contain the eight electoral wards with the highest levels of chronic ill health in the UK 1991 census. Wales has 908 electoral wards: 38 of the 50 wards with the highest Welsh Underprivileged Area³⁹ score are found in the Valleys area. This combination of high levels of chronic ill health, social deprivation and geographical isolation makes the Valleys among the most challenging areas for primary care in the UK. Despite the focussed attempts to develop primary care in the Valleys,⁴⁰ recruitment of GPs remains a major difficulty.

Aims

The aims of this study are:

- 1) To investigate the training in palliative medicine of GPs throughout Wales during their careers.
- 2) To compare the training of GPs in the south Wales Valleys with those in the rest of Wales.
- 3) To compare these data with those obtained in a previous study of GPs in East Anglia.
- 4) To develop regression models predicting the likelihood of training in palliative medicine as medical students and GP principals.

Methods

GPs from the lists of the Health Authorities covering Wales constituted the sampling frame, and were stratified into Valleys ($n = 320$) and non-Valleys ($n = 1416$) according to whether their address fell within the Teamcare Valleys project area.⁴⁰ Power calculations indicated that 100 responders would be needed from each area to detect a 20% difference in responses to questions between groups at a significance level of 0.05. As it was anticipated that a lower response rate would be obtained from the Valleys than from the rest of Wales, disproportionately sized random samples were drawn from the two

strata: 62.5% (200/320) from Valleys, 28.2% (400/1416) from non-Valleys. Of this sample of 600, 10 were subsequently found to be ineligible (retired, sick leave, maternity leave).

The sample was sent a postal questionnaire similar to that previously used in East Anglia.²¹ GPs were invited to recall their training during four career stages (clinical medical student, junior hospital doctor, GP registrar (trainee) and GP principal) in five areas of palliative care (pain control, control of other symptoms, use of syringe driver, communication skills and bereavement care). Following standard survey design methods,⁴¹ the questionnaire was brief and limited to two pages (four sides) of A4 paper. A covering letter explained the study, assured confidentiality and was personally signed by four members of the research team. A stamped addressed reply envelope was enclosed. The incentives were one hour of Post-Graduate Education Allowance (PGEA) for all responders and a crate of wine (or equivalent in garden tokens) for one randomly selected responder. Team members funded the latter. Non-responders were followed up with duplicate questionnaires to a maximum of three occasions.

Parametric and non-parametric statistical analyses were conducted as appropriate, using SPSS for Windows Version 10.0. Results were taken to be significant if the *P*-value was less than 0.05, and the chi-squared tests reported below have one degree of freedom (*df*) and use Yates's correction unless otherwise specified.

Results

A response rate of 67.6% was obtained (399/590). The non-Valleys response rate of 70.8% (279/394) differs from the 61.2% (120/196) rate of the Valleys (Fisher's exact test, $P = 0.020$).

Non-response bias was assessed by comparing responder and non-responder on seven variables of publicly available demographic data. There were no significant differences in gender (Fisher's exact test, $P = 0.770$) or mean partnership size (independent samples *t*-test, $P = 0.327$). Non-responders were more likely to be non-trainers (Fisher's exact test, $P = 0.006$), non-UK graduates ($\chi^2 = 36.513$, $df = 3$, $PB 0.001$), non-members of the Royal College of General Practitioners ($\chi^2 = 23.813$, $df = 1$, $PB 0.001$), to have qualified less recently (independent samples *t*-test, $PB 0.001$), to work in Valleys practices (Fisher's exact test, $P = 0.02$) and in single-handed (Fisher's exact test, $P = 0.039$) or small practices of less than four partners (Fisher's exact test, $P = 0.001$).

Generalizability was assessed by comparing responders with publicly available data concerning the national GP workforce in England and Wales. Responders were similar in terms of gender and trainer status: they were

more likely to be under 45 years of age (Fisher's exact test, $P = 0.020$) and were less likely to be in single-handed practices (Fisher's exact test, $P = 0.002$) or practices of less than four partners (Fisher's exact test, $P = 0.001$). This analysis has been reported in more detail elsewhere.⁴²

Table 1 presents the demographic data of responders. The standardized figures for responders and their associated 95% confidence intervals (CIs) have been calculated by weighting to take into account the disproportionate sampling within strata. There were no significant differences between Valleys and non-Valleys responders in terms of gender, trainee year, years as GP principal, being a trainer, working in a training practice or distance to the nearest district general hospital (DGH). Valleys responders were significantly older,

more likely to be non-UK graduates, to have qualified less recently, not to hold the MRCGP and to be in single-handed or small practices.

Table 2 reports responders' recall of their training throughout their careers: there were no significant differences between Valleys and non-Valleys responders on any of these parameters (Fisher's exact test, $P < 0.05$). As medical students, 75% report no training in bereavement, 53% report no training in communication, 46% report no training in controlling other symptoms and 36% report no training in pain control. While students, 27% report no training in any area. Syringe drivers are a special case, as they were not used in palliative medicine prior to 1979;⁴³ 17.3% (69/398) qualified before that date.

Similar figures pertain to their three or more years as junior hospital doctors. During these years, 77% report

Table 1 Demographic characteristics of respondents

		Total responders	Standardized responders (%)	95% CI of standardized responders (%)	non-Valleys	Valleys	
Gender (n = 399)	Male	285 (71.4%)	71.4	66.8–76.0	199 (71.3%)	86 (71.7%)	* $P = 1.000$
	Female	114 (28.6%)	28.6	24.0–33.2	80 (28.7%)	34 (28.3%)	
Mean age (n = 390)		43.8			43.0	45.7	** $P = 0.007$
Medical school (n = 399)	London	76 (19.0%)	20.3	16.2–24.5	62 (22.2%)	14 (11.7%)	$\chi^2 = 56.693$ df = 3 PB 0.001
	Cardiff	158 (39.6%)	40.0	35.0–44.9	113 (40.5%)	45 (37.5%)	
	non-UK	56 (14.0%)	10.7	8.0–13.4	16 (5.7%)	40 (33.3%)	
	Rest of UK	109 (27.3%)	29.0	24.4–33.7	88 (31.5%)	21 (17.5%)	
Mean years qualified (n = 399)		19.9			19.1	21.6	** $P = 0.009$
Trainee year (n = 399)	Yes	335 (84.0%)	84.4	80.7–88.0	237 (84.9%)	98 (81.7%)	* $P = 0.457$
	No	64 (16.0%)	15.6	12.0–19.3	42 (15.1%)	22 (18.3%)	
	20+	80 (20.6%)	20.2	16.1–24.3	57 (21.1%)	23 (19.5%)	\
	15 to 19	62 (16.0%)	15.2	11.6–18.8	41 (15.2%)	21 (17.8%)	
	10 to 14	93 (24.0%)	23.6	19.3–27.9	67 (24.8%)	26 (22.0%)	
	5 to 9	67 (17.3%)	17.0	13.1–20.8	48 (17.8%)	19 (16.1%)	
0 to 4	86 (22.2%)	21.1	17.0–25.2	57 (21.1%)	29 (24.6%)	/	
Mean years as GP principal (n = 388)		12.5			12.6	12.4	** $P = 0.840$
M/FRCGP (n = 270)	Yes	195 (72.2%)	73.9	68.7–79.7	151 (77.0%)	44 (60%)	* $P = 0.006$
	No	75 (27.8%)	26.1	20.9–31.3	45 (23.0%)	30 (40%)	
Training practice (n = 399)	Yes	157 (39.5%)	39.2	34.3–44.2	109 (39.1%)	48 (40.0%)	* $P = 0.911$
	No	242 (60.7%)	60.8	55.8–65.7	170 (60.9%)	72 (60.0%)	
Trainer (n = 399)	Yes	56 (14.0%)	14.6	11.0–18.2	43 (15.4%)	13 (10.8%)	* $P = 0.272$
	No	343 (86.0%)	85.4	81.8–89.0	236 (84.6%)	107 (89.2%)	
Mean number of partners (n = 399)		4.5			4.6	4.3	*** $P = 0.001$
Minutes to nearest DGH (n = 380)	B 30	317 (83.4%)	82.6	78.6–86.6	214 (81.4%)	103 (88.0%)	* $P = 0.135$
	E 30	63 (16.6%)	17.4	13.4–21.4	49 (18.6%)	14 (12.0%)	

* = Fisher's exact test; ** = independent samples *t*-test, *** = Mann–Whitney *U*-test.

Table 2 Percent of respondents (standardized) report receiving training (95% CI)

	Medical student	Junior doctor	GP registrar	GP principal
Communication	47.1% (41.9–52.4)	23.1% (18.6–27.5)	84.6% (80.5–88.6)	70.2% (65.4–75.0)
Pain control	64.0% (58.9–69.0)	69.5% (64.7–74.3)	84.5% (80.4–88.5)	89.3% (86.1–92.5)
Other symptoms	54.0% (48.6–59.4)	67.1% (62.2–72.0)	79.9% (74.5–84.5)	88.0% (84.5–91.4)
Syringe driver	5.6% (3.1–8.0)	34.4% (29.3–39.5)	43.9% (38.2–49.6)	69.2% (64.4–74.2)
Bereavement	25.4% (20.7–30.1)	22.4% (17.9–26.9)	70.1% (65.0–75.3)	67.7% (62.8–72.7)
None at this stage	26.7% (21.9–31.6)	25.9% (21.1–30.7)	9.1% (6.0–12.3)	7.7% (4.8–10.5)
	Med stud+JHD	Med stud+JHD+GP Reg	Never trained in this area	
Communication	55.0% (47.2–62.7)	88.8% (85.3–92.4)	9.3% (6.1–12.4)	
Pain control	81.0% (74.8–87.2)	94.0% (91.4–96.6)	2.0% (0.5–3.6)	
Other symptoms	78.2% (71.7–84.8)	90.6% (87.3–93.3)	2.5% (0.7–4.2)	
Syringe driver	29.5% (22.2–36.7)	56.9% (51.3–62.5)	17.8% (13.5–22.1)	
Bereavement	35.5% (27.9–43.2)	75.5% (70.6–80.3)	17.2% (12.9–21.5)	
None at this stage	15.5% (11.6–19.5)	3.9% (1.7–6.0)	2.2% (0.5–3.9)	

no training in communication or bereavement, and 30% report no training in controlling pain or other symptoms; 26% report no training in any area.

The single year as a GP registrar was a very different experience. While 30% reported no training in bereavement care, 20% reported no training for controlling other symptoms and 15% reported no training in communication and pain control. Less than 10% of those who had a GP registrar year received no training in any area care of palliative care.

Since becoming GP principals, 30% report no training in communication or bereavement, 10% report no training in controlling pain or other symptoms and 31% report no training in syringe drivers. No area of palliative care had been covered by 8% since becoming GPs.

These figures for the four career stages are very similar to those obtained in our previous study of GPs in East Anglia.²¹ The 95% CIs reveal no significant differences between the studies, with the exception of bereavement training, where higher proportions of East Anglian GPs report training as medical students, GP registrars and GP principals.

The combined six or more years of training as clinical students and junior doctors produced doctors of whom 64% reported no training in bereavement, 45% no training in communication, 22% no training in other symptoms and 19% no training in pain. No training in any area was reported by 16% during the years of general professional training.

The 95% CIs in Table 2 reveal that during their single year as GP registrars, significantly more doctors were trained in communication, bereavement and syringe drivers than during their preceding six years of general professional training. Similar differences were found for communication and bereavement in the East Anglian study.

On starting out as GP principals, 24% report no training in bereavement at any stage to date, 11% report

no training in communication and less than 10% report no training in pain or other symptoms; 4% had received no training in any area. Throughout the whole of their careers to date, training during at least one stage of their careers had covered pain and other symptoms for 97%, communication for 91% and bereavement care and syringe drivers for 81%. Only 2% reported no training in any area at any career stage. The data from the East Anglian study are very similar.

Medical student training has not been static over the years (Figure 1). There appears to have been a steady rise in training in all five areas during the 1970s and 1980s (the 22 qualifying in the 1990s were too small a group to be analysed independently). Those qualified before 1970 appear not to follow this trend, reporting more training than those who qualified in the early 1970s: examination of the 95% CIs, however, reveals this difference not to be significant for any of the five areas. The median year of qualification was 1980. Comparison of the 95% CIs of reported training for those qualified before that date with those qualified from 1980 onwards reveals significant increases in all areas except syringe drivers: a similar analysis of the East Anglian dataset revealed significant increases in training in all five areas.

Student training varied across medical school groups (Table 3). Syringe drivers have been omitted as only 20 responders reported training while students; too small a number for this analysis. Training was less common for non-UK and Cardiff graduates in communication, pain and bereavement. Non-UK graduates were more likely to have been qualified for more than the median of 19 years ($\chi^2 = 60.369$, $df = 3$, $PB 0.001$).

Since there were cohort and medical school effects, four logistic regression analyses were conducted, with the absence or presence of training in these four areas as dependent variables. The independent variables entered were medical school group and number of years since qualification (cohort), being the only two demographic

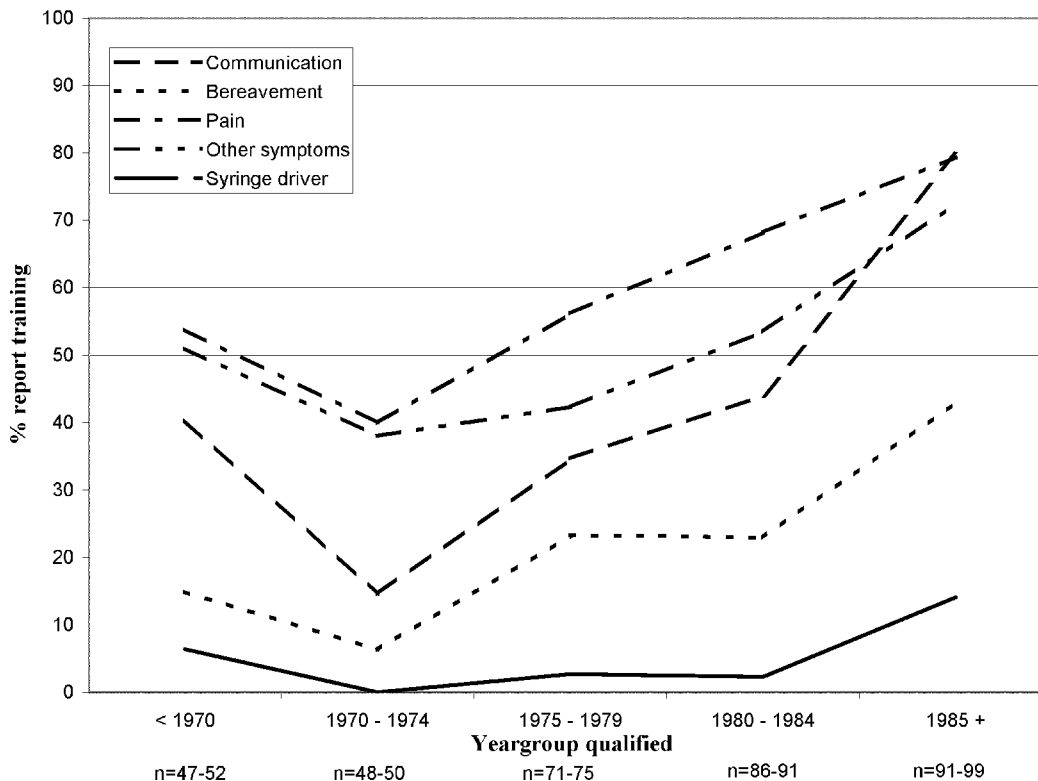


Figure 1 Training as medical students ($n = 348-366$)

variables available that were of relevance to medical student training. A 'forward stepwise' method was used and the results are presented in Table 4 in the form of the probability of receiving training as predicted by the statistical models. Medical school group is a significant predictor of communication and bereavement training only, with training less common for Cardiff and non-UK graduates.

These initial four statistical models are of limited use, as 54 of the 56 non-UK graduates in our sample were qualified for 19 years or more. A second regression model was therefore developed, limited to the subgroup qualified for 19 years or less, excluding two non-UK graduates. This is also presented in Table 4 in the form of the predicted probability of receiving training. While years qualified was a significant predictor of training in

Table 3 Training by clinical school group

		Communication	Pain control	Other symptoms	Bereavement
London ($n = 76$)	Yes	40 (59%)	49 (72%)	43 (66%)	17 (28%)
	No	28 (41%)	19 (28%)	22 (34%)	44 (72%)
	Missing	8	8	11	15
Cardiff ($n = 158$)	Yes	61 (41%)	90 (60%)	74 (50%)	29 (20%)
	No	89 (59%)	61 (40%)	74 (50%)	118 (80%)
	Missing	8	7	10	11
non-UK ($n = 56$)	Yes	10 (24%)	19 (46%)	17 (43%)	1 (3%)
	No	32 (76%)	22 (54%)	23 (57%)	38 (97%)
	Missing	14	15	16	17
Rest of UK and Ireland ($n = 109$)	Yes	62 (59%)	69 (68%)	53 (55%)	40 (39%)
	No	44 (41%)	32 (32%)	43 (45%)	62 (61%)
	Missing	3	6	13	7
		$\chi^2 = 20.894$ df = 3 PB 0.001	$\chi^2 = 9.233$ df = 3 P = 0.026	$\chi^2 = 6.971$ df = 3 P = 0.073	$\chi^2 = 23.955$ df = 3 PB 0.001

all four areas, medical school was not a significant predictor of training in any area. There is thus no evidence of any difference between medical school groups in the increase of training over the last 19 years, the period during which palliative medicine has emerged as a speciality in the UK.

The mean years since qualification of non-UK graduates (29.4) is significantly greater than that of the other groups [analysis of variance (ANOVA), $F = 36.833$, $P < 0.001$]. However, there is no significant difference between the mean years since qualification of London (19.3), Cardiff (18.4) or other UK (17.5) graduates (ANOVA, $F = 1.245$, $P = 0.289$). It would thus appear that training in palliative care was particularly uncommon in Cardiff and non-UK medical schools during the 1960s and 1970s. During the 1980s and 1990s, Cardiff graduates have 'caught up' with their contemporaries qualifying from other UK clinical schools. We have insufficient data to comment on training in non-UK schools during this time. No such analysis of student training by medical school was reported from the East Anglian study.

Junior doctors' training would appear to have been more static over the years (Figure 2) with the exception of syringe drivers, which came into use in 1979; training has risen with secular trends since. When junior doctor training was dichotomized around the median year of qualification (1980), a significant increase in training was found for syringe drivers only; a similar analysis of the East Anglian dataset revealed significant increases for pain, bereavement and syringe drivers. Those qualified before 1970 appear to report more training than those qualifying during the 1980s; analysis of the 95% CIs reveal this only to be significant for bereavement.

For those who had a GP registrar year (Figure 3), a consistently high level of training of at least 70% has been reported for the last 20 years, particularly for pain control, other symptoms and communication; more than 90% report training in these three areas for the last 10 years. Bereavement is noticeably lower. The responders had been principals for a median of 12 years. Comparison of those who had been principals for 12 years or less with those who had been principals for 13 years or more reveals significant rises in training in all areas except bereavement. A similar analysis of the East Anglian dataset revealed significant rises in communication, syringe drivers and bereavement.

Figure 4 suggests that training since becoming GP principals may increase slightly the longer spent as a GP. A simple analysis of these data, dichotomizing respondents around the median years as GP (12 years) revealed significant increases for bereavement only (a similar analysis of the East Anglian dataset revealed no increase in any area). The suggestion of a cohort effect led to the development of further logistic regression analyses. The

dependent variable was the presence or absence of training in the five areas as a GP principal; the independent variables entered were gender, years as a principal, membership of the RCGP, trainer status, number of practice partners and distance to the nearest DGH. A 'forward stepwise' method was used and the final model is presented in Table 5 in the form of predicted probability of training. The longer spent as a GP principal the more likely is training in pain, other symptoms, syringe drivers and bereavement. Being a GP trainer increases the probability of training in communication, bereavement and syringe drivers. The number of practice partners predicts syringe driver training: larger practices are perhaps more likely to purchase and use syringe drivers.

Discussion

Our response rate of 67.6% compares favourably with the mean of 61% in published studies of GPs.⁴⁴ Our prediction of a lower response rate from the Valleys was proved to be correct (61.2% versus 70.8%) although still acceptable. Several factors may have enabled this: the study related to an area of work of particular interest to GPs⁴⁵ and followed guidelines arising from the research literature for the maximizing of response rates.⁴¹ The covering letter was personally signed by four members of the research team, two of whom were well known within the GP community in Wales.

The possibility of non-response bias remains, however, depending on the extent to which non-responders differed systematically from the study population. There may be an over-reporting of training as medical students, since responders were more likely to be more recent and UK graduates. There may be an over-reporting of training as principals since responders were more likely to be trainers, current members of the RCGP and to work in group practices. When compared with the rest of the GP population in Wales or England and Wales, responders are significantly younger, which would suggest bias towards over-reporting of training as medical students and under-reporting of training as GP principals.

Responders are significantly more likely than non-responders to be GP trainers, a subgroup of GPs whose educational role might lead to more training for themselves, thus biasing towards over-reporting training. This relationship was found in the logistic regression analysis of training as GP principals in syringe drivers. However, there is no significant difference in likelihood of being a trainer between responders and the GP population in England and Wales, suggesting no important bias is present. The lower mean age of responders would give a non-response bias towards over-reporting medical stu-

Table 4 Regression model prediction of probability of receiving training as clinical student

Medical school:	Communication skills training				Pain control	Other symptoms	Bereavement care			
	UK non-L/C	London	non-UK	Cardiff	All medical schools	All medical schools	UK non-L/C	London	Non-UK	Cardiff
All respondents										
Qualified 10 years	0.73	0.75	0.6	0.57	0.78	0.64	0.49	0.38	0.07	0.28
Qualified 20 years	0.53	0.56	0.39	0.36	0.66	0.53	0.35	0.25	0.04	0.13
Qualified 30 years	0.33	0.35	0.21	0.19	0.52	0.42	0.22	0.15	0.02	0.06
Qualified 40 years	0.17	0.19	0.1	0.09	0.38	0.32	0.14	0.09	0.01	0.02
Respondents qualified 0–19 years, excluding non-UK graduates										
Qualified 10 years	0.78		0.8		0.68		0.49			
Qualified 18 years	0.43		0.67		0.47		0.22			

dent training and under-reporting GP training. The greater proportion of Cardiff graduates and the smaller proportion of non-UK graduates would both bias towards under-reporting of medical student training. We believe that these non-response biases, although present, do not seriously distort the validity and generalizability of the data.

However, the possible presence of recall bias and memory effects are more problematic; some were recalling training from over 30 years ago. The literature on recall methods of research⁴⁶ indicates that forgetting will occur, and increases over time. Remembering is a reconstructive process, the accuracy of which is associated with salience. The size and expense of a prospective study to investigate this subject would be prohibitive. Since perfection is not possible, the next best thing is awareness of the possibility of error, and a clear recognition of the limitations of the data. How precise are the responders' reports of their training? Syringe drivers give an insight here, as they were not used in palliative care before 1979. Of the 95 who qualified before then, three (3.2%) reported training in syringe drivers (Figure 1). Thus, 97% correctly reported that they did not receive training, which lends validity to their accuracy of recall. However, it must be admitted that a retrospective study such as this, at best, achieves an approximation of events.

A lower level of training among GPs working in the socially deprived Valleys area was one of our initial hypotheses, and was a major influence on the choice of sampling strategy. The lack of differences between Valleys and non-Valleys GPs' training in any of the five areas at any of the four career stages was therefore an important and unexpected result. One might expect Valleys GPs to report less training while medical students, since they were older, longer qualified and are more likely to be non-UK graduates. No such differences were identified.

Part of the explanation may lie in the significantly lower response rate from Valleys GPs. Responders to questionnaires are known to be more interested in the subject than non-responders,^{44,47} and therefore perhaps better trained. A comparison of the 76 Valleys non-responders with the 115 non-Valleys non-responders reveals them to be significantly more likely to be male, non-UK graduates, longer qualified, non-members of the RCGP and in smaller practice partnerships. These all suggest a significant bias in the characteristics of the Valleys non-responders.

While the significantly lower response rate from Valleys GPs may be cause for concern, it remains that this study was unable to identify any difference in training between GPs working in deprived and less-deprived areas, even though the study had sufficient power to identify such differences. A recent study has found no evidence that single-handed GPs under-perform clinically after adjustment for deprivation and other practice demographic characteristics.⁴⁸ This has implications for other deprived areas of the UK: the stereotype of a poorly trained, single-handed GP providing poor levels of care in deprived areas would appear to be a stereotype borne of prejudice. Being a GP in a deprived area is not an easy or popular task, but nonetheless appears to attract competent doctors, at least in terms of their palliative medicine training.

Furthermore, the Wales and East Anglia data are strikingly similar for training at all stages in most topics, despite the very different geographical and socio-economic characteristics of these areas. This lends support to the generalizability of these data to the UK workforce of GPs.

Our respondents report that, as medical students, more than one-third report no training in each area and one-quarter qualified with no training in any area of palliative

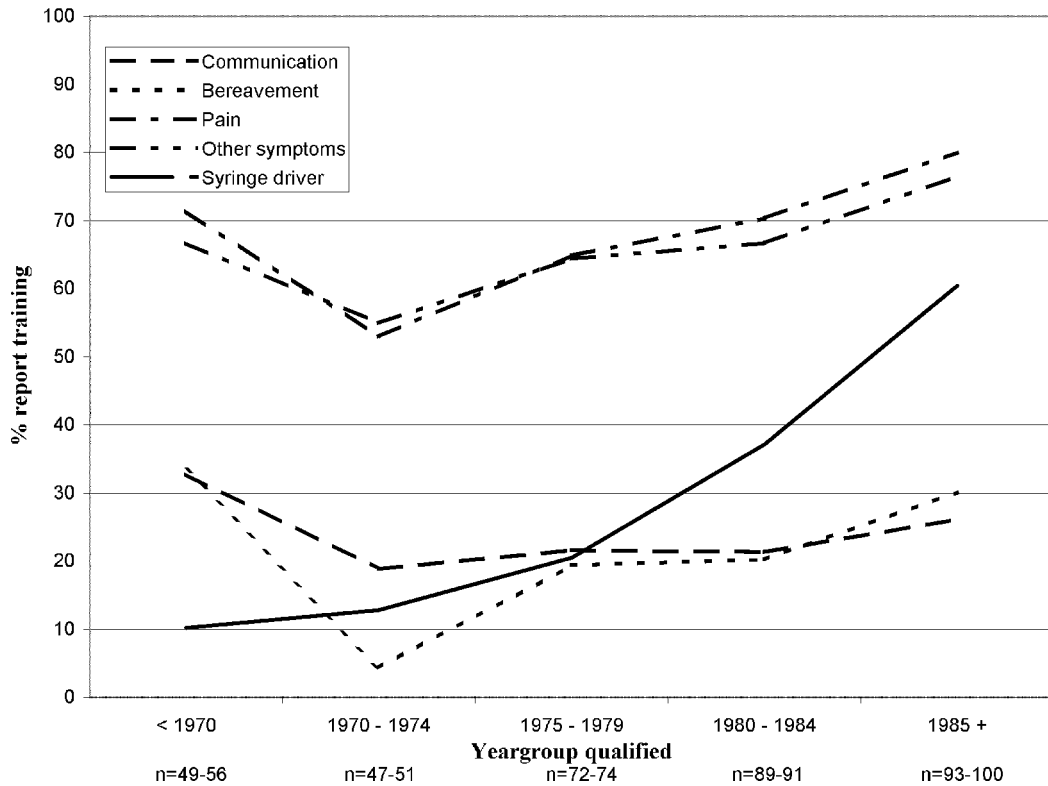


Figure 2 Training as junior doctors (n = 353–373)

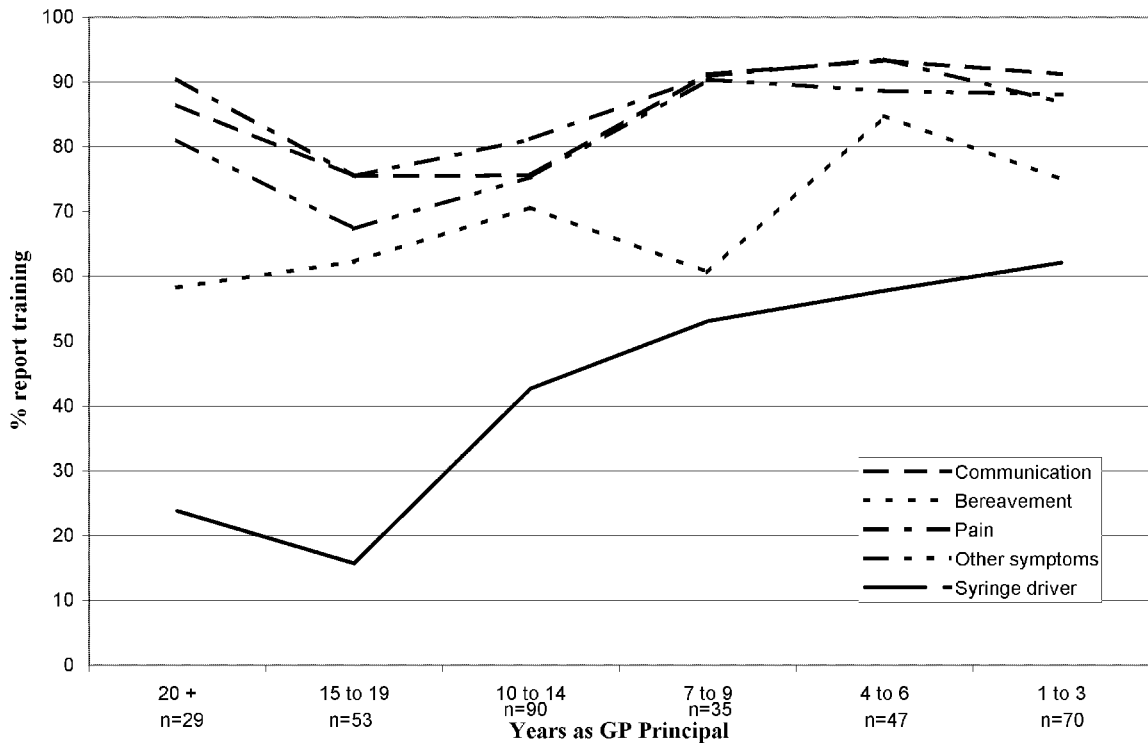


Figure 3 Training as GP registrars (n = 308–319)

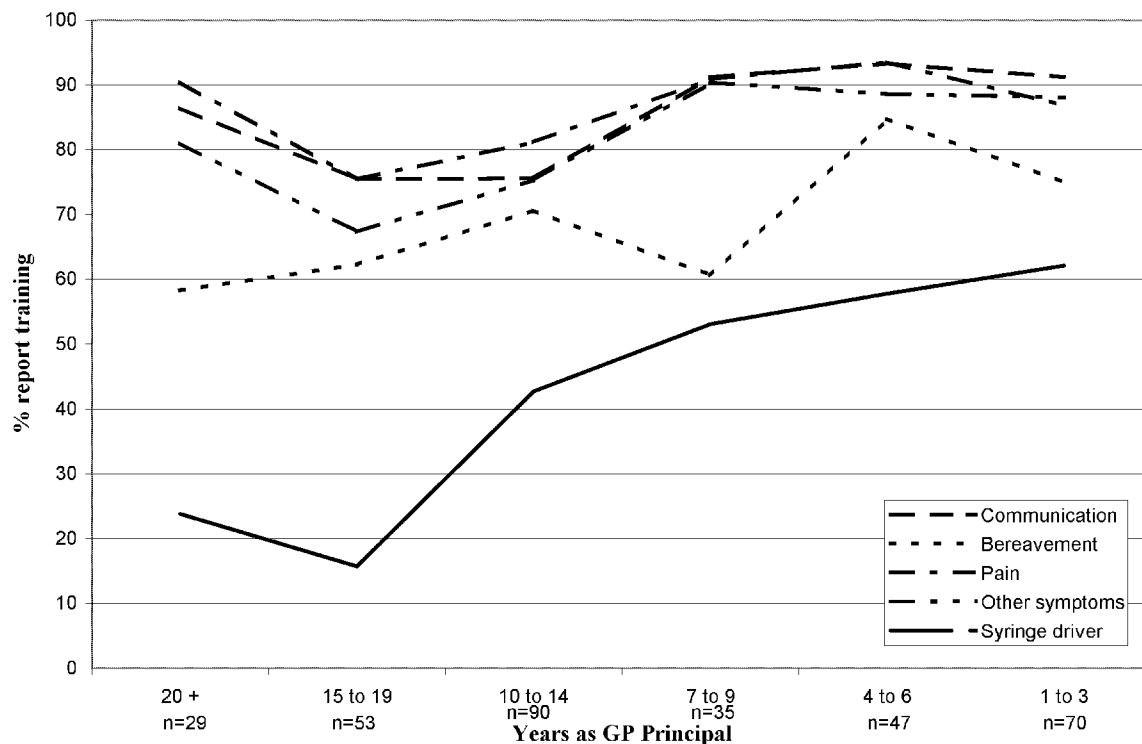


Figure 4 Training as GP principal ($n = 371-379$)

care. Yet they were all training to work as junior doctors when they would have regularly been responsible for the care of dying patients. Qualified doctors recalling their undergraduate training in palliative care have previously reported training to have been inadequate.²¹ While this study may show a rise in training over recent years, the data also reveal considerable room for improvement. Of the responders who qualified during the 1990s, 81% report no training as medical students in syringe driver use, 45% report no training in bereavement, 30% report no training in other symptoms, 22% report no training in

pain and 13% report no training in communication. Regression analysis revealed years since qualification to be the only predictor of student training, with no difference between medical schools over the last 19 years. Training is becoming increasingly common in all UK medical schools, but surely no clinical dean can be satisfied until all their graduates receive training in all areas of palliative care?

Junior doctors, working on the general hospital wards, are responsible for the care of 47% of cancer deaths and 54% of non-cancer deaths.¹ The responders of this study

Table 5 Probability of receiving training since becoming GP principals

Communication	Pain control		Other symptoms		Syringe driver		Bereavement care						
Non-trainer	0.66	Principal	0.9	Principal	0.88	Non-trainer+principal	0.6	Non-trainer principal	0.63				
Trainer	0.92	10 years	0.94	10 years	0.93	10 years+3 partners	0.7	10 years	Non-trainer principal	0.76			
		20 years		20 years		10 years+6 partners							
						Non-trainer+principal		0.69			Trainer principal	0.8	
						20 years+3 partners		0.78			10 years	Trainer principal	0.88
						20 years+6 partners							
						Trainer+principal 10 years		0.87			20 years		
						+3 partners		0.92					
		Trainer+principal 10 year											
		s+6 partners	0.91										
		Trainer+principal 20 years											
		+3 partners	0.94										
		Trainer+principal 20 years											
		+6 partners											

will have spent at least three years as junior hospital doctors, in designated training posts. The data paint a very different picture of the junior doctor years. While two-thirds report some training in controlling physical symptoms, three-quarters report no training in communication or bereavement care and one-quarter report no training in any aspect of palliative care. Responders were not asked about the adequacy or comprehensiveness of their training, only whether each area was addressed in any form. It is therefore of considerable concern that at the end of six years of general professional training, two-thirds were untrained in bereavement care, nearly half in communication skills and one-fifth in controlling physical symptoms. These figures are remarkably similar to those previously obtained from East Anglia²¹ and those recently reported by a European study.⁴⁹

This study refers only to the training experience reported by GPs when junior hospital doctors in training, not junior hospital specialists. What of those doctors who remain in hospital medicine rather than entering general practice? To our knowledge, no parallel study to the current one has been undertaken among hospital doctors (although one is being planned at present): it is unknown whether their palliative care training 'catches up' with their GP contemporaries. This would appear to be unlikely given the more technical focus of senior hospital doctors and the GP emphasis on the consultation and communication skills.

The GP registrar year covered all areas more commonly than the previous six years of training. GP trainers and vocational training scheme course organizers cover all areas for the majority of registrars (again with the exception of syringe drivers). This is an important finding, similar to that from the previous East Anglian study. It implies that, given sufficient commitment, it is possible to ensure widespread training in all areas of palliative care.

On becoming GP principals, each doctor becomes responsible for his or her own training, according to their own perception of training needs. At least two-thirds have covered all five areas, particularly training in pain control and other symptoms. Regression analysis predicts that the least training since becoming a GP principal will occur for newer GPs and non-trainers (and those in smaller practices for syringe driver training). In part, the lower training among new GPs may reflect the large range of specialities in which they need updating. It may also reflect their inexperience in providing care at home: after looking after a few dying patients at home, one begins to realise that further training is needed. There would appear to be a need to focus training on non-training GPs, and syringe driver training on smaller practices.

Personal continuity of care over the years is an important feature of the GP's role; they therefore have

a central role among healthcare professionals in the care of the bereaved. It is thus perhaps surprising that one-third have not covered this area since entering practice, and that 17% report that they have never received training at any career stage. Indeed, bereavement training is the least common at all career stages (excepting syringe drivers); there is clearly room for improvement here.

It is a formidable challenge to support the national workforce of some 30 000 GPs, particularly as those who most need further training are least likely to take part.⁵⁰ Furthermore, GPs' confidence in different areas of practice correlates poorly with their objective knowledge in those fields,⁵¹ yet the selection of subject areas is at their own discretion. The new Personal and Practice Development Plans that replace the PGEA system could perhaps benefit from some direction here.

While this study assessed training received, it did not assess the impact or adequacy of this training in preparing doctors to care for dying patients. This will be covered in subsequent papers based on further data collected from the present sample.

In conclusion, this study reveals that there is still some way to go in ensuring that generalists are adequately trained for palliative care, of which they are (appropriately in our view) the majority providers. Although medical student training has steadily increased in all UK medical schools since 1980, there is still some way to go in ensuring adequate training for all students, as stipulated by the GMC. Nearly half of all cancer deaths occur in acute hospitals, under the care of junior doctors who receive little or no training in palliative care. The present study reveals no increase in training over recent years. The single year as GP registrar covers palliative care more often than the previous six years of general professional training, and the great majority of GPs have received training in most areas, the more so the longer they have been in practice.

There are continuing challenges to be met by educational strategies aimed not only at the doctors of today but also at the doctors of tomorrow.

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