The Sheffield outreach teaching programme

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VERIFIABLE CPD PAPER

IN BRIEF

- Sheffield students now spend six months working in outreach primary care – half this time in general practice settings.
- Students gain considerable 'real-life' clinical experience leading to enhanced confidence and competence.
- The scheme was piggy-backed onto existing dental facilities and its running costs are met from existing resources.

Sheffield's School of Clinical Dentistry has developed a year-round dental outreach teaching programme of 20 weeks for each student in two or three of six already established general practices and five PCT clinics. On the programme, under local supervision, students provide comprehensive care for patients and complete associated projectwork. This paper first describes the development and management of the programme then the learning experiences of recent students.

INTRODUCTION

The vast majority of UK dental students progress to working in primary care, most as general dental practitioners (GDPs). These students should have substantial experience of assisted operation and working in a greater dental team and an understanding of routine clinical practice in primary care.¹ Dental hospitals struggle to provide these experiences but outreach teaching can enhance training in these aspects.¹⁻³ The value of situated learning (amidst a workplace team) has been embraced by dental educators establishing new dental curricula to reduce the problematic transfer of learning to new settings.^{4,5} In this context the School of Clinical Dentistry at the University of Sheffield has worked over the last seven years with the support of local Primary Care Trusts (PCTs) and leading salaried dentists and GDPs to develop a substantial dispersed outreach teaching programme for undergraduates and hygiene and therapy (H&T) students. The programme's development and management are described in this paper followed by a summary of recent students' outreach learning experiences.

INCEPTION

Early in the new millennium guidance to dental schools indicated that purely hospital-based training was unlikely to provide sufficient appropriate experience for entrants to the profession, who would probably work in primary care, mainly general practice.^{1,6} At this time the School started developing partnerships with local primary care trust dental services (PCTDS) and, if practicable, selected general dental practices, to create training opportunities in existing services. The aims of the programme were agreed at an early stage and reflected the specialism of those involved (Fig. 1).

Appointing an outreach programme manager (MAL) brought experience from established outreach programmes.⁷⁻⁹ The head of an academic department (PGR) provided direction. An administrator and evaluator (MS) completed the outreach team.

Proving and the decision to adopt an expanded programme

In 2003 a six-week pilot scheme for 20 Sheffield students evaluated students' and hosts' perceptions.^{10,11} Pointers for subsequent development were the importance of individual nursing support and having sufficient students in each location to maintain service volume. Then in 2004 a randomised controlled trial gave firm evidence of the educational benefits of this adjunct to hospital training.^{12,13} Secure in this knowledge and faced with a request

to expand its intake, the School planned a six-month programme of outreach for all senior students.¹⁴ This possibility became feasible as guidance changed encouraging the use of these primary care settings for training.^{1,15}

At this and other key stages in the programme's development the evidence and rationale were made explicit and openly discussed within the School as there was initial scepticism regarding outreach among School staff, as noted elsewhere.¹⁶ Experience of the programme's effect on students has convinced many staff that the programme has achieved its aims.

Creating the facilities

The requisite capital to develop 31 additional outreach training surgeries amounted to £2.3 million and was jointly funded by the Higher Education Funding Council for England (£834,000) and the Yorkshire and the Humber NHS Strategic Health Authority (£1.5 million). With funding secured in 2006, supportive local PCTs agreed to incorporate training surgeries in their expansion plans and also invited all local GDPs with an interest in the scheme to discuss the possibility of hosting students. Up to £1,500 was available to each practice to support the development of its bid. Of the 208 dental providers contacted and others who heard of the scheme, 24 expressed interest and 20 practices attended briefing meetings. Eleven practices submitted between them 14 bids for scrutiny by a panel (Fig. 2).

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Five general dental practices were subsequently selected to develop 19 additional surgeries. The selection criteria are listed in Figure 3. Costing between £60,000 and £104,000 per surgery (average £88,000) they were available within a year. Likewise selected were 11 PCTDSs surgeries across four locations costing on average £98,000. Salaried services typically took almost two years to implement plans.

Formal agreements committed the School to the capital funding, described the facilities required and made explicit an expectation of at least ten years' commitment to hosting students. Further agreements set out the educational expectations of the hosts and the support and recurrent funding expectations of the School.

Before starting, outreach staff attended School-based training sessions that included shadowing dental hospital supervisors, meeting experienced hosts and discussing students' capabilities, the programme's aims and its intended learning experiences. Over 50 supervising dentists gained the honorary clinical lecturer status required to host students and have all subsequently attended annual training days.

Together with facilities developed earlier this expansion provided a total of 38 surgeries for student use throughout the year: 22 in general practices across six locations and 16 in PCTDSs across five locations.

Management structure

The management structure devised for the programme followed the Sheffield norm with the addition of a high level Steering Group having representation from the SHA, the PCT, outreach location managers, the Dean, school administrator and outreach team (Fig. 4). This steering group ensured key stakeholders' contributions were coordinated. It will be dissolved as the programme reaches maturity.

At an operational level, clinical managers' meetings bring together senior staff from each location and the School's outreach team three times a year to review recent reports of activity and forward plan.

To ensure the student perspectives contribute to programme development, reports of systematically gathered student feedback (see quality assurance below) are considered alongside students' narratives by a Working Party of academic managers,

The programme's aims will be achieved across three placements by means of clinical practice; tutorials and preparatory lectures; a practice environment and visits into the community. Students are encouraged to make links between their experiences on the programme and their lectures on dental public health and primary dental care, and with other parts of their course.

Each placement on the outreach programme is unlikely to provide opportunities for students to achieve all the objectives. However, the three placements taken together should allow them to achieve all objectives.

The four objectives marked † apply to undergraduate students only.

Professional responsibility

Aim: To encourage students to appreciate the ethical responsibility of dental professionals for the oral health of the whole community.

Objectives: In particular students should have:

- An awareness of the changing needs and expectations of the community
- An awareness of the dental profession's wider role eg in health promotion, emergency services and domiciliary care
- An awareness of links with other services within and without health services
- An awareness of the overriding responsibility to protect and promote general health.

Public health dentistry

Aim: To increase student understanding of the principles and particularly the practice of public health dentistry.

Objectives: In particular students should have:

- Understood the difference between need and demand †
- Understood the principles and uses of dental epidemiology †
- Understood the principles and uses of oral health promotion as applied in primary care
- Recognised the different ways dental services can be set up to meet community needs and appreciated the strengths and weaknesses of the different approaches
- An awareness of the relative influence of the environment (physical, economic and social) on the oral health of the community and on the prognosis of dental care.

Practice environment

Aim: To encourage students to appreciate the responsibilities and requirements of the practice environment.

Objectives: Specifically students should have:

- Gained an appreciation of the organisation of the clinical environment, including health and safety aspects
- Appreciated the needs for time management and setting priorities with regard to the planning of patient care
- Appreciated the role of clinical governance and its application in the practice environment
- Appreciated the importance of teamwork within the expanded dental team.

Further development of clinical skills

Aim: To consolidate awareness and develop skills in the provision of comprehensive dental care for a range of patient groups.

Objectives: In particular students should have:

- Developed the skills of patient management, including communication skills
- Developed the skills of diagnosis and treatment planning †
- Experienced and gained skills in team dentistry
- Experienced and gained skills in referral of prescribed dental treatment between team members †
- Developed skills in the use of preventive dentistry techniques
- Further developed the skills of clinical operative dentistry in a primary dental care environment.

Fig. 1 Aims of the programme

From the SHA	Senior manager (Chair)
From the local PCTs	Dental public health consultants
	Clinical director
	Finance officer
From the Dental School	Academics
	Clinicians
	Outreach administrator

Fig. 2 Membership of the panel scrutinising bids to develop training facilities

the outreach team and representatives of students and outreach managers.

Recurrent financing

The recurrent funding model assumes that the PCT will continue to fund the contracted dental activity and that the University Dental Hospital would fund

the additional costs resulting from hosting three or four students.

The initial model for hosting students was developed in 2005 by an SHA/PCT/School collaboration. That model assumes a PCTDS hosts three students 'piggy-backed' onto an existing financially viable service where one unit (surgery, dentist and nurse)

stop their usual work (Fig. 5). With three training surgeries added, an extra three nurses are required to host four students under the supervision of the displaced dentist. The salaries of the three nurses, additional administration and liaison with the School together account for about 70% of the additional costs. Those costs totalled £28,760 pa per surgery if operating five days a week or £23,000 pa if four days. A modification of the model for GDP settings found broadly similar overall costs of about £26,000 pa per surgery at 2009 prices (Fig. 6).

Based on experience, the models assume the combined activity of the 3 or 4 students is roughly equivalent to the dentist who stopped clinical working to supervise them.^{3,5,17} Unit of Dental Activity (UDA) data for the four general practices hosting four students during 2008 show students, including H&T students, typically achieved a mean of 15 UDAs per half day session (annualised range 11–15 per session). This matches the 15 UDAs per session suggested as normal for an ex-PDS contract dentist by senior PCT staff and a dental corporation's senior executive. It is financially reassuring that the students' activity matches that of a normal dentist allowing the contracted UDA load to be substantially achieved. However, PCT staff generally reassured prospective GDP hosts that an understanding approach would be taken if there were modest shortfalls in the contract delivery.

The annual revenue to reimburse the hosts' additional costs totals about £1,000,000 pa. This is funded in the ratio of the BDS and H&T students' use of surgeries, with approximately £800,000 pa channelled from dental SIFT and £200,000 pa from H&T funding. An additional £22,000 pa from SIFT covers undergraduates' travel allowances and about £8,000 pa funds training, reprographics, meeting costs, etc. These costs total £1,030,000 pa. The proportion of annual SIFT per undergraduate allocated to the outreach programme is somewhat less than the proportion of the year each student attends outreach.

Administration

An operation spanning almost 20 organisations demands careful administration. Students' details and interests are gathered to inform allocations to placements. Students'

The building and fitting out of surgeries are costed with quotations and estimates
The existing practice/service has a record of meeting health and safety and other quality standards
The development is in a location with the ability to address issues of inequalities and need
The service/practice has demonstrated commitment to the NHS
The service/practice has a record of providing a high standard of NHS care
There is evidence of educational potential
The addition of student facilities will not unbalance existing services
Value for money based on the cost per surgery.

Fig. 3 Selection criteria for bids to develop training facilities

Fig. 4 The programme's management structure

Pay costs:	Staff Description	WTE	Gross Cost (£)
	Senior Dental Officer	0.1	6,794
	Dental Whitley supplement	3.0	5,340
	Dental Nurse	2.0	42,404
	Senior Nurse/Manager	0.1	2,566
	Secretarial	0.2	3,624
	Total		£60,728 pa

Explanatory notes

WTE, whole time equivalent

2005/2006 costs and prices

Senior Dental Officer manages the programme in one session per week

Dental Officer's Whitley supplements (a) 3 required for absence cover and (b) only part of week spent teaching to maintain own clinical skills

Dental Nurse – two additional nurses needed to join existing nurse.

Senior Dental Nurse/Operational Manager for liaison and timetabling.

Non-Pay Costs:	Description	Cost (£)
	Dental equipment	2,800
	Estate costs	13,230
	Other direct non pay	5,400
	Corporate overheads	4,118
	Total	£25,548 pa

Explanatory notes

Dental Equipment costs are annual replacement cost.

Estate costs – costs such as utilities, rent, building maintenance etc. are included. Costed as if part of a LIFT scheme (NHS LIFT is a vehicle for external capital funding of a project for which a recurrent payment is made over a fixed period).

Other direct non-pay includes equipment repairs/maintenance, non-pay staff costs, gloves, etc.

Corporate overheads represent a 5% contribution.

Assumes the 4 students' work in the 3 surgeries is equivalent in volume to that otherwise completed by the supervising dentist.

Total Costs:

For a 3 surgery, 4 student unit	£86,276 pa
Per surgery	£28,760 pa

Fig. 5 A financial model for outreach in community services

profiles of outreach experience together with a summary report are communicated to the School at the end of each semester.

Quality assurance

Wide-ranging robust quality assurance systems were designed into the programme from the start and are considered essential for programmes involving external partners, students and geographic dispersal.^{2,18} The rigorously evaluated pilot demonstrated outreach's education viability and benefit. Subsequently, the steering group and selection procedure (above) ensured the suitability of the placements. Placement staff were prepared for their first students by instruction in the School's curriculum and assessment practices and in discussions with experienced hosts. The management arrangements (Fig. 4) formalise operational and strategic control.

Students are prepared for their placements by lectures (Fig. 7), a handbook setting out objectives and expectations and meetings in the School with their future hosts. On starting, induction to the workplace aids transition to their new environment and, a week later, an administrator checks all is well. Email and telephone support channels are regularly used.

Annual reviews of all outreach locations are conducted by a team consisting both outreach and School staff.

On completion of each placement students provide questionnaire and focus group feedback on their experiences and the extent to which the programme's objectives were met. Reports from these inform the Working Party and clinical managers' meetings' overview of the programme. Statements of student perception in this paper are also drawn from these sources.

THE OUTREACH CURRICULUM

Towards the end of their fourth year and into their final year all undergraduates attend three placements totalling 20 weeks of outreach working for four or five days a week (Fig. 8). The first two of these placements are an introduction to primary care. Towards the end of their course H&T students spend two days a week for 22 weeks across two or three contrasting locations. They work alongside final year undergraduates making the latter's third placement an introduction to extended teamworking. All students experience both general

Pay costs		£	£
3	Dental nurses salary ²	17,000	51,000
0.2	Coordinator salary	19,000	2,850
0.1	Leading dentist salary	85,000	8,500
	Subtotal of salary costs		62,350
	Employee-related 'on costs' at 20%		12,470
	Pay costs subtotal £		74,820
Non-pay costs ³		Per surgery	For four surgeries
	Equipment maintenance (portable and fixed)	3,525	14,100
	Building maintenance	625	2,500
	Utilities	2,415	9,660
	IT services, Uniforms, Insurance, licenses and sundry items	493	1,970
	Subtotal of direct non-pay costs		28,230
	Administration 'on costs' at 10%		2,823
	Non-pay costs subtotal £		31,053
Total annual cost for a 4 surgery facility ⁴			£ ⁵ 105,873

Notes:

- 1 Additional to the cost of running the original surgery.
- 2 Only 3 nurses despite 4 surgeries because 1 nurse was already working before the introduction of outreach. This salary is for 4 days working each week for those 3 nurses.
- 3 Includes the costs for 3 surgeries and the additional 'wear and tear' from student use in the original surgery.
- 4 Two of the general practices have 3 not 4 training surgeries. The adjustment for 3 surgeries requires the deduction of one nurse and a quarter of the non-pay costs giving a total annual cost for a 3 surgery facility of £77,710.
- 5 2008/2009 costs and prices.

Fig. 6 A financial model for outreach in general practice

Introduction to the Outreach Programme: aims, objectives, organisation and suggestions for effective placement learning
 Epidemiology Methods
 Health Promotion
 The Structure of NHS Dental Services
 Project Work on Outreach: the outreach community project, the audit project and the teamworking project
 Meet your Hosts: expectations and responsibilities, transition to primary care, dealing with difficulties and local arrangements

Fig. 7 Preparatory lectures for students

Fig. 8 The Outreach Programme Timetable

practice and salaried service settings while providing supervised comprehensive care for patients. They enjoy tailored learning experiences while working full days

with individual nursing assistance in their own surgeries. In each location a dentist supervises three or four students working to local protocols.

Table 1 Outreach clinical experience of dental undergraduates

	Minimum	1st Quartile	Mean	3rd Quartile	Maximum
RESTORATIVE DENTISTRY (ADULTS)					
New patient assessment & treatment planning	14	48	75	98	207
Restorative review	1	21	62	91	180
Amalgams	30	60	74	88	170
Composites	21	46	59	68	127
Glass ionomers	9	20	33	44	74
Single rooted endodontics	0	3	7	9	22
Multi rooted endodontics	0	2	6	8	21
Inlays/onlays	0	0	0	0	3
Crowns	0	3	5	7	13
Veneers	0	0	0	1	3
Bridges	0	0	1	1	3
Complete dentures	0	1	4	5	8
Acrylic partial dentures	0	4	8	10	15
Co/Cr partial dentures	0	0	1	1	3
Other prosthetics – reline/addition/repair	0	2	6	8	31
Periodontal review	0	1	4	6	14
Scaling and polishing	32	51	74	93	198
Root surface debridement	0	5	11	14	34
ORAL SURGERY/MEDICINE (ADULTS)					
Simple forceps extractions	27	45	67	84	109
Minor oral surgery procedures	0	0	1	2	5
Cases assisted	0	0	1	0	7
Cases observed	0	0	0	1	3
ASSESSMENT & CASUALTY (ADULTS)					
Emergency patient assessments	0	21	40	54	109
Emergency patients treated	0	16	34	48	102
SEDATION (ADULTS OR CHILDREN)					
IV Sedation administered	0	0	0	0	2
IV Patients treated	0	0	0	0	1
IV Patients observed	0	0	0	0	4
IS (RA) patients treated	0	0	0	0	3
IS (RA) patients observed	0	0	0	0	4
IS (RA) sedation administered	0	0	0	0	3
RADIOLOGY (ADULTS OR CHILDREN)					
Extra oral radiographs taken	0	1	2	6	10

Continues on page 518

Notes: Data from all 61 BDS students, 183 placements for the year to mid-February 2009. These are total counts of procedures 'per student' after three placements (6, 6 and 8 weeks). Student self-declarations confirmed by an outreach supervisor. Students are instructed to only include completed work. There may be a tendency for some students to consider some familiar procedures no longer worth reporting resulting in unexpected zeros in the minimum column. The settings attended were 6 general practices, 2 community services and an access centre.

Table 1 Outreach clinical experience of dental undergraduates

Continued from page 517

	Minimum	1st Quartile	Mean	3rd Quartile	Maximum
Intra oral radiographs taken	30	99	136	167	249
CHILD DENTAL HEALTH					
Orthodontic Assessment	0	0	1	2	8
Removable appliance adjust/fit	0	0	3	3	51
Fixed appliance adjust/fit	0	0	6	6	50
Paediatric assessment	11	30	41	52	85
Fissure sealant	3	14	26	34	96
OHI/diet advice	0	7	21	28	125
Topical fluoride application	0	3	7	10	32
Amalgam	0	4	9	14	27
Composite	0	4	7	9	22
Glass ionomer restoration	1	7	13	17	37
Stainless steel crown	0	0	0	0	3
Pulp therapy – primary tooth	0	0	1	2	6
Endo treatment – permanent tooth	0	0	1	2	7
Trauma management	0	0	1	1	4
Extractions	0	3	7	9	23
REFERRALS (ADULTS OR CHILDREN)					
Patient referrals to DCPs (inc. H&T students)	5	8	18	23	73
Referral to consultant or specialist	0	3	5	7	17
Miscellaneous					
Number of appointments/treatment episodes	284	422	461	507	616

Notes: Data from all 61 BDS students, 183 placements for the year to mid-February 2009. These are total counts of procedures 'per student' after three placements (6, 6 and 8 weeks). Student self-declarations confirmed by an outreach supervisor. Students are instructed to only include completed work. There may be a tendency for some students to consider some familiar procedures no longer worth reporting resulting in unexpected zeros in the minimum column. The settings attended were 6 general practices, 2 community services and an access centre.

Clinical experience

Table 1 summarises undergraduates' clinical experience across the programme. Compared to UK dental schools' expectations^{19,20} (eg typically for about 70 plastic restorations) this experience is broad and extensive, though mainly in the more commonplace procedures. Individual students' experiences depend on their competence, pre-outreach experience and combination of placements, though attending three placements reduces overall variation from this last factor. Differences between typical experiences in the general practice and salaried settings taken as a whole are relatively small (<30%) except for plastic restorations which are 60% more common in general practice. Totals for H&T

students' (Table 2) are smaller reflecting their shorter time at placements.

Providing care in a genuine working environment provides valuable opportunities for learning beyond improving skills and widening experience. Three pieces of student project work were introduced to make greater use these opportunities and develop insights into the realities of both service and patients' lives. All operate successfully and, together with outreach staff assessments of students' skills, contribute to final examination marks.

Project work

BDS students complete one project in each placement. Firstly, students link community-level indicators of health to

case studies selected from their patients. Emphasis is placed on the social aspects of the patients' histories and how these affect treatment planning. This project is based on a Liverpool model with the addition of a reflective component, and has proved effective in developing appreciation of the relevance of social circumstances to treatment planning.^{8,12} Students have commented on the lasting effect of the insights gained from this project on their subsequent treatment planning.

The audit project completed on second placement sees students selecting an aspect of service, searching for appropriate standards, designing, conducting and reporting the audit then suggesting any action that

Table 2 Outreach clinical experience of dental hygiene and therapy students

	Minimum	1st Quartile	Mean	3rd Quartile	Maximum
ADULTS RESTORATIVE DENTISTRY					
White restorations	11	32	42	50	76
Amalgam restorations	15	33	43	56	94
Preventative Resin	0	3	7	9	35
Temporary dressings	0	1	4	5	11
Fissure sealant	0	4	7	10	21
ADULT PERIODONTAL DENTISTRY					
Review/Indices	3	9	22	31	80
Oral Health Instruction (OHI)	13	31	53	69	123
Scale and Polish	42	66	80	93	129
Root Surface Debridement	2	11	17	20	49
Locally Applied Antimicrobials	0	0	1	1	6
Desensitising	0	4	8	11	32
OTHER ADULT PROCEDURES					
Infiltration	14	39	51	63	77
ID Block	15	21	26	31	49
Alginate	0	2	3	4	15
Radiographs	4	15	21	25	52
Temporary replacement of crowns	0	5	11	17	33
TREATMENT FOR CHILDREN					
Fissure Sealant	6	14	31	46	81
Simple restoration	7	18	24	29	54
Complex restoration (eg steel crown)	0	0	0	0	1
Preventive treatment (eg Duraphat)	1	5	12	18	52
LA Deciduous Tooth Extractions	0	1	2	4	6
GA Deciduous Tooth Extractions	0	0	0	0	0
Pulpotomies	0	0	1	1	3
LA given	2	8	11	15	21

Notes: Data from all 28 H&T students, 56 placements for mid-August 2008 to mid-February 2009. These are total counts of procedures 'per student' after 20 weeks working two days/week across 2 or 3 locations. Student self-declarations are confirmed by School tutors. The settings attended were 6 general practices, 2 community services and an access centre.

might be taken. Such a practical approach is restricted to a few narrow projects in the dental hospital. Students value learning a skill they consider important for their working futures.

By the start of their third placement most undergraduates have completed 100 restorations and are encouraged to concentrate on more advanced work and treatment planning while developing their team leadership skills.²¹ Under supervision, undergraduates assess patients and refer

appropriate work to H&T students. The project work has dental students identifying the permitted duties of a therapist and the experience and competence of their placement's therapy student. Next the BDS student plans, refers and supports appropriate developmental experiences for the therapy student while they are on placement together before reviewing the therapist's skill development at the end of the placement. Undergraduates also investigate and report the continuing professional

development arrangements of their dental nurse. Finally, students reflect on their team leadership role based on these experiences and the therapy student concerned also provides feedback to the undergraduate. This project is valued for the understanding it develops of other team members' roles and needs.

Markers and outreach supervisors observe clear evidence of learning across these established and discriminating practice-based projects.

Wider learning

Students regularly report unplanned opportunistic learning in other areas, for example, on the practicalities of running a practice, links with other services and the history and politics of delivering dental services. Lunchtime discussions with placement staff explore perspectives on dental issues and career trajectories. Perhaps most pleasingly, students report that the placements, though initially nerve wracking, renew their interest in dentistry and convince them that, despite having much still to learn, they will cope on qualification. Many delight in being accepted into the dental team and attribute acceptance in part both to having demonstrated their competence and to block attendance.

CONCLUSION

An outreach programme dispersed into pre-existing primary care establishments, including general practices, is feasible though its development and operation require careful management. Close partnerships with PCTs, SHAs and practitioners are needed from the planning onwards. Supervising just three or four students while having educational benefits has been supposed to make dispersed outreach more expensive than other options but this has not proved to be the case here.²²

The placements provide ample and varied opportunities for clinical experience and learning across a broad front. Structuring learning via projects guides students' observations and is well suited to situated learning. The teamwork project in particular is innovative in developing undergraduates' teamworking and leadership *in situ*. Outside the surgery, students social acceptance into dental teams encourage additional learning and develops professional self-identity ie 'learning to be a dentist'.^{5,23}

This outreach programme differs from those recently developed at Cardiff and Leeds which use larger purpose-built units with a staffing ratio around 8:1 and which may not share the same ethos of primary care.^{24,25} Those programmes and Newcastle's and Manchester's students are hosted in PCT community services and students attend for one or two sessions weekly or fortnightly.^{7,26} In contrast the Sheffield programme involves block attendance in smaller units 'piggybacked' onto existing services, half of which are general practices to give greater breadth of experience. This dispersed model of outreach is commended to other schools as an efficient and effective means of providing experience in delivering primary care. The School, students and hosts are convinced this programme trains a workforce better prepared to join the profession.

The recurrent funding models were developed from an earlier Liverpool version. The developers were David Brown, Senior Finance Manager of South Yorkshire Strategic Health Authority, and Peter Bateman of the Sheffield PCT. The School acknowledges the contributions of the managers and principals of the hosts in developing the programme, especially those from Derbyshire, Doncaster, East Riding of Yorkshire, Sheffield and Rotherham PCTs, High Green, Lidster and Middleton, Genesis Lynton House, The Mount, Tiptonville House and Thompson and Thomas dental practices. Staff of Birmingham, Cardiff, Manchester, Newcastle and Liverpool dental schools shared their outreach experiences to inform Sheffield's planning.

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