The meeting concluded with the thought that the WHO might provide a forum for further discussions leading to improved training in genetics at all levels.

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Training course for senior registrars in clinical genetics, Brindle Lodge, NWRHA, 1 to 5 September 1986

One of the advantages of a small specialty is that it is possible to know all the trainees personally and when we ask for their help in identifying deficiencies in training we get it promptly! Recently there was a unanimous request from trainees for information on 'Organising Genetic Services' (in preparation for their apotheosis to consultant status) and for 'Basic Genetics' (from trainees lacking a degree in genetics). There was also felt to be a need for trainees in clinical genetics to meet their counterparts in cytogenetics. A training course was planned with the help of the North Western Regional Health Authority (NWRHA), who generously made available a Regency mansion set in the Lancastrian countryside where a unique, but potentially immiscible, collection of talents was assembled. These included a National Health Service (NHS) regional general manager, a treasurer, several experts on clinical trials and health service economics, academics, clinical geneticists and cytogeneticists, and genetic and cytogenetic trainees. The outcome was indeed catalytic with considerable improvement in mutual understanding of the problems of the Health Service.

The clinical and cytogenetic trainees found each other to be agreeable companions and contact with general managers to be 'a revelation' and 'a sobering insight'. One trainee even awarded 'five stars for NHS management' (a reference to the training session on NHS management). Equally interesting was the feedback from the tutors about the trainees. The Health Service managers expressed pleasure at the interest shown and one said that he thought that geneticists were the nicest bunch of clinicians he had met!

All talks were informal with frequent interjections and extended discussion. Every speaker was allocated a trainee as 'rapporteur' who took notes, led the discussion if necessary, and clarified points with the speaker afterwards. To the surprise of one organiser, the term 'rapporteur' was unfamiliar and threatening to trainees (one even described it as "wretched") but, allowing for some initial semantic confusion, it produced a fascinating permanent record of the meeting (available from RH while stocks last) and avoided passive participation. This was reinforced by four 'set piece' presentations of high quality: genetic services, screening for Down's syndrome by low maternal serum AFP, Huntington's disease and the G8 probe, and finally prenatal diagnosis and future screening for cystic fibrosis. Several lectures and discussions were devoted to the clinical applications of gene probes and of microcomputers. There were four microcomputers available throughout the course allowing instruction and 'hands on' experience of a dysmorphology data base, risk, linkage, and data management programmes.

The day devoted to the aims and philosophy of NHS general management was particularly lively, matched only by the previous day's sometimes heated discussion of the complementary roles of clinical geneticists and cytogeneticists. There was much scepticism from trainees about experimental economic tools apparently already being used to make decisions on the relative merits of different clinical procedures and hence the allocation of resources. These methods included 'Quality Adjusted Life Years' (QALYs) and 'Decision Trees', neither of which appeared in their present forms to be able to accommodate genetic procedures and non-directive genetic counselling. Indeed, the existence of the latter was a surprise to the economists and it was good to have registered a palpable hit with the treasurers who, impressed by the obvious value of rapidly evolving services based on the 'New Genetics', were appalled to learn how tenuous and 'soft' its funding was. However, faced with a treasurer's dilemma of reconciling 8 million pounds worth of bids for regional developments with only 3 million in the kitty, it was clear that clinicians and scientists who can demonstrate objectively the effectiveness (and efficiency, even when discounted!) of their work will do their patients a considerable service. Most of us went away determined to think very hard about ways of proving the worth of genetics using our new armamentarium of economic jargon, although we were told that colourful brochures couched in lay terms may have the greatest impact on manager's struggling to understand the claims of competing professionals.

The present state of clinical genetics and

cytogenetics in the NHS was reviewed with emphasis on audit. Dr Pat Cooke described the organisation of cytogenetic services and the ACC/DHSS Quality Assessment Scheme, which is a positive contribution to the evaluation of genetics. Of great current interest was the evaluation by Gwyn Bevan and the St Thomas's Hospital team of the Department of Health funded DNA Special Development Grant to three clinical genetics centres. The present training and consultant manpower prospect in clinical genetics were reviewed. There are currently 11 senior registrars in approved posts in Britain. Of the 13 people who have been accredited in clinical genetics following formal enrolment, nine now have become NHS consultants, one is a senior lecturer, one works in research, one is still a senior registrar, and one, for personal reasons, has left genetics. There are a further 18 people who have been accredited, generally after having become consultants and for reasons best known to themselves. There are only seven NHS funded senior registrar posts in Britain, but the Joint Planning Advisory Committee (JPAC) is now considering a bid for an increase to 20 such posts and a total of approximately 70 consultant posts.

This is timely given the present state of genetic education among doctors generally and it is worrying that a recent Royal College of Physicians survey (unpublished) found very little improvement since the General Medical Council survey 10 years ago. According to their Deans, two medical schools have no separately identifiable preclinical and 13 no clinical teaching.

At the end of the Brindle Lodge course it was interesting to obtain the views of the senior registrars by confidential questionnaire. Gratifyingly, virtually all now felt that there was easy availability of information on training requirements—full marks to the JCHMT Secretariat. Again, nearly all were happy with access to advice generally from the Training Sub-Committee on Clinical Genetics or their own consultants. There was a certain vagueness in their views on effectiveness of supervision of their posts for quality of training facilities. Six were satisfied, but two felt that more careful scrutiny was needed (unfortunately we do not know which posts these are, but would be glad to help). Five trainees made no comment—hopefully this is because they are satisfied: more likely they had no idea beforehand that the post was actually supervised. Nobody objected to the principle of accreditation, and nine of 13 either approved or thought the requirements were reasonable. This is partly because it is a small specialty, but it is also because the trainees genuinely feel that what is required in training is appropriate, although it may not always be available. This comes

through very clearly in the views expressed on basic genetics. Seven out of 13 felt that this aspect of training was difficult to organise or was unsatisfactory. Only five felt it was satisfactory, while one felt that basic genetics was not necessary! The need for more training in basic genetics, computers, Bayes' theorem and linkage, the introduction of DNA services, and general management all figured in the requests made by trainees for future courses. The trainees were also very concerned that there should be arrangements for exchange of posts to broaden their experience, because they felt that their units did not offer the full range of clinical and laboratory genetics. Several also wondered whether it would be possible to formalise (that is, fund) trips abroad.

The trainees appreciated the opportunity at Brindle Lodge to meet one another and wanted this to be a regular feature. It was heartening to experience the cordiality of contacts with the cytogeneticists and a future training course might provide further opportunity for interdisciplinary contact, including the growing band of molecular geneticists. The Training Sub-Committee will be thinking very hard about all of these points and second course is being planned in Cardiff, which we hope will establish continuity.

The trainees in clinical genetics and cytogenetics manifested an enthusiasm for genetic services which transcended special pleading and communicated very clearly to receptive managers their confidence in the vast potential of genetics for helping thousands of families. The course showed that clinicians, scientists, and managers are all capable of high ideals which, with a little encouragement, will persist even when the euphoria fades.

The organisers and participants are very grateful to Sir John Page, Chairman of the NWRHA, Mr Jack Howarth, Training Officer, and the staff at Brindle Lodge for hospitality and help with the organisation.

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Tutors on the Course: Gwyn Bevan, St Thomas's Hospital, Pat Cooke, TGG, Cytogeneticist, Nottingham; Adrian Grant, Paediatric Epidemiology Research Unit, Oxford; Gordon Greenshields, RGM NWRHA; Claire Gudex, York; Ian Lister-Cheese, DHSS; Andrew Read, Department of Medical Genetics, Manchester; Tim Scott, NWRHA; Lauren Kerzen-Storarr, Department of Medical Genetics, Manchester.

Trainees (clinical geneticists and cytogeneticists): Carole Booker, Anne Child, David Craufurd, Jane Fennell, Val Davison, Lauraine Gaunt, Shirley Hodgson, Mary Honeyman, Susan Huson, Kay MacDermott, Carol McKeown, Victoria Murday, John Nelson, Chris Olcy, Mike Patton, Oliver Quarrell, Elizabeth Thompson, John Tolmie.
 Course organised by Rodney Harris and Robin Winter.