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Three generations of children – an edited transcript of a video recording made in March 1982 of the then directors of the three major British cohort studies in conversation

Prepared by
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This film is a piece of social history in two senses. First, it is a record of three British national birth cohort studies – that is to say three studies of all babies born over a period of a week in all parts of England, Wales and Scotland. Each study has continued to follow its babies throughout childhood and adolescence and all these sets of babies have already been followed into adult life. But it is also social history in another sense. The first of these studies began in 1946 (2 years before the National Health Service), the second began in 1958 and the third in 1970. They span 24 years of British history, during which time major changes in social welfare, education and medical care have taken place.

The following discussion is a transcript of an edited video recording made on 29 March 1982 at the University of Bristol. The three cohort study directors talk about their experiences and are interviewed by Professor Michael Healy and Professor Jim Tanner. We are grateful to Professor Michael Wadsworth and Professor Harvey Goldstein for organising the filming and editing the videotape. This transcript has been produced to honour Professor Neville Butler, the sole surviving cohort study director, on the occasion of his 78th birthday, 6 July 1998, at a celebration of his life and work held at the Royal Society of Arts, London.

James, what was the origin of the 1946 cohort study, why was it started in the first place?

James Douglas
I was rather attracted by a short-term project that we had to complete in 2 years. We got support from a number of organisations, including the Royal College of Obstetricians. We also had the support of the National Birthday Trust Fund and the Eugenic Society, but the original study was quite definitely limited: we had to spend not more than 2 years on it. It became longitudinal first of all because it was successful. I personally, and I think the other people on the Committee, didn't

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expect that we would get the response that we did from throughout the country. We had a very good national sample from all parts of Great Britain and it seemed that by continuing for a mere 4 or 5 years – and we didn't think of more than that – we might be able to answer some questions, such as the relation of ill-health in the different social classes to the mortality levels, which differed greatly between those classes: so it started off really as looking at inequalities in health.

Neville, what was the reason for the second study, which must have begun planning about the time the children of the first study were around 9 or 10?

Neville Butler
No perhaps a little earlier than that. I think the idea of sampling for 1 week was James's, and that went back to the first study. The evolution of the second study was quite different and we were then worried about the state of affairs of obstetrics and why babies were dying and in particular why the stillbirth rate wasn't falling. At about 1956 we decided to have a study 2 years later. We piloted it and we decided to concentrate on really two things: perinatal deaths, so that we have actually carried on the death sample for a much longer period than the births; and we wanted to know about antenatal care and the large number of obstetric abnormalities and how the baby was getting on. So really the origins were different.

Mia, from what Neville has said it sounds as though the second study also was primarily started as a once-off survey but it was resurrected in 1964. How did that come about?

Mia Kellmer Pringle
I believe that for quite some time – some 3 or 4 years if not more – Neville had tried, and other people had thought that it would be a good idea, knowing the rich material coming from James's study, to have another longitudinal study. The difficulty was funds, and eventually Neville came to see me. Certainly, I was extremely interested. I wanted it to be a multidisciplinary study – not only medical but to bring in the educational side, the social side, and also to link it with having special studies of children who had particular needs, but, in the first instance, the question was how to find funds and in fact James introduced us to Plowden. The Plowden Committee was then sitting and agreed, with funding from the Department of Education and Science, to fund a follow-up.

Neville, subsequently there was a third study. What was the origin of that?

Neville Butler
It changed focus really to the baby in the first week of life at that time. We were still interested very much in obstetrics, and the Birthday Trust thought that again the figures were pretty static for low birthweight: there had been no change for 10 years in low birthweight. We were worried about the time babies were beginning to have their first feed and there were all sorts of problems of induction

– in fact induction was quite high, over 20% at that time – and we knew little about what happened in the 10 years or 12 years since the last study.

Could you tell us some more about the sources of funds and the effect that these different ways of funding had on the studies themselves.

James Douglas
Our study, for the first 16 years, had a hand-to-mouth existence, getting funds where we could find them. We got money from the Nuffield Foundation, moneys from the regional hospitals and the independent hospitals, from the Ford Foundation, from 11 or 12 different sources. This had a stimulating effect in that we felt we had to write papers and books to use as a bait for more money but it also meant that we could never do things with a certainty that we had a future. This was difficult for the staff and made planning very haphazard. From 1962 onwards, however, we got secure finance because the Medical Research Council set up a unit whose main aim was to foster the 1946 study and from then on our problems, our financial problems, vanished.

Mia Kellmer Pringle
I'd explain our experience as being similar to the first half of what James experienced and sadly it has gone on being hand-to-mouth existence. We've now had follow-ups at 7, at 11, at 16 and now 22, and at each major follow-up we've had a different sponsor and it is interesting to compare, but we haven't time to go into it, how many different sponsors we had, but for the major sweeps the sponsors have been either government departments or one research council – the Social Science Research Council. And for the latest studies, handicapped children, gifted children, adopted children, we have had money from trusts and the style of funding is really very different when you compare trusts and government departments or research councils. In our experience, trusts don't want to get involved: once they decide that what you want to do they're willing to back, then as long as you give them annual reports and then a final report that's fine, and the quality of your final report shall determine whether you ever get any money again. Whereas government departments and in our experience the Research Council, want to be actively involved in what you actually do. Now if you have a multidisciplinary study and your team is multidisciplinary you already have difficulties in deciding what to put in. In addition, with government departments they want to have either advisory committees, but these days in fact post-Rothschild, they want steering committees, which means they want to have quite a major voice in what you actually do.

Neville Butler
Now what worries me so much is the short-term tenure we have to offer our staff. It was slightly better working in a university department because there

always used to be a little slack that one could call on for facilities. There isn't even that now.

These are very large studies – they cost a great deal of money and indeed some people maintain they cost more money than is apparent because some of your surveys are not properly costed and I've heard many criticisms, as I'm sure you have, that the results don't take advantage of the longitudinal structure. Why do we have these very large-scale and expensive studies? Is there a way in which we can reach the same conclusions without such expenditure? Perhaps you could all say something on this.

James Douglas
Well they try to answer questions that can't be answered in any other way than a longitudinal one, and anyone who's had experience of retrospective information in these sorts of studies knows that it is unsatisfactory in many areas, particularly if you're thinking of early behaviour patterns of several years back or care several years back. So, in the first instance, I think there are many important problems, which, if they're not answered, will still be plaguing the government and making it probably spend money in foolish ways and unproductive ways because the knowledge isn't there to develop the services that are required. So these questions must be answered and we feel that the longitudinal study is the only one that can do so.

Mia Kellmer Pringle
Adding to that, I think it's important to consider that although, as you say, some of the costs aren't totally visible, we are lucky in this country because our teachers, our health visitors, our doctors are willing to co-operate for free. Now you may say, yes that's money, but in fact I believe not only is it educative for them because it makes them look in greater detail with greater interest at new knowledge but also it's part of their work anyhow. They fit it into their work, so I think the expense question isn't quite so real. I also think that it's important to remember that these studies are all policy oriented and in a way, as James said, many questions – if I could give just a few examples – could not be answered in any other way. Let's take smoking. Neville has shown that smoking in pregnancy has harmful effects and this has had immense influence on policy, but in fact because of the longitudinal nature we could show that the effects persisted to the age of 7 and even longer. Similarly, say, take maladjustment. A lot of money is spent on children who are labelled 'maladjusted'. Now if you look longitudinally you'll find that a great number of children had problems during some time of their development but they don't persist, so one of the questions one wants to ask is how do you best make special provision for those who really need it rather than any child who shows difficulties. Another question is how well children do in school; for example, when they're 16 you can look at not just what they do at 16, which we know from other studies, but you can see how what happened before influences what happens later, which is very important and has been overlooked.

And that links up with another point: so often they have had studies and still have studies in this country of special groups – the handicapped, the adopted, children in foster care – and you look at special groups, but you never can compare how they do with, as it were, a comparable social sample of children who don't suffer from these difficulties. But if you are only looking at the atypical you don't really know how atypical they are. So I would have thought in terms of finance they're totally justified and there is one other final point, and this would only come true if there were more continuing finance. Longitudinal studies – if there were such studies every 12 years and the funds for it – could begin to monitor how social, economic, political change affects child rearing and children's development; that's the only way in which you could really do it.

James, these three studies have all used the same basic design studying all the children born in a single week. What do you suggest are the advantages and disadvantages of this?

James Douglas
Perhaps I should first of all explain why my study adopted that design. This was for factors which were entirely outside any theoretical ideas of what was the best sort of sample to choose. We had limited funds which would last for 2 years. We thought that we needed a week's births in order to get sufficient information about the use of the maternity services and we knew we had to spread this over the whole country and we had to choose a week early in the year so that we could use students to code the forms by the summer vacation. So it was all these outside factors which determined the use of a week. It turned out well in some ways. It was administratively easy, and also easy not only for the immediate study but also for the follow-ups because we had the problem merely of collecting data for single points in time. But it had disadvantages. Quite clearly, children born in a single week can't be regarded in all respects as a random sample of a complete year's births, and, if we're thinking of child health, they are born at a time when during the next few months the possibilities of infection are low, and they begin to walk at a time when fires are not alight and again the possibilities of accidents are low, and we know that the educational aspects of the month of birth are very considerable indeed. This has been shown a number of times. So if I were starting again I don't think I'd choose a week's births, but that was the structure that we gave and has been continued subsequently.

Neville, with these massive studies one of the big problems must have been collecting the data from children located all over the country. Who did that and what were the problems that you faced in controlling it?

Neville Butler
The follow-up data has been collected by a number of people: health visitors, of course, are the people who can get in to the houses and have a good relationship with the mothers, and we've been very fortunate indeed through the Health Visitors Association and the permission of the nurses, the big nursing organisations, and the

nurses and health visitors themselves, to use them and they've been wonderful actually in the latter two studies. Now in James's study, of course, interviewers had been used at times and this was a negotiation between James and the MRC from the point of view of how much they should be paid and that sort of thing. I think economically of course it's cheaper to use people who are in the field, provided they have a good knowledge of what they are doing – provided they can be briefed all right. Now teachers of course have been wonderful for getting the information on the children and their school progress, and latterly we've had school medical officers – they're from the clinical medical officer departments from the area and district health authorities throughout the country also joining in. It amazes me that so many people have done so much because they really feel so strongly about what can be done to help both normal and handicapped children.

Mia, with so many people gathering the information the problem of getting consistent results must have been a big one. How was that faced?

Mia Kellmer Pringle
It certainly is a problem and in some sense you can't completely, as it were, avoid the problem. We've made attempts, and I know in the other two studies they've made attempts, to train the staff, to have meetings with people in various regions; also to pilot very thoroughly the various questionnaires so that the questions are more likely to be answered in the same way, and to have good pilot studies so that you can really weed out questions and topics sometimes which just don't lend themselves to this kind of approach. We mustn't give the impression that longitudinal studies are the answer to all research questions. They certainly are not. There are certain issues, let's take drug taking or the sexual behaviour of young people, which are not suitably done in this sort of way. Now I'd like just to say, while Neville was talking about all the people who agreed and co-operated, I do think one must say a word, I feel, about the parents of the children and young people themselves. They were quite significant because of the amount of work – parental permission is sought each time – and of course as the children get older they themselves can say 'no thank you I don't wish to play', so they've been quite marvellous, as Neville says, right through the years. But I do think that James got the answer because he managed to keep in touch by letter with his subjects and on their birthdays I believe; we weren't able to do that. But I think the ideal is an annual contact so you get changes of address and so on.

James, there's been mention obviously of the big problem of keeping tabs on the children in these studies. What methods have been used and what do you think explains the really very high success rates of these cohort studies?

James Douglas
Well, may I mention the birthday cards, which I'm sure have helped us a great deal because in recent years we've taken to sending a card which tells each person

about the study, what we're doing, what we're hoping to get out and encloses a card for them to return to us if they change their addresses and to tell us things like whether they have married – the major changes in their lives. And this, on the whole, has worked extremely well.

Mia Kellmer Pringle
What we've been able to do at three stages, and I think it helped, was to negotiate with the colour supplements of national newspapers a story about the cohort findings at a particular age and, instead of having paid them, asking for sufficient copies to send to the parents and the young people themselves, and I'm sure that's been appreciated because they were fairly popularly written, broadly about the findings at a certain age, which means it tells people about themselves, it gives them 'feedback' to use the jargon, and I think that has helped.

Amongst the many problems that longitudinal studies raise, one of the most difficult I think is that of recruitment, of keeping people over this long period of time, and that, of course, involves again where the institutional base is. Some of you work in the university, some independently. James, I think you've mainly been in the university. What are the advantages and disadvantages of that location?

James Douglas
Yes, we've been within the university setting throughout the study and the main advantage has been that we, as an interdisciplinary research project, have been able to draw on the knowledge of people from a number of departments and we've found in recruiting new research workers that they can settle into a university setting where they know that they're not going to be isolated from other people and where they may see possibilities of advantage in the future. In addition, it does give opportunities for the staff to teach.

Mia, your experience is I think entirely outside the university from this point of view, an independent institution.

Mia Kellmer Pringle
Well, I think, like everything in life, it has advantages and disadvantages. I think the advantage is that if your organisation is big enough then in between follow-ups, if you haven't got a future, you can switch staff to other research work, but of course you do lose expertise; but I think, in my experience at any rate, you have to be prepared at each stage and age to recruit new people because new interests come into it at different ages. The disadvantage could be feeling isolated, but I don't think my colleagues have felt that way because you have advisory groups and you have informal contacts and so I think this hasn't been a problem. But in the early days, when our organisation was quite small because it was a new body, then you had to let staff go simply because you hadn't got enough work on the books, as it were, to keep people until you had another

sweep. With the design that we adopted, where there were very many what you call related studies or special groups, you could use expertise if you managed the timing well enough to move people from the major sweep of the whole unselected national sample onto special subgroups and so some people have moved from the whole study to a special subgroup and then possibly even back to the whole study again.

Neville, you've worked in both settings. How do they compare?

Neville Butler
I think it very much depends on the university department that you're in and I was interested that James found that he could call on other departments.

Having secured your institutional base in recruitment, you at least may deceive yourself into thinking that planning the next follow-up is at least possible. Mia what do you have to say about that? It's a key point in longitudinal studies isn't it?

Mia Kellmer Pringle
It certainly is, and I know what the ideal position would be and that is that one had enough continuity of staffing, not only to plan the next follow-up but also actually to have the time to write not only a scientific report, which you have to do obviously to have credibility, but then to exploit the material and the findings in lots of other ways: in popular articles, in lectures, in seminars, to practitioners, media, television, radio and so on. And if you only have the funds to finish at a certain date when you present your major report, then very often that has to go or it is done kind of in one's spare time and in colleagues' spare time, but while everybody is willing to work long hours it isn't an ideal way. The first difficult point in longitudinal studies is persuading people that they should continue long enough. Once we had persuaded the powers-that-be that 16 wasn't a good cut-off and that adults would be useful, then we were able to get some backing for a feasibility study for a follow-up at 23. One of the questions was whether one would get a good response now that the young people themselves were out of school and could decide. The same team was able to go on planning only just by the skin of their teeth – because once or twice it looked as if there would be no funding, but we hung on to them and they were able to plan with firstly ourselves and then with the government departments concerned, which is quite ideal: so it became the sponsoring department and ourselves moving forward to joint planning.

James Douglas
I had a very high-powered committee who, at the end of the discussion, allowed me to decide what questions were asked, what areas were to be covered. I had to give some reason why I dropped certain things they were fond of for others which I felt were more likely to be successful but it was a battle which I always won and I

think it would be very different if one had a government department to report to.

Neville Butler
I think there's a new look, from the point of view of government departments, to the extent that they're much more now, in my experience, coming and saying 'give us so and so – we want something on slow learners', and then one produces the questionnaires, which is of course a lot of the work, planning and prepiloting, and then in our experience our steering committee has been helpful and the tail has not wagged the dog at all in any way.

When each sweep is being prepared there is, of course, the period of the greatest agony that everybody goes through trying to make up their minds exactly what the contents of the sweep should be in terms of questions, measurements and so on. What has been your experience of how to handle that difficult situation?

Mia Kellmer Pringle
It certainly needs a lot of patience, a lot of tact and diplomacy. At times one has got near to real crisis. For example, there was one stage when one sponsor felt that the use of drugs among young people was absolutely crucial and that this question must be asked. We felt that it could ditch the whole study because many schools and many teachers would not wish to ask it, never mind about getting reliable replies. We tried to suggest we would pilot – we did indeed pilot, and of course the piloting one does with one's friends, and our fears were confirmed that many schools said 'it's not on, we wouldn't ask it and anyhow we doubt the value of what you'd be getting, either through teachers or through young people even'. In the final resort I suppose the responsibility must rest with the director of the study.

There is also of course the question which I think is important, and we've always had to decide ourselves, whether you collect as much as you can, that your subjects will wear, knowing full well that your funds won't stretch to examining them all, or whether you only collect what you know you have staff to analyse. Now we have always opted for collecting much more than we knew we had any chance of analysing with the money available at that time, because we hoped it would become a bigger bank that could be mined not only by ourselves but by other people, and indeed this has happened. For example, at one stage the armed forces came to us and said, 'It would be very interesting to know what are the attainments, the adjustments of the children from service families. Can you give us the answer?' Well, we haven't looked at it but we have the questions there. Another one was one-parent families where one tries to, as it were, look ahead at what might be issues now. In 1960–65 it was not as much of an issue as it is now, but we've got good information, so when we had got funds later on we were able to look at the composition of one-parent families and how children do in them.

Now this is a case, it seems to me, where you very specifically answered the criticism which is very often brought up against longitudinal studies which is that however much you try to get it right, 5 years later after you've made your sweep the one question which everybody wants to know the answer to, you didn't ask. Now on this occasion you did, but it is a problem that affects all longitudinal studies. Isn't that the case James?

James Douglas
I don't think it does, no. There are clearly many problems that one would have liked to look at, but there were usually good reasons for not touching them, for example reasons of the reliability of the information we're going to get. We certainly haven't had this sort of criticism made of us and I don't know if you have?

Mia Kellmer Pringle
No, no.

James, can I turn to something else. Sometimes, I've heard it said that not only these three studies, but longitudinal studies in general, have not profited as much as they might from collaboration from comparing, and so on, the results. Has that been your experience or is that ill-founded?

James Douglas
Well that is certainly my experience, I think the experience of all of us, and it's not that we don't feel it's important to compare these studies. I personally feel it is the most important aspect of them because it's the only way in which you can look at the effects of new services for example, and the reason I think is not hard to find. I've had, for historical reasons, a great deal of freedom in what I collect and how I deal with the data, but Mia has been under restrictions in the sort of data she gathers that we have never had, because she's been working for departments that say 'we want this, we want that, we want the other'. Now these may well be things on which there's no basis of comparison with us, yet you have to give them first priority because that's where your money comes from. I think it's this really that has destroyed, well not destroyed, but reduced the value of the sort of comparisons that we can make – we've made good comparisons on tonsillectomy, on obesity that are very interesting, and a variety of others.

Mia Kellmer Pringle
And it is also a question of resources. I mean, I don't know who would be willing, at one stage it looked as if there might be some funding for bringing these three studies more together and really be as systematic as we could be in comparisons, but these attempts ran into the ground, so it means staff who really have other jobs to do, squeeze it in somehow, and we have done some comparisons. But there haven't been, again it comes down to – we seem to be harping on it, but it really is very central – time and resources and they're the same thing manpower.

Well I know you've all three had considerable experience with the use of computers and coping with and analysing the data from these studies. James, you started in fact before the days of computers but you've also moved on to computers in due course.

James Douglas
Yes, we've moved on to computers but before when we used punch cards and Hollerith machines entirely there was really no terribly great difficulty in analysing data providing that we weren't looking at it longitudinally. It was a quick method, I always felt possibly one of the best methods for looking at the immediate results of a study. But in fact it wasn't until our sample members were about 20–25 years old that we turned entirely to computers and that was a most painful change because we designed things for Hollerith cards and that was working extremely well and we had to redesign the whole, 3 million I think, cards that we had in order to produce computer tapes that would give us the longitudinal picture that we wanted. It took several years to do this but of course now we've got them we're delighted with it, you can do so much with computers so quickly.

Neville Butler
With regard to getting material onto the computer, of course, things are very different now. Mark sensing has made a big difference. I think the millennium is arriving when we will be able to key in, get our results out very quickly and then I think we'll see a new look.

I think this is very important because I think all three studies have suffered very badly in the past from attempts to get their computing done on the cheap, to cut a corner financially by doing it as a favour on a university machine which was not really under their proper control. One must have the right to do the necessary amount of computing to analyse the data which have been so expensively collected and I think indeed the same is true to some extent for a subject very dear to me, which is for statistical processing of the data. This again I think is very largely under-rated by people, they think of drawing up tables and getting them printed and that is that. That in itself is no small task as I'm sure you'll agree Mia, you've had experience of this.

Mia Kellmer Pringle
It's a major task, yes sure, but I do think it's a mistake in economy, and again we come to resources, to buy a little bit of statistical know-how into the study, as it were, from outside. Now I think the studies have aroused interest and I think they've all been fortunate in getting good statistical advice, but I don't think that can take the place of an in-house, in-study statistician who is part of your team right from the beginning – not when you're beginning to produce tables or when you've got your questionnaires ready earlier to say, 'is that all right?' because by that time he'll say to you, and he should say to you, 'well, you know, I wouldn't

start from here, you should have set about it in a different way' and I'm quite sure, as you say, it's been undervalued and I think to have a senior statistician as part of your team from the word go, not when you get to looking at your data, I think would make a lot of difference to the sophistication, the quality, the finesse of what you can do with your data.

All these three studies, as I understand it, were started with a very clear idea that they would have an effect, or the results would have an effect, on social policy and were designed with that in mind partly and also with the idea of influencing academics, the professional media, and indeed the world media dealt with questions of education and so on. James, as the person who was in charge of the first of the studies to begin with, did it take a long time for the studies, the effect of the studies, to be recognised and implemented or was that not a problem?

James Douglas
Well our first sponsor was the Royal Commission on Population and they certainly were extremely interested in our data right from the first, and although it's difficult to know how we influence policy I think that the information we gave to them on the costs of child bearing particularly and on the shortage of certain aspects of obstetric care was valuable to them and probably it did alter things profoundly. There's one thing I do know and that is that a Private Members Bill was introduced in 1949 based on information that we gave. The Bill was to ask for free analgesia, and that midwives should be allowed to give it. It was withdrawn on the government giving an undertaking that it would make sure that free use would occur in the future, so there is one instance. But whenever there have been committees or commissions concerned with problems of childhood, and later of adolescence and adult life, we've usually been consulted along with the other studies because they've suddenly thought, 'we don't know – if only we had a longitudinal study we'd be able to say'. Then, 'oh but we have three!'. And on these occasions, with the Robins Committee, with the Finer Committee, with the Plowden Committee, with a whole variety of others we've been able to help. I think that disseminating the results of our work through the various health workers and teachers and so on has been rather more difficult. It's the books that we've produced that have had the wide circulation. On the other hand, you can't exist only by books, you've got to have the back-up of papers and I think all our studies have had this.

Neville Butler
I think if we can put our results over, they're only too interested in using them. There is a danger, there's always a danger, that results will be misrepresented at any level, particularly in newspapers. I don't know how you cover that one. But I would have said that all the studies have had tremendous coverage.

Would you agree with that, Mia, you've probably had more contact with government than anybody else direct?

Mia Kellmer Pringle
It's difficult to disentangle the effect that a large study or three large studies have on policy because so many other things come into it. You have what's practicable, what's possible, the climate of the time, and I think one can only claim that the work of these longitudinal studies has contributed to policy effects but I think I would see them at two levels. One is the professional organisations like the professional organisations for health visitors, for doctors, for teachers, which I think, because they have been so involved in the actual gathering of data, have a sort of proprietary interest in it, you know it's not just a study being done out there by some academic or some research students who get their degree, but it's a study in which they have invested time and effort. Similarly, because of the close involvement we have had from government departments, not only when the findings come out but right through the planning process, I think you influence attitudes, you influence thinking, you raise questions and that seems to me already a useful thing to do for research. You see, you get both I think: the influence of the normative, the large normal group, as well as the special studies. I think of the special studies, for example, the study we did on socially disadvantaged children which had the title 'Born to Fail'. Now I think that had a very wide effect; the book that we published got down to W. H. Smith's book stores on railway stations. Now because of the way it was produced, quite deliberately it kind of jolted people into recognition that even in what were then affluent times, say 3 or 5 years ago, there were still children growing up in very real disadvantage, which affected everything – their height, their growth generally, their emotional development, their education development, and while those working at grassroots knew about it, the general public didn't.

Well we're agreed then that these three studies have had their impact both on academic knowledge and also on practical policy, social policy, medical and educational policy. What of the future? What should we be doing now? Should we be embarking on further studies of this same kind? Neville, yours is the most recent. What do you think should happen next?

Neville Butler
Well all three have survived, and it seems to me that they will go on surviving. For this reason: that they look upon the whole child, not just the education, not just the health, not just the family, not just the behaviour or the welfare or the use of services. The whole child is being considered. I think that second-generation studies will continue and James may want a word to say about that.

Mia, do you think we need another cohort?

Mia Kellmer Pringle
Well, I would like to see – it's dreaming you know – but I would like to see longitudinal cohort studies, regularly mounted every say 10 or 12 years, become part of the pattern of things in this country. That would mean I think, or it would be better – again that's hoping for something which at the moment I have no grounds for hoping for – that there would be an institution whose job it would be to mount these studies and build in comparisons, planning all the things we've been talking about so that they become a regular feature of our research and policy-orientated work.

James Douglas
It seems to me that within a well-planned study it might be cheaper to employ professional interviewers whom you can brief to ask and collect data exactly as you want to and who can do measurements for you and be trained in them. It might be cheaper, and certainly would make our lives much easier, if we could use these perhaps instead of the very much over-worked health visitors, who have done excellent work in the past, but I think find it exceedingly difficult now to help. With teachers I think one would always hope that they would co-operate in exactly the way they've done in the past because they can give us information about their children which no other person can supply.

As far as the continuation of my own 1946 study is concerned, we are nearing the time when one is really beginning to see the social differentiation of disease. One of the most extraordinary things to my mind is that until recently we've been able to show only very minor differences between the social groups, not the sort of huge differences that we expected when we were looking at the mortality. And I would suspect that in the late 30s and 40s one would begin to see a social differentiation which would then go wider and wider until old age and of course we would at the same time be able to chart the onset of degenerative disease. This is really medically valuable, it seems to me, at a time when one expects to get a huge return for the money and work already invested.

Would you keep to the same numbers in your cohort?

Neville Butler
To get minority groups, yes. If I was looking for children who are in care, if I was looking for breech deliveries and adopted, stepchildren, single-parent families, yes. If one is wedded to that sort of study, which we have been in the last two particularly, then the larger numbers are necessary.

James Douglas
Sometimes of course it's possible to pick up your related groups in nearby weeks

or at roughly the same time as the others so that you could then have a much smaller core study and your related groups which could be compared.

Mia Kellmer Pringle
Except that you would then lack the information about birth, about early development and therefore the link you want to make. I think you would find it invaluable to know about your special groups in the same longitudinal way if you want to trace through effects of early development on later development.

James Douglas
But do you think that, and you have three times the size sample that I have? I feel the additional information you get by doubling the size of what are anyway relatively small groups is perhaps not worth the extra weight that you're carrying by following up, say, 16 000 rather than 5000.

Mia Kellmer Pringle
Well, all I can tell you is that when certain related studies were mounted, for example when we did the study of children in comprehensive schools, secondary modern and grammar, before we agreed to do the study we felt we had to say we must first see how many we have got in each of these groups who have spent all their secondary life in one school or another, because we didn't want to take those who chopped and changed. Now when we looked to see that the numbers were large enough to make other comparisons, with the whole 16 000, we only just had enough. I think it applies to adopted children, for example, and certain groups where once you get below certain numbers you can't do breakdowns into groups you see, so I think it depends what groups you're looking at. If you're looking at slow learners for example, yes you certainly could have half or even a quarter because the number is relatively large, but if you look at a relatively small group, for instance we looked at the gifted: if you wanted to define gifted as your top 2% or 3% or even 5%, numbers become extremely small when your original cohort is already much smaller. You gave a good example you see, children in care, because when we looked at those children, children in public care, we were able to show that you could predict later problems at birth, but you wouldn't have known that, and it wasn't any one thing like low birthweight, but a whole range, a complex syndrome if you like, of factors combined which, looking back you could identify. Now you could then ask the question looking at the same syndromes – what about those who didn't come into care? Is there anything we can learn from them? You wouldn't have been able to answer that without such a longitudinal study. At that time coming into care wasn't an event but was really a long-term outcome of a whole range of disadvantages and those who didn't, well what about those? But in 10 years, if there was another cohort, I think it will still be worthwhile looking at that and since circumstances are changing so much, I think it may be different now.

James Douglas
We haven't gone into problems such as problems of care in children and we've been perhaps attracted by the much greater accuracy of data collection, data processing and checking that is available if you have 5000 rather than 16 000. Its an immense difference in what you can do. We've always been able to go back to hospitals, to the original sources of information, to educational establishments to make sure that we've got the correct data.

Neville Butler
There's nothing unique about a longitudinal study. It's a population study applied to a certain number of cases and one week gives 15 000 and that, in the old days I would have said was very difficult to handle. On the data processing side this is becoming easier. I think it's the collection of the 15 000 that is in danger of not being as accurate as the 5000.

Copies of the video can be obtained from Professor H. Goldstein, Institute of Education, University of London, 20 Bedford Way, London WC1H 0AL. Price £12.50.

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Forty years on: Professor Neville Butler and the British Birth Cohort studies

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Summary. This paper traces the major contribution made by Professor Neville Butler, over a period of 40 years, to the foundation and subsequent development of two of Britain's three national birth cohort studies: the National Child Development Study, which has monitored the lives of all those in Britain born in the week 3–9 March 1958, and the British Cohort Study 1970, which has similarly followed the development of those born in the week 5–11 April 1970. Some recent findings from the two studies in the areas of health and health behaviour are briefly summarised, as are the plans for their future development.

Introduction

In March this year, the subjects of the 1958 National Child Development Study (NCDS) celebrated their 40th birthdays. In April, their counterparts in the British Cohort Study 1970 (BCS70) reached the age of 28 years. These two national birth cohort studies, comprising all those in born Britain in 1 week of the year in question, represent a longitudinal research resource for medical and social science that, together with the earlier 1946 cohort study (National Survey of Health and Development), is unparalleled in the world.[1]

For over 40 years, Professor Neville Butler has played a pivotal role in the foundation, design, continuation and analysis of both the NCDS and BCS70 and, as the two studies (since 1985 and 1991, respectively, the responsibility of the Social Statistics Research Unit at City University) move into an exciting new phase of development, he remains closely involved in the medical and health components of both of these long-term, multidisciplinary projects.

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