



INTERNATIONAL SYMPOSIUM ON  
**COHORT AND LONGITUDINAL STUDIES**  
IN LOW AND MIDDLE INCOME COUNTRIES

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Meeting Report

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# SUMMARY

This International Symposium hosted by UNICEF's Office of Research in collaboration with Young Lives, brought together longitudinal studies operating in twenty-five low, middle and high income countries. These experts explored how to strengthen data, design and coordination for improved policy-making and programmes. A key theme of the meeting was to reflect on the unique nature of this type of data collection, and exploit its comparative advantage.

In their presentations, speakers examined challenges in designing and carrying out longitudinal research, explored methodological approaches and innovations and shared research findings. The discussions addressed the value added of a cohort approach, and illustrated ways in which these types of data can inform policy.

At the Symposium, participants shared cutting-edge, substantive results of studies and went beyond simple measurements. Findings focused on deeper understandings of outcomes and determinants behind outcomes and located children's and adolescents' developmental trajectories within the life-course - something which can be achieved only by using longitudinal data.

Lessons were shared on the practice of longitudinal studies operating in diverse contexts, identifying opportunities for synergies and coordination among the group, including in methods and

measures. The group uncovered ways in which longitudinal data informs social interventions and policies to address the problems which confront children and adolescents in different contexts. Discussions explored determinants of local ownership and sustainability of longitudinal studies, including areas for capacity building and support to national statistics and data collection systems.

Data collection is seen as one of the priority areas of the Sustainable Development Goals and in the push for better quality data, special emphasis is placed on timely and quality reporting at low cost. The meeting explored how longitudinal research can better contribute to monitoring progress against the post-MDG targets, and raised the potential of a core dataset of an SDG cohort to respond to measurement needs of the next round of development goals.

The Symposium concluded with a discussion on new avenues of collaboration, including exploring the formation of a global network of longitudinal research.

## KEYNOTE ADDRESS : THE ROLE OF COHORT AND LONGITUDINAL RESEARCH IN DEVELOPING EVIDENCE FOR IMPROVED POLICIES ON CHILD WELL-BEING

Stefan Dercon (Chief Economist, UK's Department for International Development)

The speaker discussed *the potential for longitudinal studies to have wide impact*. In reality, many policy-making decisions are based on more than evidence alone and it's important to ensure that the questions asked in longitudinal studies are the kind that these types of studies are best suited to answer. Longitudinal research has definite strengths, including investigating mobility and movements into and out of poverty, catching up or not catching up in terms of growth, the divergence or convergence of learning outcomes and about the impact of early childhood on later outcomes. Longitudinal studies can also provide excellent evidence on the long-term impact of shocks, risks and crisis, the impact of agricultural policies and food price shocks.

*Longitudinal studies should exploit their absolute advantage* and explore the questions which cannot be properly answered by other datasets, such as cross-sectional data. Instead of competing with Randomized Control Trials (RCTs), longitudinal studies should find the areas where they have an 'absolute advantage'. What data and evidence can be generated from longitudinal studies which cannot be generated otherwise? For example, negative evidence, which sometimes become evident only in panel datasets, is also important. .

*Sometimes the best way to inform policy is not to offer a solution but rather to highlight the problem*. For instance,

the UK Household Survey Panel data showed that higher-ability children from more disadvantaged backgrounds were overtaken by less able children from privileged background by the time of school entry. Only a longitudinal dataset would be able to show developmental trajectories of children from different backgrounds over time. By conclusively pointing to the problem the study had a big impact: the government introduced free pre-school provision in the UK.

*The most powerful, but often the most neglected aspect of longitudinal data, is measurement and description*. There is great scope to use panel datasets for analysis of patterns and for description. It is vital not to use longitudinal datasets to measure levels because samples may not be representative or attrition rates may be high. Furthermore, longitudinal data should not be analysed during the first two rounds of data collection, because the mere aim of panel datasets is to see the development of patterns over time.

*Analysis of the heterogeneity of patterns, trajectories and movement is the strength of panel datasets*, and include catch-up in nutrition, movement in and out of poverty and learning trajectories for example. Describing the patterns, not measuring the mean or making causal analysis, is the core of the longitudinal studies, because it essentially tells us what is happening. Telling policy-makers that children's learning trajectories in rural areas are

different from that in urban areas is valuable in itself.

*Longitudinal studies, by virtue of design, can identify areas that may require intervention and those which do not require intervention.* For instance, if data shows that certain things converge naturally, policy-makers would not have to prioritize such areas in contrast to the ones where there is persistence over time. If longitudinal research shows the time when divergence in trajectories start, policy-makers know how to time the intervention.

*Longitudinal studies can embrace serendipitous development.* One cannot always predict the kind of problems or issues which will arise within longitudinal studies. Longitudinal datasets provide a platform for taking into account unplanned processes and for picking up problems not envisaged before the studies are planned. For instance, one of the longitudinal studies in Tanzania could look at the relationships between HIV/AIDS and orphanhood in the ways unachievable through an RCT.

*Longitudinal studies expose long-term change in contexts.* Longitudinal studies provide strong evidence on the impact of famine (the example of Ethiopia), of land reforms and price shocks etc. While many longitudinal studies do not intend to study the impact of such crises on economic processes, they can be well positioned to do so when such crises strike.

*Design is key to a good longitudinal study and should draw on these studies' absolute advantage.* Longitudinal studies should focus on areas within its 'absolute advantage', with clarity

on the types of questions that will be most needed down the line. If you want to study what is happening versus what should be happening, one should clearly make a longitudinal study or an observational dataset. The impact of policies should also be studied with longitudinal datasets. While longitudinal studies might seem to be costly, they are not more expensive than RCTs.

*There are common fallacies when designing longitudinal studies that should be avoided.* Attrition rates can be too high to make the study realistic. If the study loses 15 per cent of its participants in each round, then the study loses its meaning. Tracking can be costly, but it is a cornerstone of any longitudinal study. Secondly, often too few clusters are included. One has to have enough variation to show the impact of price shocks or some other processes. Therefore it is better to have more clusters with fewer people. Thirdly, comparison groups are often lacking, such as following one cohort only, not accounting for difference by age, gender, caste, ethnicity etc. Lastly, studies can do better in planning identification at the design stage. Experimental variation can provide ways of identifying particular problems. For instance, one could build in the distribution of small cash grants during the early design. This would provide a source of exogenous variation on sources of social-economic advantage early on (the speaker notes the importance of doing such interventions in an ethical way).

## SYMPOSIUM PANELS: REFLECTIONS ON CHALLENGES AND OPPORTUNITIES FOR LONGITUDINAL RESEARCH IN LOW INCOME SETTINGS, IDENTIFYING LESSONS AND BEST PRACTICES FOR FUTURE STUDIES

### IMPACTS OF INEQUALITY ON CHILDREN'S WELL-BEING

The panel presented studies which focused on understanding the drivers of inequalities across a range of contexts. It also raised questions about the policy impact of the studies, the adequacy of measurement indicators used in institutional contexts and the potential for catch-up beyond the first three years. Summary outcomes are described below.

*Longitudinal studies provide unique insights into the drivers of inequalities and how they are transmitted inter-generationally.* The panel illustrated that longitudinal data is able to capture developmental trajectories of children: their progression through school, their cognitive development as well as the interaction of factors at the baseline with later outcomes. For instance, the Cape Area Panel Study in South Africa and the Joint Child Health Cohort Project in Mauritius demonstrate that inequalities start early in life and that baseline inequalities are predictive of later outcomes. In Mauritius differences in children's cognitive development are already evident at age three and increase by age 11. Some of the most important factors that are correlated with early divergence in cognitive development in Mauritius were found to be father's education and the type of the job he has, i.e. skilled or unskilled labour. In contrast to some other contexts, in

Mauritius mother's education starts to be a significant factor in accounting for cognitive gaps only at age 11.

*Some measurement indicators, such as schooling or nutrition tests of children are inadequate in low and middle income settings.* The findings from Mauritius and South Africa show that measurement indicators used in school systems might not always be accurate for assessing cognitive development of children. In fact, both studies indicate an institutional bias against children belonging to disadvantaged groups. For instance, in South Africa, where researchers were interested in grade repetition, test scores for black children were less predictive of grade progression than for white kids. Similarly, a study of the Public Distribution System in India on the nutritional status of children raised important questions about how we measure the nutritional status of children: including the need to include diet diversity in addition to caloric intake.

*The studies signalled important policy directions with implications for policy-makers.* Questions were raised about whether school reforms might address inequalities among children from different backgrounds. Data from both the South African and Mauritius studies show baseline inequalities in both contexts are big and predictive of later outcomes which suggest that interventions at the secondary school level might be late. Likewise the study in

India showed that cash distribution with a view to diversify people's diet is only a short-term solution to the problem of poor nutrition, because cash hand-outs end, whereas people's behaviours remain unchanged.

*Longitudinal studies provide compelling evidence of the importance of early years, with more focus needed to demonstrate the potential to catch up.* While the presentations in this panel presented conclusive data about the huge impact of early gaps on later outcomes, it was felt that people engaged in longitudinal studies should ask the following question: If we miss the first three years of children's lives, what can be done later on?

## SOCIETAL AND COMMUNITY INFLUENCES ACROSS THE LIFE-COURSE

This panel explored societal factors and risks which affect the progression of children through the life-course. It focused on understanding the nature of social, family and emotional environments during trajectories and transition periods for children and adolescents and also drew attention to the role of resources such as cash distribution in impacting outcomes for children. Summary outcomes are described below.

*Resources are not the only factor that impacts the nutritional status of children. Awareness and information is central for ensuring that people use resources in a particular way.* Results of the Transfer Modality Research Initiative

in Bangladesh demonstrated that the most effective form of distributing resources to improve the nutritional status of children was cash and training intervention. Thus, if people received food transfer alone, especially in the form of rice, people consumed more rice while not diversifying their diet. When people received cash, they were more likely to diversify their diet. It was found that raising awareness and providing information about quality nutrition along with providing cash was key to improving the nutritional status of children. This has policy implications for programme design in showing that distribution of resources should be accompanied by training programmes.

*Girls' progression through schooling is influenced by their literacy levels and by their parents' perceptions of their intelligence.* Two longitudinal studies, one from Pakistan and another from Malawi, presented the findings on girls' schooling trajectories. Despite the fact that the studies focused on different areas – the study in Malawi explores an association between marriage, child-bearing and literacy skills, whereas the one in Pakistan looks at the gender difference in school drop-out rates in Pakistan – both studies found that girls who are more literate are less likely to drop out of school. Furthermore, the study in Pakistan has been able to show that parental investment in girls' education follows parental perceptions of their daughters' cognitive development. It is striking that using longitudinal data the study in Pakistan has demonstrated that parents, whether educated or not, made quite accurate assessments of their children's abilities: parental expectations correlate with girls' later tests. This study showed

that marital decisions in Pakistan are locked quite early on: if the girl goes to school early on, she is less likely to marry early. Thus, the perception of the child's intelligence, decisions about early enrolment in school and marital choices in Pakistan are interlinked and are made quite early in life.

*Family and emotional environment as well as peer group behaviour are key factors behind adolescents' transitions into and out of risk behaviours.* The findings from Vietnam provided striking evidence of the irrelevance of knowledge about the harm of smoking/drinking on transitions into or out of these habits. Instead, social norms, including dominant norms about masculinity and femininity, peer group behaviour and family environment were powerful explanatory factors for understanding children's transitions into and out of alcohol and tobacco use.

*An important consideration is ensuring the sustainability of longitudinal studies at the time when donors withdraw.* The panel also drew attention to the sustainability of longitudinal studies in a situation when donors withdraw from the country once the states become middle-income countries. While Vietnam has experienced positive economic growth, it still lacks the capacity to support longitudinal studies. Therefore the work on the bulk of data gathered during the study has to be done by volunteers - otherwise most of the data gathered during the years will have to be shelved.

## CHILDHOOD RISK AND RESILIENCE

This session drew attention to the importance of going beyond the first thousand days and examining whether recovery and catch-up growth was possible after the first three years; it discussed the centrality of paying attention to protective and risk factors in longitudinal research; it also discussed the stages within the life-course when policy-interventions could make a difference to developmental trajectories of children. Summary outcomes are described below.

*The centrality of longitudinal data for charting the pathways of children's development, including cases of recovery and catch-up have often been neglected in early child development literature.* Based on the findings from a number of studies, the panel questioned the idea that the outcomes of the first thousand days are irreversible. Findings from the Young Lives project suggest that growth faltering is reversible up to 12 years old: children do catch up and early stunting does not seem to have a long-lasting impact on their cognition on condition that they catch up. Factors which correlate with stunting correlate with catch-up growth, which provides a window of opportunity for policy-makers to devise interventions. It is also important to note that the story of catch-up growth is context-specific: in the Cebu study in the Philippines, one could hardly find any catch-up growth in the 1980s. In order to plan interventions more effectively, we need to understand when divergence in outcomes happens, when gaps emerge and what the sources



of these gaps are. Data from various studies indicates that divergence between children is based on what they learn before 12 years old. Yet, exploring whether adolescence is another critical stage within the life-course could provide new avenues of thinking about child development and opportunities for making change in children's lives.

*It is important to locate risks within the structural contexts in which children grow up.* Risk is not distributed arbitrary within a population. Certain groups of children are exposed to risk to a much greater extent and this is often determined by such characteristics as gender, caste, ethnicity etc. In addition, it is important to locate children and their ability to cope with risk within the networks of their kin, friends and associations of which they are a part of. Data from Young Lives project shows that children who can rely on such networks cope with adversity better than children who are deprived of meaningful connections.

*We need to pay more attention to protective factors, moving away from determining risk factors only.* The Jamaican Birth Cohort study illustrates the importance of understanding protective factors in order to make effective policy interventions. For instance, while single parenting and violence were negatively associated with schooling achievement and self-esteem in Jamaica, the study has been able to identify protective factors which could ensure the fruitful development of children. In particular, the study showed the importance of playtime with mothers, availability of early childhood development resources at home as well as mother's education in positively

influencing child development. Likewise, the study from Mauritius illustrated that nutritional supplements, physical and emotional stimulation could have a positive impact on children, but the impact was bigger on children who were malnourished.

*Mothers' education is central to child development and girls' education is therefore key to intergenerational transfer of knowledge and ensuring that children have support systems in place.* This finding is common to most longitudinal studies. The Mauritian study was atypical in this sense, because it showed the increasing significance of mother's education only at the age of 11. While the case of Mauritius could be explained by the relative homogeneity of women's education in this country in the 1980s, data from most other longitudinal studies suggests that mother's education is an important factor impacting trajectories of children across a range of developmental domains, from their nutritional status to cognitive development.

*Tracking what happens during pre-natal development can also be important.* Thus, in addition to examining associations between breast-feeding practices, weaning, first nutritional supplements and stunting illustrated by the Cebu study from the Philippines, examining pre-natal stage of development could provide some of the clues into early divergences in children's development.

*Cost often impacts study design and cost effective measures for obtaining data may emerge over time.* Most of the longitudinal studies have to cope with funding constraints and have to devise ways of efficient use of budgets. The

case-study from Jamaica shows that it is possible to reduce the costs of the study through using telephone calls for data collection.

## COMPARABILITY OF MEASUREMENT INSTRUMENTS ACROSS AGES AND CONTEXTS

This panel addressed the questions around the challenges of comparing measurements of socio-economic status across countries; discussed the potential errors and inconsistencies in reporting across rounds of longitudinal data; explored the ways in which the use of computer-based software in contrast to the standard face-to-face interviews or paper-based surveys might impact the kind of responses researchers get; and finally looked into the use of innovative methodologies of collecting good quality data at low cost. Summary outcomes are described below.

*Developing cross-country comparable measures requires deep context specific understanding.* Comparing measurements across different countries is a significant challenge for longitudinal studies. Thus, cross-national research project on socio-economic status and child development in Australia, Canada, UK and USA demonstrated some of the challenges in comparing not only the more complex measurements of socio-economic status but also levels of educational attainment in different contexts. It was stressed that working with partners from all study countries who know the economic, social protection and educational systems

of each state is vital for the ability to compare measurements across different countries. Based on the experience of the COHORTS group, it was advised that the design of multi-country cohort studies should identify essential core data for each site and establish inclusion criteria, ensure the comparable timing of measurements and plan the use of similar methods for measuring similar outcomes.

*Measuring socio-economic status might be especially challenging in developing country contexts.* Socio-economic status (SES) can be measured in several different ways: in income, assets or consumption. Furthermore when one takes into account inflation while measuring SES, the task becomes even more complex. Income comparability is not always easy to establish, because one needs to explain whose wealth, whose income is being measured in different contexts. Therefore, it has been suggested that standards are needed about how to harmonise and compare measurements of SES across different contexts.

*Longitudinal studies can be used to understand inconsistency in respondents' reporting and to estimate errors in the data collected.* The longitudinal study of adolescents' sexual behaviour in Malawi illustrated that there might be a high degree of data inconsistency not only between rounds, but also within individual responses. It was common for children and adolescents not to know the month of their sexual initiation. Furthermore, many children seemed to respond differently in face-to-face encounters. Using even simple life-event tools, such as ordering life-event cards,

produced inconsistent results, which raises important questions about data reliability in a variety of contexts.

*The use of technology to tackle sensitive issues should be gender and context specific.* The study in Malawi on sexual behaviours of adolescents used the computer-based system of interviewing without an interviewer (ACASI). The findings of research were striking but also similar to the ones noted in Vietnam where researchers compared the data generated through ACASI, paper and face-to-face interviews. In Malawi, girls tended to report better in face-to-face encounters, whereas boys did better with the ACASI system. This finding points to the fact that the use of different methods of data collection, especially on sensitive issues, should be gender and context specific.

*Developing short batteries of questions could prove helpful in collecting good quality data 'quickly, accurately and at low cost'.* There has been a call to develop short batteries of questions to measure variables which otherwise would take too long a time to measure. These should be easy and relatively cheap to administer; validated against the 'gold standard'; easy to standardize and compare across contexts. For instance, instead of making observational visits to each household in order to measure family care practices and administering a questionnaire which could take up to an hour to complete, UNICEF developed a family care indicators questionnaire which is easy to administer in large population surveys. Another example is the questionnaire developed in order to measure the healthiness of the diet in a simple way. It included four questions: consumption of breakfast, consumption

of two portions of fruit per day, type of milk consumed, and type of bread consumed. A cautionary word was noted that it is important to communicate clearly the purpose and function of short batteries, as opportunities for misinterpretation exist.

## INNOVATIONS IN DESIGN AND MEASUREMENT

The panel focused on exploring innovative approaches in data collection and analysis, with a view towards what the next generation of longitudinal studies may look like. This included an exploration into the ethical and practical challenges of collecting biomarkers in longitudinal research and the ways in which cohort studies could contribute to epigenetics. The panel discussed pioneering mechanisms of data integration, linking household and facility level data, and how existing longitudinal studies can be creatively used for project evaluations in developing countries, helping to reduce the cost of this expensive exercise. Summary outcomes are described below.

*Longitudinal studies are uniquely positioned to make a significant contribution to epigenetics which tries to understand how the environment influences gene activation.* Longitudinal studies and intergenerational studies can provide rare and valuable data on understanding how our brains and genes are activated by social environment and stimuli. In doing this kind of research, longitudinal studies would be able to challenge some of the

rigid boundaries between disciplines and expand thinking of risk factors from the point of view of individual traits to seeing how hereditary and biological factors interact with the socio-economic environment in which children grow up. The unique position of longitudinal studies, such as the US Add Health Study and Birth to Twenty Plus Cohort in South Africa, lies in their capacity to collect both biological data and social environment data. Arguably, the ability of longitudinal studies to explore the linkages between social behaviours and health, between socio-economic conditions and certain biological traits is one of the 'absolute advantages' of cohort studies.

*Ethical issues are central to longitudinal studies, including those involving the collection of biomarkers.* The panel discussed whether children can consent to the collection of biomarkers and whether consent should be renegotiated at a later stage in cases where biomarkers are archived and used for purposes different than those designed in the original study. It has been noted that Birth to Twenty Cohort study pioneered a lot of the discussion on ethics in South Africa. The rule used was "if children say no, they stay out". Importantly, the ultimate decision about what should be done with biosamples at a later stage rests with the ethics committee of the Birth to Twenty project. In the case of the US Add Health Study, participants could choose whether to give their DNA for study: 96 per cent of the participants agreed to do so, but only 86 per cent of participants agreed to have their DNA samples archived. Another ethical question touched upon in the discussion was the issue of providing feedback and information to

participants in studies which involve the collection of biomarkers. Both the study in South Africa and the US informed people when they were ill and, in the case of the US Add Health Study, provided referral letters to seek medical treatment. Neither of the studies provided treatment.

*Longitudinal studies can provide an important venue to evaluate policies and their impact.* On the one hand, using longitudinal studies for impact evaluation of distinct policies would decrease the cost of evaluation exercises, while providing financial means to augment existing longitudinal studies. On the other hand, it has been noted that adjustments such as adding additional households to a longitudinal study might be cumbersome where difficulties with funding and capacity may exist. The audience agreed it was important that in-country partners were made aware of these efforts, and opportunities should be seized where feasible.

*Strong partnerships and capacity-building can further develop longitudinal research in low income countries.* By discussing the experience of INDEPTH network, the panel touched on the challenges faced by longitudinal studies in developing countries' contexts. Building partnerships with institutions in the North, ensuring the local ownership of the study were crucial in allowing the network to shift the focus of their work from simple documentation of morbidity to collecting new biomarkers, disaggregating data by age/gender and showing the relationships between different variables. In particular, making sure that at least a part of the staff's salary was paid by the Ministry of Health

of Ghana was crucial to the success of the project.

## THE PRACTICALITIES OF COHORT AND LONGITUDINAL RESEARCH

This panel focused on three areas: qualitative components in longitudinal studies, the problem of attrition and tracking, and the use of computer-based software for conducting surveys. Summary outcomes are described below.

*Qualitative research and mixed-methods approaches can add value to longitudinal research design.* Including a qualitative component in longitudinal studies is important for a number of reasons: first, it can show how associations between variables work; second, it helps to identify questions for surveys and can thus inform survey design, with the latter in turn informing the next round of qualitative research; third, qualitative data adds depth to processes beyond survey findings; finally, it illustrates that children can be competent informants and it allows researchers to link children's individual biographies to children's development and broader societal processes. Whereas the quantitative component of longitudinal studies demonstrates the scale of the studied phenomena and provides numbers, the qualitative component adds depth to the study. The cases which quantitative people might consider to be outliers will be of primary importance for qualitative researchers. As the case of the Young Lives project demonstrates, qualitative research might be rigorous: new areas

of research within the Young Lives study, such as early marriage, Female Genital Cutting (FGM), school violence and the life-course, were picked up primarily in qualitative data.

*Tracking is an area of concern for most longitudinal studies.* Tracing people in developing country contexts, especially where rates of migration are high, might be a difficult task. The INCAP study from Guatemala illustrates some of the challenges: 4 per cent of participants could not be traced at all; 11 per cent died with most deaths having occurred in childhood; 7 per cent migrated out of villagers; and only 78 per cent could participate in the study at a later stage. It has been suggested that while designing longitudinal studies, it is important to collect data on factors that might predict attrition. It is also important to collect data on multiple entry points, such as neighbours, parents, siblings, during the first rounds of the study. At a later stage, it is important to engage children as they grow up and acknowledge their increasing autonomy. The issue of tracking households participating in the study should be weighed against practical issues involved in this work and should be located in the context in which the tracking is done. The World Bank study in Tanzania showed that tracking eligible households in Tanzania involved thinking about how to reduce costs, how to optimize travel time, how to equalize workload, whether to hire additional people, and how to check the accuracy of information collected.

*Computer assisted means can be used to improve data collection.* Computer-based programmes for carrying out surveys is increasingly becoming more common. However, as illustrated with

the example from Surveybe in Tanzania, one of the challenges of using such software at the later stages of the study is linking previously collected data with the data generated in a new way. Using computer software for surveys allows avoiding most of the routing errors through using an automated routing system. It also allows avoiding distraction caused by the necessity to skip multiple questions in the survey. The data gathered through the software can then be transferred to Stata or other analysis packages.

## COHORT RESEARCH FOR PROGRAMME AND POLICY

This session addressed the questions about the ways in which longitudinal studies could be more effective in making policy and programme impact. Ensuring effective communications, including wide dissemination of messages and building local ownership are all identified as important ways to increase research uptake. Summary outcomes are described below.

*Having an effective communications strategy is critical to policy-influencing.* Translating research findings into the language understandable to policy-makers is an important part of being able to translate research into policy. It has been noted that academics are often not the best people to 'translate' research findings into lay language, therefore collaborating with journalists or training people to do communication work is important. This might require additional resources and funding. For instance, UNICEF funded several studies in South Africa to produce short summaries of

their research findings so that policy-makers and government officials could use them. More projects of this kind will be necessary in order to ensure that the messages from longitudinal studies reach policy-makers.

*Local ownership is important in ensuring that the results of longitudinal studies are taken on board by policy-makers.* The examples of longitudinal studies in Jamaica and Mauritius which had a big policy impact in a whole number of areas in their countries illustrate that the local ownership of the study is important in translating research findings into the policy-making process. For instance, the results of the Birth cohort and Profiles cohort project in Jamaica which illustrated the importance of parenting education on children's well-being led to important policy changes at the national level. By having brought the study findings into the national domain, the study in Jamaica was the driver behind the adoption of the Jamaica's National Parenting Policy in 2012 and the design of parenting programmes. Likewise, the Joint Child Health Cohort Project study in Mauritius had a huge impact on the government's decision to adopt a free pre-school program in the 1980s: at the moment, Mauritius has 98 per cent enrolment in pre-school institutions. It has been stressed that the success of longitudinal studies in Jamaica and Mauritius was based on the local ownership of the study. When research funding and research capacity is coming from the outside, it is difficult to achieve a similar scale of impact, because of the credibility issues involved, lack of local institutional capacity and because of volatility of funding.

*It is important to share findings broadly across different stakeholders able*

*to influence research uptake.* Policy-makers are not the only people who can influence policy-makers: other stakeholders can also bring messages to the government. Therefore involving others such as advocacy groups or NGOs that would be able to communicate and carry messages from the research community to the policy-makers could be important. In some contexts, these could be international organisations, such as UNICEF, or think-tanks; in other contexts, these could be people in the research world who have close links to the government or national institutions.

*Credibility and public image is important for policy influencing.* The case-study from Jamaica illustrates that in order to manage tensions that arise between policy-makers and academics, credibility is important. Governments privilege figures in the research community that enjoy public credibility, because public opinion matters for politicians. It is important to build credibility by participating in radio talks, by attending programmes and awareness programmes, as the public sphere matters when it comes to decision-making.

## SUSTAINABILITY AND OWNERSHIP

This panel addressed questions around maintaining sustainability of longitudinal studies over time, ensuring local ownership in developing countries, sharing data and maintaining trust of the study participants over the rounds of data collection. Summary outcomes are described below.

*Long-term projects tackling broad questions is what funders expect to see in longitudinal studies.* While government officials are often interested in finding answers to short-term policy-specific questions which are on top of the political agenda, grant-giving institutions and international organisations are often interested in strategic research tackling broader questions. Thus funders present at the meeting stressed that they are interested in innovative broad studies with long-term commitment. For instance, strategic research on poverty and inequalities will remain one of the priorities for ESRC. Funders also stressed that the long-term sustainability of longitudinal studies and the institutional ownership is the direction cohort studies should take.

*Ensuring sustainability is a pressing issue for most longitudinal studies.* Longitudinal studies gain value with age. Building local ownership was argued to be an essential component of long-term sustainability of cohort studies. Drawing on lessons from how INDEPTH network in Ghana evolved from a project into an institution, several points were stressed. First, the local ownership is central for the transformation, with local government supporting at least some aspects of the evolution. The contribution of the government to maintaining human resources is vital in demonstrating commitment, even if the Ministry pays only a small proportion of staff salaries. Partnerships between Southern and Northern-based institutions are important: participation in trainings, knowledge transfer and engagement of students in the implementation of the project is crucial to capacity-building. Finally, transparency and accountability – being able to grant open access to

reports and documentation about how money received from donors is spent – is also important for long-term sustainability. The importance of engaging governments and national agencies in Africa in discussions about the value of longitudinal research was stressed. It has been suggested that researchers involved in panel studies could form a coalition and present the value of longitudinal studies to ECOWAS or other political fora.

*Data sharing and open data access are being increasingly demanded.* Sharing data and open access are becoming an imperative to ensure the long-term sustainability of longitudinal studies and scientific research in general. However, it has been stressed that data sharing does not always have to be open access: for certain kinds of data, especially of the sensitive nature, ethics committees should be able to make decisions about what and when to share data. Submitting data sharing plans is a requirement for grant proposals submitted to the Wellcome Trust. However, rather than advocating open access, the Trust encourages fair sharing, which does not oblige grantees to make all the data available on the same day. In particular contexts, the obligation to share data might come in conflict with the institutional capacity of distinct longitudinal studies. For instance, the INDEPTH network described challenges with limited capacity to analyse all collected data, lack of training and inability to publish results in high quality journals. Once some of the issues were resolved, the network could publish the results of their research and share data responsibly.

*Maintaining trust of research participants is an important step to encourage*

*participant follow up and avoid high levels of attrition.* The panel returned to the problem of attrition which remains one of the most significant challenges of longitudinal studies. Therefore maintaining trust of cohort members was argued to be essential for the long-term sustainability of longitudinal research, especially in developed country contexts where rates of attrition are high. One of the strategies to do so is to engage children once they mature and share with them the value of social science research.

## COLLABORATION AND CREATING A COMMUNITY OF PRACTICE

This panel discussed the opportunities and challenges inherent in collaborative longitudinal research projects. Drawing on the experience of the COHORTS network and the Society for Longitudinal and Life-course Studies, it was noted that networks could lead to the emergence of centres of excellence in different countries; they can also become platforms for training students and early career researchers. Yet, to maintain the collaborative endeavour, the network had to overcome some challenges such as maintaining funding, harmonizing data across different countries, deciding whether the study should concentrate on analysing the data already generated or whether further data should be collected and communicating the results of the networks.



# CLOSING DISCUSSIONS

## WHAT IS NEXT FOR LONGITUDINAL STUDIES?

This discussion explores future avenues for longitudinal research and identified areas where collaborative work is needed. In particular, special attention was paid to the question of knowledge sharing, technical and methodological expertise across studies and countries; fostering research uptake to policy and programmes, and creating a global results network of longitudinal research.

*An active Community of Practice* could further encourage learning and sharing and build capacity among new studies. Links could be created with initiatives such as Human Hereditary and Health in Africa (H3A) which deals with many similar issues around consent, data sharing and ethics. Cohort studies focusing on children's development could also learn from health and retirement surveys, which have a harmonised survey instrument for ageing people in different contexts.

One practical suggestion was to consider *creating an inventory of the existing longitudinal surveys and questions*. The repository will also allow cohort studies to advance techniques and tool development, ensuring comparability of measurements, increasing accountability and data sharing. It could also allow longitudinal studies to use the power of generalizability and comparison across countries which few studies can boast.

*Creating technical working groups* with specific time-limited tasks where a joint

community approach could lend value was also raised. One such group looking at psychometric measurements cross-culturally was proposed, with many participants echoing the support. It could explore the best ways to ask questions around language assessments, ways to measure executive functioning or maternal depression in different contexts. Another could work on creating 'short batteries of questions' in specific thematic areas where demanded.

It was also considered important to demonstrate what researchers and policy-makers can do with longitudinal data and highlight the questions that longitudinal studies can give an answer to which cannot be answered otherwise. As a result, Symposium participants felt that the group could contribute to better and wider *documentation and sharing on the 'absolute advantage'* of the longitudinal approach. This could take the form of best and worst practice examples of research uptake to policy and programmes. Creating links between country impact evaluations and longitudinal research activities could also provide opportunities for longitudinal research to feed into policy implementation and reform.

There has been a call to *strengthen institutional capacity and local ownership in the South*. It has been suggested that partnering with already existing studies in the South could be hugely beneficial for both Northern and Southern partners. Strengthening

local capacity to work with the data – training local statisticians and social scientists– was also stressed. Another suggestion was to form a reference group with studies from both developed and developing countries which could organize workshops on targeted areas.

Finally, there was a call to form a group which could explore future opportunities for longitudinal research and look for ideas that could revolutionize social science in the same way that Hadron Collider revolutionized natural science. The group considered the potential value of a *collaborating centers approach for child and adolescent wellbeing*. This could include synergizing results across studies, possibly identifying a core set of measures that would allow comparability across studies, and explore the feasibility of a 'global' cohort that responds to the data demands of the Sustainable Development Goals.





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