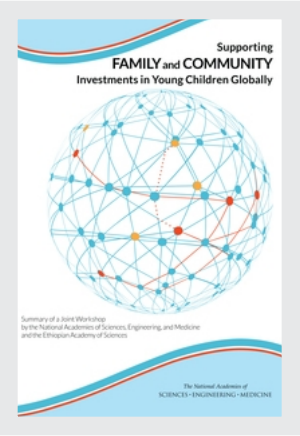

Supporting Family and Community Investments in Young Children Globally: Summary of a Joint Workshop by the National Academies of Sciences, Engineering, and Medicine and the Ethiopian Academy of Sciences

DETAILS

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AUTHORS

Jocelyn Widmer, Rapporteur; Forum on Investing in Young Children Globally; Board on Global Health; Board on Children, Youth, and Families; Institute of Medicine; Division of Behavioral and Social Sciences and Education; National Academies of Sciences, Engineering, and Medicine

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Forum on Investing in Young Children Globally

Board on Global Health

Board on Children, Youth, and Families

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Division of Behavioral and Social Sciences and Education

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HELENA CHOI, Program Officer, Global Development and Population Program, William and Flora Hewlett Foundation

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GARY DARMSTADT, Associate Dean for Maternal and Child Health and Professor in the Division of Neonatal and Developmental Pediatrics, Stanford University School of Medicine

ANGELA DIAZ, Jean C. and James W. Crystal Professor, Departments of Pediatrics and Preventive Medicine, Icahn School of Medicine at Mount Sinai, and Director, Mount Sinai Adolescent Health Center

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RUTH PEROU, Lead Behavioral Scientist, Office of the Director, National Center on Birth Defects and Developmental Disabilities, U.S. Centers for Disease Control and Prevention

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SIMON SOMMER, Head of Research, Jacobs Foundation
TAHA E. TAHA, Professor, Epidemiology and Population, Family and Reproductive Health Sciences, Bloomberg School of Public Health, Johns Hopkins University
QUENTIN WODON, Advisor, Human Development Network, World Bank

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HELENA CHOI, Program Officer, Global Development and Population Program, William and Flora Hewlett Foundation

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TRACY COSTIGAN, Senior Program Officer, Research Evaluation Learning Unit, Robert Wood Johnson Foundation

GARY DARMSTADT, Associate Dean for Maternal and Child Health and Professor in the Division of Neonatal and Developmental Pediatrics, Stanford University School of Medicine

ANGELA DIAZ, Jean C. and James W. Crystal Professor, Departments of Pediatrics and Preventive Medicine, Icahn School of Medicine at Mount Sinai, and Director, Mount Sinai Adolescent Health Center

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MARK MILLER, Director, Division of International and Population Studies, Fogarty International Center, National Institutes of Health

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ARIEL PABLOS-MÉNDEZ, Assistant Administrator for Global Health, U.S. Agency for International Development

JANNA PATTERSON, Senior Program Officer, Maternal, Newborn and Child Health, The Bill & Melinda Gates Foundation

ALAN PENCE, United Nations Educational, Scientific and Cultural Organization Chair, Early Childhood, Education, Care and Development and Professor, School of Child and Youth Care, University of Victoria

RUTH PEROU, Lead Behavioral Scientist, Office of the Director, National Center on Birth Defects and Developmental Disabilities, U.S. Centers for Disease Control and Prevention

CHERYL POLK, President, HighScope Educational Research Foundation

EDUARDO QUEIROZ, Executive Director, Fundação Maria Cecilia Souto Vidigal
JOSE SAAVEDRA, Global Chief Medical Officer, Nestlé Nutrition
LORRAINE SHERR, Professor of Clinical and Health Psychology, University College, London
ANDY SHIH, Senior Vice President, Scientific Affairs, Autism Speaks
KARLEE SILVER, President of Targeted Challenges, Grand Challenges Canada
SIMON SOMMER, Head of Research, Jacobs Foundation
TAHA E. TAHA, Professor, Epidemiology and Population, Family and Reproductive Health Sciences, Bloomberg School of Public Health, Johns Hopkins University
PAMALA TRIVEDI, Society for Research in Child Development/ American Association for the Advancement of Science Policy Fellow, Office of the Assistant Secretary for Planning and Evaluation
SUSAN WALKER, Professor of Nutrition and Director, Tropical Medicine Research Institute, Epidemiology Research Unit, University of the West Indies
SARA WATSON, National Director, ReadyNation, Council for a Strong America
AMALIA WAXMAN, Consultant
QUENTIN WODON, Advisor, Human Development Network, World Bank
HIROKAZU YOSHIKAWA, Courtney Sale Ross University Professor of Globalization and Education, New York University

Forum Staff

KIMBER BOGARD, Director, Forum on Investing in Young Children Globally
CHARLEE M. ALEXANDER, Research Associate
CARRIE VERGEL DE DIOS, Senior Program Assistant
FAYE HILLMAN, Financial Associate
PATRICK W. KELLEY, Director, Board on Global Health

Consultant

JOCELYN WIDMER, University of Florida

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Reviewers

This workshop summary has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published workshop summary as sound as possible and to ensure that the workshop summary meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the process. We wish to thank the following individuals for their review of this workshop summary:

Steve Adler, IBM
Dominique McMahon, Grand Challenges Canada
Ruth Perou, U.S. Centers for Disease Control and Prevention
Samantha Wigand, United World Way

Although the reviewers listed above have provided many constructive comments and suggestions, they did not see the final draft of the workshop summary before its release. The review of this workshop summary was overseen by **Hugh Tilson,** University of North Carolina. He was responsible for making certain that an independent examination of this workshop summary was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this workshop summary rests entirely with the rapporteur and the institution.

Acknowledgments

The planning committee and project staff deeply appreciate the many valuable contributions from individuals who assisted us with this project. First, we offer our profound thanks to all of the presenters and discussants at the workshop who gave so generously of their time and expertise. These individuals are listed in full in the workshop agenda in Appendix B. We are also grateful to the many participants who attended the workshop. The engagement of all those in attendance was robust and vital to the success of the event.

In addition, the forum wishes to recognize the sponsors that supported this activity. Financial support for this project was provided by Accordia Global Health Foundation; Autism Speaks; the Bernard van Leer Foundation; The Bill & Melinda Gates Foundation; the Doris Duke Charitable Foundation; the Fraser Mustard Institute for Human Development; Fundação Maria Cecilia Souto Vidigal; Grand Challenges Canada; HighScope Educational Research Foundation; the Inter-American Development Bank; the Jacobs Foundation; Lumos; the National Institutes of Health—Fogarty International Center, the National Institute of Child Health and Human Development, and the National Institute of Mental Health; Nestlé Nutrition Institute; Office of the Assistant Secretary for Planning and Evaluation; the Open Society Institute–Budapest Foundation; ReadyNation; the Robert Wood Johnson Foundation; the Society for Research in Child Development; UNICEF; U.S. Agency for International Development; U.S. Centers for Disease Control and Prevention; the William and Flora Hewlett Foundation; and the World Bank.

A NOTE ABOUT THE COVER ART

The Forum on Investing in Young Children Globally is committed to confronting the challenges and harnessing the opportunities surrounding the global nature of integrating the science of health, education, nutrition, and social protection. One of the ways the forum has committed itself to being global in scope is through the workshops that occur in different regions throughout the world. The cover design is intended to embrace the diversity in place, culture, challenges, and opportunities associated with forum activities at each of the workshops, but this global trajectory is done keeping in mind the momentum that comes in connecting these diverse locales to one another through the work of the forum. The bright orange dot represents the location of the workshop this report summarizes, and the lighter orange dots represent workshop locations across the first 3 years of the forum. The dotted orange line suggests that the forum will link what was gleaned from the convening activities from this workshop to the next. We would like to thank Jocelyn Widmer for her contributions to the cover design.

Contents

1

Introduction and Overview[1]

To examine the science, policy, and practice surrounding supporting family and community investments in young children globally and children in acute disruptions, the Forum on Investing in Young Children Globally held a workshop in partnership with the Ethiopian Academy of Sciences in Addis Ababa, Ethiopia, from July 27–29, 2015. The workshop examined topics related to supporting family and community investments in young children globally. Examples of types of investments included financial and human capital. The workshop also included discussions on how systems can better support children, families, and communities through acute disruptions such as the Ebola outbreak.[2] Over the course of the 3-day workshop, researchers, policy makers, program practitioners, funders, young influencers[3] and other experts from 19 countries discussed how best to support family and community investments across areas of

[1] The planning committee's role was limited to planning the workshop. The workshop summary has been prepared by the rapporteur (with the assistance of Charlee Alexander, Kimber Bogard, and Carrie Vergel de Dios) as a factual account of what occurred at the workshop. Statements, recommendations, and opinions expressed are those of individual presenters and participants and are not necessarily endorsed or verified by the Institute of Medicine. They should not be construed as reflecting any group consensus.

[2] Acute disruption is defined in the objectives for the workshop as one of three types of emergencies: (1) human-induced disasters, (2) natural disasters, and (3) outbreaks.

[3] In this context, young influencers are recognized as the dynamic, young, engaged group of researchers and implementers who work behind the scenes to support policy and practice for investing in young children globally. This community consists of support staff for policy makers and program implementers, young researchers at universities, and community

health, education, nutrition, social protection, and other service domains with additional sessions that addressed specific needs of children and their caregivers during acute disruptions. In his introductory remarks, Gary Darmstadt, Associate Dean for Maternal and Child Health, Department of Pediatrics at the Stanford University School of Medicine, noted Ethiopia is particularly well equipped to discuss family and community investments. Among the reasons he cited were the strong commitment to science through the Ethiopian Academy of Sciences and also the robust primary care system Ethiopia built, which includes a health extension platform to which Ethiopia's achievement of Millennium Development Goal 4 (reduce child mortality) can be largely attributed. Despite this success, Darmstadt pointed out one of the challenges moving forward is to consider how the workshop could be a catalyst to influence Ethiopia's primary care platform among those globally to take on interventions that particularly improve child development alongside child survival. Turning to children during times of emergencies, Darmstadt emphasized there are particular challenges, but also distinct opportunities, in settings of acute disruptions to move the child survival agenda forward by introducing interventions that optimize early childhood development.

While the financing and policy perspectives are central to understanding family and community investments, the Workshop Planning Committee deemed it equally important to create a space to lift up the voices and bring the community into the room. Various voices were captured across Ethiopia, Haiti, and Rwanda to articulate, in their own words, some of the challenges and solutions around family and community investments in their young children. In particular, the voice of the young influencers captured the return on investment families and communities are making in this next generation, where the aspirations of this generation articulate intentions to address the needs of future children in their capacity as future professionals and leaders.

Amina Abubakar, Postdoctoral Research Fellow at the Center for Geographic Medicine, KEMRI Wellcome Trust Research Labs, framed the role of families and communities in investing in young children. She expressed excitement for coming to Ethiopia because the workshop themes are very close to the African heart. Abubakar indicated that in Africa, children are raised within a village—within a community, so it is important to explore not just the processes enabling families and communities to invest in their children, but also to hear from these families and communities themselves on such investments. Darmstadt pointed out that in looking across the financing models, policy environments,

leaders. They are a group with intense energy and dedication who champion the well-being of young children and ensure their protection in the political sphere.

BOX 1-1
Workshop Statement of Task

An ad hoc planning committee will plan and conduct an interactive public workshop featuring presentations and discussions that highlight the science and economics of understanding and supporting family and community investments in children and their caregivers using coordinated approaches across the areas of health, education, nutrition, and social protection. Coordination will be broadly examined to include coordination across sectors, funding and implementing entities, and the lifecycle. One goal of the workshop is to understand decision making on investing in young children globally by families and communities. In order to highlight these issues, the first 2 days will focus on the following:

1. Different dynamics determining investment
   - Definitions of family and community investments
   - Types of economies (urban/rural; informal/formal)
   - Categories of work/labor
   - Diversity of global contexts
2. How to maintain the centrality of family while including examples of coordination across
   - Sectors
   - Funding and implementing entities
   - Lifecycle (pregnancy, birth, 0–8, and adolescence)
3. Models for increasing opportunities for financial and human capital investments in young children and their caregivers
4. Evidence of effectiveness related to investments in families and communities
5. Models of different public- and private-sector approaches to supporting families to invest in young children
6. Innovative potential occurring regionally and globally in family and community investments in young children globally

Given the recent Ebola outbreak in West Africa, the members of the Forum on Investing in Young Children Globally decided to shed light on some pertinent questions to stimulate dialogue and discussion on lessons learned from other acute disruptions in children's lives in order to inform future investments in families and communities that may better support children and their caregivers in these situations. Specific topics will include who the actors were, how the systems that support children were challenged, and lessons for the future. The third day of the workshop will focus on the following questions, drawing on a few selected acute disruptions to be determined by the planning committee:

1. Who responded to children's needs during the acute disruption? Who were the key actors in-country supporting children and families?
   - How were different roles defined among different actors in supporting children's needs?
   - Who was mobilized and how were they mobilized?
   - What was the relationship between state and international responses related to children and how was effectiveness of each measured?
   - Who was protecting children's interests?

continued

BOX 1-1 Continued

2. What happened to the education, health, social protection systems, and nutrition programs serving all children and also the most vulnerable children during the acute disruption?
   - What happened to these platforms for delivering services and care to children during the disruption?
   - What was the impact on existing orphans and newly orphaned children as a result of the disruption? What were the risks to survival of mothers and newborns? What are the special needs of infants in these situations?
   - How were resources, both human and economic, reallocated and mobilized to address the situation within state and international responses? Were resources diverted from children and their caregivers? What was the impact on health care workers who typically care for children and mothers in particular? What are the long-term impacts of resource reallocation and mobilization on existing infrastructure of child-related programs and services? How does the transition occur from disaster relief to long-term development, to address child-related needs in the new reality created from the acute disruption?
3. How can the lessons learned from these examples lead to investments to strengthen families and communities to minimize the damage from acute disruptions on the health and well-being of children and their caregivers in the future?
   - In particular, what are the multisectoral responses and partnerships necessary to have in place to minimize damage to children and families during acute disruptions?
   - Are there communities noteworthy for their resilience regarding the well-being of children and what characterized their ability to provide protection in the midst of the acute disruptions?

Across the 3 days, speakers will explore questions about the ways in which families and communities invest in children and their caregivers by highlighting the dynamics at play among the diversity of global contexts, including during acute disruptions, types of economies, definitions of family and community investments, and categories of work/labor. Examples will be drawn from low-, middle-, and high-income countries, across urban and rural contexts and informal and formal sectors of society, and will focus on vulnerable populations, including vulnerable children and their families and communities. Special attention will be paid to diverse cultural and community contexts within which children and families access and receive services. In addition, systems and governance issues that facilitate or create barriers to increasing opportunities for financial and human capital investments in young children and their caregivers will be highlighted, as well as evidence of effectiveness related to investments in families and communities.

The committee will identify specific topics to be addressed, develop the agenda, select and invite speakers and other participants, and moderate the discussions. An individually authored summary of the presentations and discussions at the workshop will be prepared by a designated rapporteur in accordance with institutional guidelines.

BOX 1-2
The Forum on Investing in Young Children Globally

The Board on Global Health and the Board on Children, Youth, and Families of the National Academies of Sciences, Engineering, and Medicine launched the Forum on Investing in Young Children Globally (iYCG) in January 2014. iYCG is a collaboration of experts working to ensure that investments in the world's children are informed by integrative science and are a top priority on the policy agenda, both globally and nationally. iYCG aims to identify and communicate best practices in the translation of science and evidence into programs and policies that improve the lives and potential of young children around the world. The vision of the forum is that decision makers use the best science and evidence for investing to optimize the well-being of children and their lifelong potential.

Forum Goal and Objectives

The forum's goal is to integrate knowledge with action in regions around the world to inform evidence-based, strategic investments in young children. Objectives to meet this goal are as follows:

1. **Explore the importance of an integrated science of healthy child development through age 8** via workshops, papers, infographics, and other products. The forum's work includes the health and well-being of the caregivers of young children (e.g., mothers and/or other familial caregivers, child care providers, and preprimary and early primary school teachers), including their psychosocial and economic well-being.
2. **Share examples of models of program implementation at scale and financing across social protection, education, health, and nutrition** among researchers, policy makers, implementers/practitioners, and advocates to implement quality practices and bring these practices to scale, in the context of the economics of strategic, integrated investing in young children.
3. **Promote global dialogue on investing in young children** to inform ongoing conversations and activities of groups working on issues related to young children globally.
4. **Catalyze opportunities for inter-sectoral coordination at local, national, and global levels** across health, education, nutrition, and social protection that aim to improve children's developmental potential.

Four previous workshops focused on the cost of inaction, financing investments in young children, scaling up those investments, and looking at existing platforms to support investments in young children globally. Brief summaries of the workshops are available at the forum's website (http://iom.nationalacademies.org/Activities/Children/InvestingYoungChildrenGlobally.aspx) and full summaries are available from the National Academies Press (http://www.nap.edu).

programmatic viewpoints, and the relationships among all three of these levels, given the workshop's focus on family and community investments, it is particularly important to bring their voices and unique perspectives into the room. Still, Darmstadt made the challenge to go beyond engaging the voices of families and communities to ensure policy decisions include these voices.

Box 1-1 provides the full statement of task for the workshop, while Box 1-2 describes the forum and its objectives. Appendix A provides a list of abbreviations and acronyms used in this report, Appendix B contains the workshop agenda, and Appendix C includes the speaker biographies.

WORKSHOP OVERVIEW

The workshop topics were designed to highlight *financing models and policies* for supporting family and community investments; explore country-level decision-making *tools* that would provide governments a mechanism to measure program impacts and to scale up interventions; provide *perspectives* from programs; bring in *voices* from the ground; explore the specific situation of making investments in families and communities during and after *acute disruptions*; and lay out *aspirations* expressed by workshop speakers to further connect the financing and policies back to impacts for young children and their caregivers across the globe. Darmstadt noted that with 75 percent of workshop speakers coming from sub-Saharan Africa, the workshop provided the space to highlight regional issues and hear from those working in the region.

ORGANIZATION OF THE WORKSHOP SUMMARY REPORT

This summary report details the presentations delivered during the public workshop. The presentations are grouped into chapters, starting with definitions of family and community investments laid out in Chapter 2; financing models for supporting family and community investments in Chapter 3; global and country-specific policies for investments in young children and country-level decision-making tools that provide governments a mechanism to measure program impacts and to scale up interventions in Chapter 4; perspectives from programs in Ethiopia in Chapter 5; voices from the ground highlighting family and community investments in Chapter 6; the specific situation of making investments in families and communities during and after acute disruptions in Chapter 7; and aspirations to further connect the financing and policies back to impacts for young children and their caregivers across the globe in Chapter 8.

2

Defining Family and Community Investments in Context

Demissie Habte, President of the Ethiopian Academy of Sciences, noted Ethiopia and the global community are taking an increasingly active role in making investments in children. Referencing traditional wisdom, Habte surmised the future of humankind depends on its children. To prepare children for such a role, he noted their growth and development are critical. He placed the responsibility in the hands of families and the community at large. The state and art of today's science dictate how families and communities act on this responsibility, and Habte drew on examples from Ethiopia and sub-Saharan Africa to illustrate his point. Despite traditions that support children through their development, morbidity and mortality remain high among children in Ethiopia and in several parts of Africa, as do inadequate educational facilities and widespread poverty exacerbated by poor living conditions. Habte noted all of these factors in concert impede the development of the full potential of children. He credited advances in science and technology as well as the increasingly active role governments, civil organizations, and the international community have taken to support the developmental potential of children in the African context. While investments in children vary across the lifecycle, those that occur before birth support the health of mothers before and after birth, provide infrastructure and services to ensure a safe birth, and support children in their early years are particularly important. Habte referenced the need for policies to support science if children are to assume the critical role the young are expected to play across African societies.

DEFINING FAMILY AND COMMUNITY INVESTMENTS

Larry Aber, Willner Family Professor in Psychology and Public Policy at the Steinhardt School of Culture, Education, and Human Development, and University Professor at New York University, pointed to the height of the HIV crisis in Africa to suggest that even when communities and families were at their absolute lowest points, most of the burden, energy, and investments in children came from families and communities. Aber went on to stress it is almost impossible to overestimate how disproportionate it is that families and communities make investments in children compared to investments from government, industry, and other stakeholders, not only in dire times but also in relatively normal times. He illustrated this point with an Innovation for Poverty Action Lab study[1] from a number of countries in sub-Saharan Africa that found more than 80 percent of preprimary-aged children are enrolled in some form of early education and more than 80 percent of these children are attending private schools funded by the meager fees of some of the most impoverished families.

Referencing the African proverb, "it takes a village to raise a child," Alex Coutinho, Executive Director of the Infectious Diseases Institute of Makerere University in Uganda, applied this adage to the multidisciplinary and multisector demands of the field of early childhood. Coutinho stressed that for children to successfully navigate a progression from surviving to thriving and finally, transforming, they need to experience the ability to love and to be loved, boast adequate self-esteem, and explore curiosity about all things, yet also be supported by access to education, health, and social services. Coutinho pointed out that if families and communities are going to function effectively the global community and national and local governments need to create the policies and resources to allow families and communities to invest in their children, with a particular focus on peace and stability, food and nutrition, health, education, social protection services, safe water, sanitation, environmental hygiene, and energy, among others. Families and communities function best where governments in Africa are supportive, strong, and committed to investing in those key aspects necessary for children. Coutinho went on to state that to be child focused requires a fundamental focus on families. Coutinho defined key inputs at the family level. These inputs (see Box 2-1) safeguard parents to stay alive and healthy so they may be linked to resources that simultaneously empower their rise out of poverty and allow their children to thrive.

Shifting to communities, Coutinho added that communities act as

[1] See http://www.poverty-action.org/study/exploring-early-education-programs-peri-urban-settings-africa-nairobi-kenya (accessed October 20, 2015).

BOX 2-1
Key Family Inputs

- Stay alive and stay healthy
- Rise above poverty
- Ensure proper nutrition
- Prevent illness in children
- Invest in early childhood development, early childhood education, and formal education
- Practice family equity
- Allow a child to be a child
- Ensure that children work responsibly in the home
- Plan for shocks

buffers and provide resilient structures to ensure a trajectory from child survival to long-term outcomes and impacts so communities become positive gatekeepers of change for a child's needs amid an uncertain future. Communities are key to developing the culture, tradition, and belonging of a child by giving identity, history, meaning, and a future. Equally important is the role of communities to be vocal advocates to help families adopt pro-child and pro-development practices. To do this, Coutinho stressed communities need to be linked with national and community resources that are often embedded in systems of culture, tradition, religion, self-help groups, and microfinance to provide parents opportunities for employment, life skills, the ability to trade, better agriculture, cash transfers, and good livelihoods so that, in turn, they have the tools and the abilities to invest in their children across the areas of health, education, nutrition, and social protection.

Coutinho reminded workshop participants that in the African context, no single approach is necessarily transferable, but there are some commonalities. He stated that critically important across all communities is the empowerment that derives from top-down leadership when the global community and national governments support family and community investments in their children. Yet it is difficult to focus on and invest purely in the child without investing more broadly in the larger family structure, Coutinho cautioned. While families may mean well, they require the education and ability to be empowered in the necessary areas for optimal child development beyond the external monetary or social benefits that may be acquired by having a child. In an era accentuated by democracy, Coutinho affirmed that the true measure of democracy

is whether communities and individuals receive the services they need while having their rights met. It is fundamentally important that families and communities are supported in such a way to understand what their rights are and to have the freedom to advocate for these rights to ensure strong villages. To do so, Coutinho argued, requires strong and supportive nations placing the onus on individual countries to be part of a global village in order to thrive.

SOCIAL AND CULTURAL FACTORS THAT INFLUENCE HOW FAMILIES AND COMMUNITIES INVEST IN YOUNG CHILDREN

Gillian Mellsop, Ethiopia Country Representative for UNICEF, affirmed that while investing in young children is one of the most effective and preventative interventions with great impact on the many challenges that thwart family and community development, early childhood development programs are among the most underfunded globally (UNESCO, 2007). She explored the social and cultural factors that influence how families and communities invest in young children, particularly given that many young children and families around the world do not have access to adequate support to create enriched environments during the critical period of a child's life. Mellsop pointed out that recent advances in neuroscience show that while genes may provide the blueprint for brain development, the environment shapes it. In defining social and cultural factors that influence investments in young children, Mellsop highlighted two key issues, which she encouraged workshop participants to keep central throughout the course of the workshop discussions.

The first issue Mellsop highlighted is that early childhood is the inaugural stage of lifelong learning and development. She encouraged a holistic approach to children's learning and development and programmatic alignment with primary learning. One of the main advantages of early childhood development, stated Mellsop, is its potential to break down inequity in learning outcomes from the very early ages by leveraging the tremendous capacity of early brain development and function. She went on to say investments in early childhood yield savings by mitigating or preventing later learning and behavioral difficulties such as grade repetition and dropouts at school. It equalizes chances for all girls and boys to have a strong start. Stimulation, reading, drawing, and other positive healthy interactions spark neural connections. In childhood development, the earlier the intervention the better, suggested Mellsop, where science is increasingly pointing toward a more holistic definition of early childhood development that includes not only education, but interventions that also include health, nutrition, and social protection.

Second, Mellsop pointed to the reality that most young children and

families do not have access to adequate support to create enriched environments. Approximately one in three children under 5 years of age in low- and middle-income countries are not achieving their cognitive development potential (Grantham-McGregor et al., 2007). This can be attributed to the fact that there is only 58 percent enrollment in preprimary education globally, with far lower enrollment figures in low-income countries and the lowest in sub-Saharan Africa (20 percent) (UNESCO, 2007). Highlighting Ethiopia, Mellsop stated that 66 percent of children between the ages of 4 and 6 do not attend a school readiness program (Federal Democratic Republic of Ethiopia, 2006), despite the country's unprecedented progress in preprimary education in the past decade. If more than half of the children in this age bracket were to attend preprimary education in Ethiopia, where they would be given the opportunity to develop their full developmental capacity when they reach child-bearing age, Mellsop noted these benefits could be passed on to their children. In this way, Mellsop pointed out that early childhood education can break the vicious cycle of intergenerational deprivation.

UNICEF is supporting several school-readiness programs in Ethiopia as part of the integrated national early childhood care and education policy and strategic framework. Taking a child-to-child approach, the school-readiness program is a 36-week program targeting children the year before they enroll in primary school. The program is conducted by trained, young facilitators, whereby children in grades 5 and 6 are supported by trained teachers. The child-to-child approach seeks to embrace the three dimensions of school readiness: (1) a child's readiness for school; (2) family and community readiness to support children in school; (3) and the school's readiness to receive children and foster optimal learning environments. Mellsop stated the child-to-child approach in conjunction with two other initiatives resulted in an increase in national early childhood care and education gross enrollments for children between the ages of 4 and 6 from 5.6 percent in 2009–2010 to 34 percent in 2013–2014 (Federal Democratic Republic of Ethiopia, 2014). Mellsop noted it is important to point out the significantly high regional disparities across Ethiopia. In doing so, she stated that future research on these early learning programs needs to assess the relative effectiveness of not only different program deliveries, but also identify ways to scale up early learning modalities so that these programs are able to reach the underserved. She also noted resources need to be mobilized to ensure quality and sustainability of early childhood programs on the premise that the earlier the investments are made in children, the greater the results will be. Mellsop urged continued advocacy for increased budgets for early learning needs to match the robust efforts already occurring in early learning so that these activities may be sustained and scaled.

3

Financing Models

Simon Sommer, Head of Research for the Jacobs Foundation, stated there is a certain tension between the childhood development model and the business models needed to support child development. Sommer introduced three examples from sub-Saharan Africa where public and private approaches are being integrated to achieve a common goal of investing in children and their caregivers. These efforts include business and economic perspectives to illustrate how family and community needs can be met by coordinated private- and public-sector approaches to financing. Sommer pointed out that variability occurs across how different actors mobilize financial support; what funding models look like; and how profit, value, and impacts are balanced with respect to investing in young children.

AN EXAMPLE FROM THE PRIVATE SECTOR

In Cote d'Ivoire and Ghana, the world's first and second largest producers of cocoa, respectively, the World Cocoa Foundation developed a strategy grounded in performance-based indicators for cocoa production alongside growth-based indicators for community-driven development in contexts where small-holder farms operate as a family enterprise. Bill Guyton, President of the World Cocoa Foundation, introduced the private sector's interest in the supply side of cocoa, and the complexity surrounding production, which includes the nexus of poverty and children. Guyton articulated that one of the major concerns of the cocoa industry lies in the next generation of farmers, particularly if they will be interested

in growing cocoa. He questioned where the motivation to grow cocoa will come from in the future.

The World Cocoa Foundation was established in 2000 by the chocolate industry to respond to sustainability issues surrounding the production of cocoa globally. There are currently 115 company members, with membership ranging from branded companies to actors in the supply chain that represent processors, traders, input suppliers, and retailers. Guyton outlined that CocoaAction is a platform by which all partnering entities agreed to a common method of measuring success meant to better align cocoa production and community development issues—such as primary education, child labor prevention, and women's empowerment—for ultimately a greater impact. Guyton emphasized the vital role cocoa-producing governments play in the implementation of the World Cocoa Foundation's programs.

In response to the uncoordinated program implementation that was occurring surrounding cocoa production in West Africa, CocoaAction was devised in 2013 to reach more than 300,000 cocoa farmers in Cote d'Ivoire and Ghana by 2020. Guyton stated CocoaAction is company implemented, thereby holding corporations accountable for the desired impacts on the ground; and also partnership driven, particularly linking with governments in Cote d'Ivoire and Ghana so that key performance indicators are agreed on across partners (see Figure 3-1). Implementing partners of CocoaAction provide a productivity package to cocoa farmers, which includes training, new planting material and fertilizers, and good agricultural practices to help improve the productivity or yields on the farms in conjunction with coordinated investments in community development across the areas of primary education, child labor, and women's empowerment.

Guyton noted that to measure the different impacts on the ground, a "common results" framework was created so that there is a common key performance indicator and methodology that participating companies agreed to follow and provide publically available reporting. Each of the indicators within both the productivity package and the community development package are clearly defined so measurement and reporting can happen consistently across partners. In addition to the thematic areas on how to measure indicators across the two packages, CocoaAction also seeks to link more closely with the public sector. CocoaAction recently signed memoranda of understanding with the governments of Cote d'Ivoire and Ghana where agreement converged around the key performance indicators with the governments in these two countries so that impact could extend beyond what the partnering companies are doing through CocoaAction on the ground in cocoa-growing communities.

Guyton also introduced Transforming Education in Cocoa Commu-

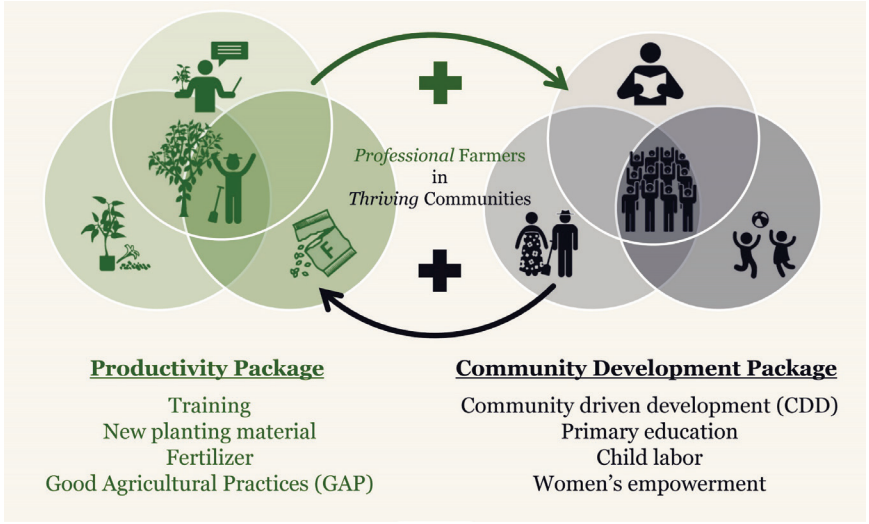

FIGURE 3-1 Key performance indicators for productivity and community development interventions.
SOURCE: Guyton, 2015. © World Cocoa Foundation 2015. All rights reserved.

nities (TRECC), which he stated is a new initiative to help strengthen CocoaAction in Cote d'Ivoire and to reach 200,000 children. TRECC, in partnership with the Jacobs Foundation, utilizes an impact-first financing model so that companies will receive resources based on whether they are achieving certain results across domains of primary education, productivity, and community development. More specifically, TRECC is a matching grants mechanism where companies will implement programs to help strengthen primary education in Cote d'Ivoire. Guyton pointed out the model creates a tool to leverage efforts around improving primary education with what companies are already investing through CocoaAction to improve productivity and community development more generally. The model is driven by the private sector and creates the space for innovation and flexibility around improvements to primary education in Cote d'Ivoire.

AN EXAMPLE OF A SOCIAL ENTERPRISE

Afzal Habib, co-founder and Chief Imagination Officer at Kidogo, introduced Kidogo's work in Kibera and Kangemi, two informal settlements in Nairobi, Kenya. Habib pointed out that in these communities parents are willing to pay for child care services, yet quality services are

largely unavailable. More specifically, working mothers who live in urban slums and informal settlements lacked suitable options for child care, so only three scenarios were viable alternatives for child care for working mothers. In one scenario, mothers were found to leave their children at home alone for up to 8 hours, and in some cases tied to furniture. According to Habib, mothers did this not out of neglect, but based on the belief that a child is safer inside the house than outside the house, specifically in the informal settlements of urban Nairobi. In other cases, older siblings (usually adolescent girls) were reportedly pulled from school to take care of their younger siblings, which increased the probability that these older siblings would not return to school if they were absent for any sufficient period of time. While providing a better alternative than a child staying at home alone, Habib pointed out this alternative care model negatively impacts two groups—the child receiving the care and the adolescent sibling providing the care. Local baby care centers were a third alternative. A subset of mothers would combine the care of their own children with the children of neighbors and friends. By charging a small amount of money for food and other expenses (30–70 shillings/0.50–1.00 USD per day) the mothers' individual efforts when combined become an informal business. However, while this alternative provides infrastructure for parents to have a place to leave their children while they go to work for the day, the quality and conditions range, but are generally abysmal, reports Habib. It was found that in some cases where more than 25 children are cared for in a small interior space, care providers are purported to administer sleeping pills as a means of keeping children subdued for the day.

Habib stated that the child care situation in the informal settlements of Nairobi begged a business question: How to deliver higher-quality care at roughly the same price point parents already pay for informal care offerings? Kidogo turned to childhood development science to find a solution. This solution is based on four elements: safe and child-friendly spaces that ensure children have an aesthetically appealing and tactically stimulating environment where they can explore; a play-based experiential curriculum derived by integrating best practice approaches from around the world that translate and are appropriate for the local Kenyan context; certified early childhood caregivers who hold a certificate or a diploma in early childhood development issued by the government and who receive subsequent specialized training in best practices surrounding early childhood care; and integrated health and nutrition programs across the delivery platform.

The program operates on an innovative hub-and-spoke model (see Figure 3-2), in which a best-practice hub provides an exemplary model for those already providing early childhood care in the informal settlement, with the hope that through micro-franchise opportunities others

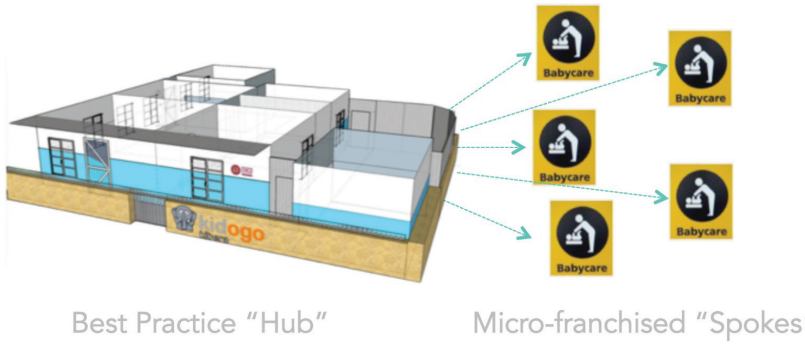

FIGURE 3-2 Kidogo's hub-and-spoke model.
SOURCE: Habib, 2015. Reprinted with permission from Kidogo.

may begin to operate sustainable, small-scale quality child care centers. Habib emphasized that the Kidogo model did not aim to displace mothers who were already providing child care out of their homes. Kidogo views these homes as critical infrastructure with an income-generating, self-employment opportunity in the informal settlements. Kidogo aspires to provide a model center to illustrate what child care should and could look like in the contexts where these informal businesses are already operating. Habib noted that profit is conceived as a means and not an end in this hub-and-spoke model, which seeks to be sustainable to maintain employment among those who rely on these centers for jobs, as well as keeping children in a quality child care situation.

Kidogo currently has two centers, both operating at 75 percent capacity or higher in terms of enrollment. One of the two centers is already attaining operational break-even, where all costs to run the center, including compensation for the child care providers, are accounted for. In terms of costs, a child care center under the Kidogo model requires on average 600 USD per month to be operational (13 percent rent for the center; 42 percent for teachers/staff; 37 percent for the meal program; 8 percent for curriculum materials). Costs of materials factor in as a fixed cost, which are one-time investments in durable, sustainable materials that children can manipulate. Complicating the break-even figure Habib presented is the fact that the centers need to operate at 95 percent capacity. This means that in a center that can accommodate 40 children, it needs to have 38 children enrolled year-round just to break even. Citing a report by the Alliance for Early Childhood Finance (2010), Habib conceptualized early childhood financing by stating there is no margin for error—every dollar is needed, every day, for every child.

Drawing on some of the early lessons learned from the Kidogo model, Habib reflected on five main areas. The first is that it is challenging to sustainably operate small, independent child care centers beyond any measure of breaking even. Compounding the small margin of error is the nature of enrollment in these centers; vacation months in Kenya are for 3 months out of the year. During these months, centers have very few children enrolled, if any at all, yet many of the associated costs are still applicable, including teachers' salaries.

Second, transparency in the return on investment for funders, policy makers, and supporters of service delivery organizations is important to communicate, stated Habib. Third, fee collections vary because of the economic reality parents face; namely, families in these settlements typically live on 3 to 5 USD per day. Habib noted these inconsistencies create challenges to sustainably operating child care centers.

Another challenge lies in the age variation and associative cost with providing child care to children who range in age from birth to age 6. Habib pointed out children under age 3 are significantly more expensive to serve than older children because of the necessarily low ratio of children to child care providers for children under age 3. The children ages 3 and above end up cross-subsidizing the younger children's programs. Yet, it is equally important to invest in the younger age groups because that is where the highest return on investment and measurable impact per dollar lies, according to Habib.

Finally, Habib articulated the need to pull non-core tasks out of the centers to achieve sustainability at scale. Shared services, such as administration, management, and monitoring and evaluation, can be done centrally for a more sustainable and potentially scalable model. This allows individual centers to focus on what they do best, which Habib deemed to be caring for children.

AN EXAMPLE FROM AN ALLIANCE OF CROSS-SECTOR FUNDERS: SOUTH AFRICA

In South Africa, David Harrison, Chief Executive Officer of DG Murray Trust, stated most children miss the opportunity for quality early learning largely because of the disorganized and informal structure of early childhood education, where the poorest 40 percent of the population have very little access to any sort of formal or structured early learning experience (Richter et al., 2012). DG Murray Trust, a South African grant-making foundation working with a coalition of funders and implementing partners, created an alliance of both international and South African foundations to support early learning.

Harrison described the situation of early learning in South Africa,

stating that early learning depends largely on the services provided by micro-entrepreneurs, which he referred to as subsistence entrepreneurs. They are supported by resource and training organizations across South Africa. The state does provide some financing in the sense that there is a per capita subsidy to registered centers in South Africa, which serve about 15 percent of the eligible population of children (Richter et al., 2012).

Subsistence entrepreneurs are financed either by the per capita subsidy, user fees, or usually some combination of funding streams, noted Harrison. The reality for unregistered facilities in South Africa, which serve the majority of children, is that they do not receive any public financing.

To address issues of financing and access, DG Murray Trust identified four leverage points, drawing from basic tenets of game theory to take early learning to scale through innovative financing models together with the government (see Figure 3-3). These leverage points include changing access to information about the power of early learning; altering the way public funding is used; shifting outcomes of the private enterprise that already occur with respect to early learning; and expanding the range and diversity of people in South Africa involved in the well-being and education of young children. Harrison stated the idea behind this approach is that changes to the dynamics of the system could occur across the four leverage points.

To change access to information, DG Murray Trust brought together public demand, political pressure, and scientific evidence. Harrison said the organization interpreted what this convergence of information means and then translated it in a way that could be made public and conveyed to policy makers. To stimulate public demand, DG Murray Trust made extensive use of public radio, partnering with a public broadcaster with radio programs every week to target parents. This communication strategy is intended to disseminate the power of early learning in simple messages of love, play, and talk to which the parent audience can relate.

To alter the way public funding is used, DG Murray Trust has been working with the government to change perceptions of early childhood development to include all children who are not in early learning centers, and in doing so moving conceptually beyond just the services provided to be inclusive of the whole child. This includes developing implementation-based rhetoric on the continuum of services and care, which Harrison stated includes the type of programs that need to be supported, including visiting programs, community-based programs, and facility-based services. Harrison indicated an effort to highlight the evidence that has emerged from China and other countries, which are placing early childhood at the center of economic development strategies. Government commitment seems to exist, but Harrison referenced how these commitments

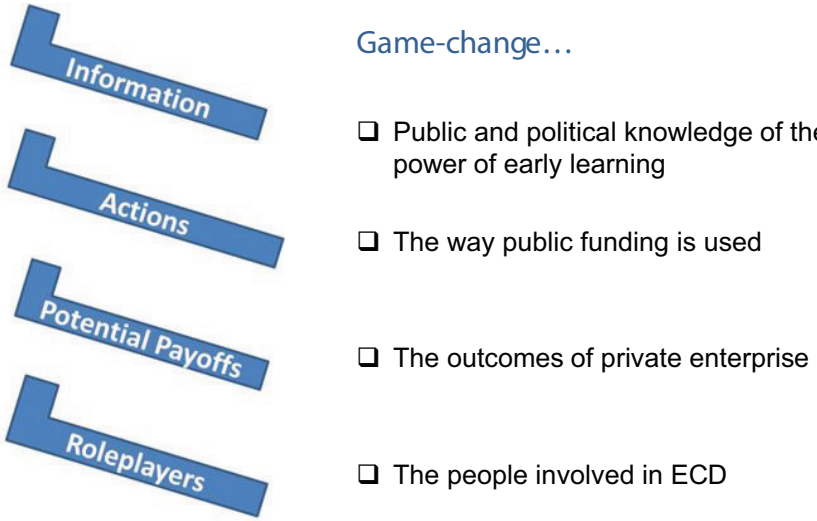

FIGURE 3-3 Four points of leverage to take early learning to scale through innovative financing models together with the government.
NOTE: ECD = early childhood development.
SOURCE: Harrison, 2015.

are diverted when perceivably more significant needs take resources and attention of the government away from early childhood.

DG Murray Trust is tailoring a package of quality support for micro-entrepreneurs serving the poorest 40 percent, and in doing so, is building a national network of practitioners who feel like they belong to something bigger than themselves, Harrison said. Breaking the vicious cycle of exclusion and of poor quality of child care necessitates an affirmative program aimed at the poorest 40 percent of children. An example of this is the early learning social franchise called SmartStart, which has tried to reach children who do not have access to services by using play groups and increasing play group practitioners. SmartStart has been publicly financed. A public works program in place seeks to channel qualified graduates into early learning employment opportunities while at the same time lifting up the experiences and interaction of the micro-entrepreneurs who are already in place.

Incremental increases to financing and enrollment is not a scalable model, Harrison argued. Instead, to achieve scalability DG Murray Trust is trying to focus on the dynamics of change. Harrison believes the system in South Africa has been primed for change, and through this process the system has been primed for scale. Harrison concluded by remarking that every business, community, and government works program should

be seen as a platform for investing in young children. These four leverages bring the dynamics of change around supporting young children in the South African context into focus, so that the system can change and appropriately scale up.

REACTIONS TO EXAMPLES OF FINANCING MODELS

Joe Amoako-Tuffour, Director of Research at the African Center for Economic Transformation based in Ghana, provided a research reaction to the financing models presented by Guyton, Habib, and Harrison. He began by questioning why communities do not invest in early childhood when the net return is so obvious. Referring to Harrison's presentation on leverages of change, in terms of production functions and financing, he reflected it is important to know the exact intervention points where financing should be delivered and to whom it should be delivered. Alternatively, Habib's presentation stressed the importance of inputs across the four identified areas that define the Kidogo Way (environment, curriculum, certified teachers, and integrated health and nutrition programming). Amoako-Tuffour stressed that understanding the inputs enables the decision-making process to unfold around how the inputs are paid for to ensure the delivery of the final product—or the outputs.

In terms of financing programs and services, Amoako-Tuffour concluded that in South Africa, with DG Murray Trust, it is a function of public financing combined with donor funding; whereas in Kenya with Kidogo, it is a business model that depends on user fees. In both cases, Amoako-Tuffour argued that the challenge lies in setting the right price per child, which then determines the margins, the optimal size, and therefore the break-even point in cases where early childhood services are privately provided.

Amoako-Tuffour cautioned that whether early childhood education is publicly or privately provided, fees and price setting in general should not be a barrier to entry. The challenge is how to balance parental responsibility and social responsibility. If society were broken down into say five income groups (quintiles), Amoako-Tuffour argued this would reveal that each group demands early childhood care and services in very different ways. The top fourth and fifth quintiles (the top 40 percent of income earners) would likely voluntarily purchase early childhood services at full price. Those in the third and second quintiles (the lower middle income and those marginally above the bottom) may purchase the services at reduced prices if available, and some are likely to underconsume early childhood services because of cost and access. Those in the bottom quintile (the poorest 20 percent of the income group) would most likely access early childhood services in informal settings that Guyton, Habib, and

Harrison described, or not at all, largely because of cost. The challenge lies in finding ways of allocating resources to financing early childhood care and services for these different income groups. Sometimes the challenge is not the lack of funds, suggested Amoako-Tuffour, but rather how funds are allocated, having adequate information to ensure accurate targeting, and knowing who is responsible for such funds. Amoako-Tuffour rhetorically asked where funds should be allocated: through general subsidies to all, directly to service providers, or to parents through a voucher system or some form of cash transfer? The choice is not binary, he said. Each context may call for a different mix of allocating resources.

Amoako-Tuffour remarked there is a tendency to concentrate on physical infrastructure (building and amenities), yet for the private sector and the type of partnerships Guyton presented, the focus should be on soft infrastructure (curricula, learning models and tools, teachers) and providing platforms for advocacy and bringing stakeholders together to ensure early childhood issues are central to the conversation. When it comes to financing early childhood development, especially in the African context, Amoako-Tuffour suggested drawing on the vast revenues generated from natural resources (especially minerals and petroleum) exploitation and investing these to develop a highly visible (human) natural resource—the continent's children. To do this, he proposed that sub-Saharan African countries set up an early childhood development fund, financed by all stakeholders.

4

Policies Supporting Family and Community Investments

The workshop drew on global and regionally specific expertise to explore policies supporting family and community investments in young children. Perspectives were assembled to include the African scientific community with the president of the African Academy of Sciences. Ethiopian state ministries, with representation from the State Ministry of Health (MOH), the Ministry of Education (MOE), and the Ministry of Women, Children and Youth Affairs (MOWCYA) were also included. The discussion was moderated by the former Minister of Health of Chile to connect the dialogue to other regions around the world.

The president of the African Academy of Sciences, Aderemi Kuku, opened the session by stating that the Ethiopian national perspective was particularly adept to weigh in on the benefits and costs of financial and human capital investments in young children and their caregivers. Yet in looking to the Ethiopian example, Kuku stated it was important to first mention the challenges confronting early childhood development in sub-Saharan African countries. Kuku broadly categorized these challenges to include infectious diseases, malnutrition, lack of early childhood education, and poverty more generally. Kuku argued that for effective solutions, broad participation will need to come from parents, family, communities, local governments, state governments, national government, and the global community. He called for an integrated approach in how the relevant actors address these pervasive problems facing the African continent. He also called on the social justice systems embedded

within the governance structures of each level listed above, stating that when children are not brought up well, the burden is felt across society.

Kuku remarked that a number of countries in sub-Saharan Africa do have policies based on some intersectoral collaboration among various sectors of the society, which among other advantages provide cost-sharing benefits across resources to avoid duplication. Kuku referenced the intersectoral collaboration among 10 different ministries in Kenya. He proposed that other African countries would be able to emulate this approach in formulating policies for children.

POLICIES SUPPORTING FAMILY AND COMMUNITY INVESTMENTS IN ETHIOPIA

In her remarks, Helia Molina, Vice Dean of Research and Development, Faculty of Medical Sciences, University de Santiago de Chile, and former Minister of Health of Chile, stated that investing in young children needs to be as much a key issue on the political agenda as it is among families and communities. She noted political will is crucial, but political will alone is not enough. Funding, a budget, and ongoing political and government support also need to be in place. Molina stated political support behind early childhood development is complicated by the fact that measurement of impact does not always coincide with the political timeline. Molina concluded with the overarching challenge, which is how to simultaneously put early child development as a key issue on both the political and community agendas.

In Ethiopia, national ministries are working together on policies to address the most pervasive challenges to young children: infectious diseases, malnutrition, education, and acute poverty. Yasabu Birknen, Director of Early Childhood Education in the MOE, opened by stating that supporting young children and families is an investment in which the return comes later, as seen in reduced early dropout from formal primary school, improved achievement in children, and emotional and psychological development. In turn, a well-designed package of investments in children will improve the health, scholastic achievement, and opportunity for future economic success of both the children and the country, Birknen said. The Ethiopian government understands these factors and has committed to develop a policy framework on early childhood care and education based on these principles. Birknen maintained that the policy was the antecedent for the interventions and placed primacy on development of sound national policies.

Birknen pointed out the role of the policy is to provide a coordination mechanism and to explicitly define the roles and responsibilities of partners, parents, communities, and value sectors. The government has

also developed a strategic operational plan and guidelines that function to put the general framework into action. Birknen outlined the roles and responsibilities of key actors. The Minister of Health assumes the lead for the young children from the prenatal period to 3 years of age, including all service deliveries; and the Minister of Education is responsible for children age 4 to 6 where interventions surrounding early childhood care and education occur.

Shifting to modalities, Birknen outlined that the early childhood care and education program in Ethiopia formally covers kindergarten, yet there are other informal modalities as well. He finds preparatory services like the Ethiopian School Readiness Initiative are also critical to reaching children who do not otherwise engage in a structured learning environment because they are too young for the formal education system.[1] While improving access to early childhood care and education increased the baseline growth of gross domestic product (GDP), according to Birknen, there are still children who are not able to access these formal programs and services. Finally, Birknen noted the quality of services and facilities and awareness of parents also pose barriers to access.

Yayesh Tesfahuney, Director of Child Rights and Promotion Directorate, the MOWYCA, focused on how community initiatives are investing in children by stating that effective solutions need to come from the interweaving of parents, families, and communities; local, state, and the national government; and the global community. Tesfahuney pointed out the Constitution of the Federal Democratic Republic of Ethiopia, which includes family, penal, and civil law, aligns with the United Nations Convention on the Rights of the Child International and Child Rights Convention and African Child Rights Charter. Furthermore, policies such as the Social Protection Policy, Comprehensive National Child Policy, Social Protection Strategies, and the Gross Transformational Plan enable national investments in children. Tesfahuney surmised the agenda on young children reaches across the MOH, the MOE, and the MOWCYA. Despite the breadth of child-centric policies, there are alternative care mechanisms in place to give care and support for the country's most vulnerable children. Tesfahuney's efforts are focused on how the community alone contributes and offers solutions for their children, including those most vulnerable.

Tesfahuney described a particular community-centered initiative that invokes religious leaders, children, teachers, and communities to identify vulnerable children in their community and develop an action plan as a way of setting priorities at the community level. A community council provides a governance structure and committees are in place to mobilize resources. There are now 3,700 community care coalitions across seven

[1] The Ethiopian School Readiness Initiative is outlined in Chapter 5.

regions in Ethiopia. At the Ministry level, there is an effort to scale up the initiative, but also to ensure care is delivered to children in a sustainable way from the core community unit.

The Honorable State Minister of Health, Kebede Worku, outlined how the MOH is working in the areas of maternal, newborn, and child health services by providing an integrated delivery mechanism at all levels, including the community level. Worku argued that the state has a responsibility to invest aggressively in integrated services at all levels, which includes communities. He emphasized the political commitment, particularly through the efforts of the MOH and community-level participation in the implementation of its programs and initiatives. Although Ethiopia achieved Millennium Development Goal 4 (reduce child mortality) and is on track to achieve Millennium Development Goal 5 (improve maternal health), Worku lamented that many children and mothers still die each year from easily preventable diseases.

Worku also described a national program that provides integrated services in a deployment-based approach at the community level. Households are networked as a way to provide support to neighbors through a model that seeks to scale up best community practices. Strategies addressing reproductive and adolescent health at all levels of health care are offered where participation happens because of community mobilization. The Health Development Army has been particularly helpful in improving service optics at the community level. Worku maintained that bottlenecks in infrastructure, supplies, and institutional capacities are alleviated because of this systemic mobilization from the national to local level.

Worku stated care for mothers and newborns has been a priority, as has been the sexual and reproductive health of adolescents and women through inexpensive but sensitive tools. Additionally, the National Nutrition Strategy was developed and is being implemented and integrated into other sectors. Worku stated this is important because the annual cost associated with malnourished children was equal to 16.5 percent of GDP in 2009.

Worku indicated the MOH is working to decentralize low-cost, high-impact programs at the community level, such as community-based newborn care and integrated community case management of common childhood illnesses. These services are provided by the health station workers, who are government employees, meaning they are formally trained but deployed at a community level. Vision control interventions and a series of other minor strategies have been implemented to target mothers and children. HIV services are also being provided through integrated services. Worku surmised the sum of these gains represents political commitment, community participation, and effective partnerships.

Worku congratulated Ethiopia's national achievements across educa-

tion, health, reducing harmful traditional practices, and overall poverty reductions, yet he still called on the international community to scale up effective interventions that can be implemented at the community level to provide care and support for Ethiopia's most vulnerable children. Worku urged the government and international community to scale up implementation of effective interventions by increasing high-quality investment in children and women's health to achieve maximum benefits.

POLICIES SUPPORTING FAMILY AND COMMUNITY INVESTMENTS GLOBALLY

Panning out to a global view provided workshop participants the chance to visualize policy impacts by examining systems and governance structures that facilitate or create barriers to financial and human capital investments in young children by their caregivers. By simultaneously looking in-depth at individual countries and at the global level, Jody Heymann, Dean of the Fielding School of Public Health at the University of California, Los Angeles, grounded arguments for resources and change in global data. Through a series of data visualizations presented by Heymann, her method facilitated a process to look at policies across 193 countries and more specifically, outcomes for families in these countries.

Heymann prefaced her global analysis of policies with two vignettes that added primacy and relevancy to her method. The first told the story of a widowed mother who often worked 15- to 20-hour shifts while she had a toddler at home. Heymann argued that however remarkable the woman's parenting skills were, or comprehensive the programs were that her young child participated in, ultimately the mother's working conditions limited the toddler's time with a primary caregiver. The second vignette told the story of a father who lost his job because he missed work to care for a sick infant. The infant came down with pneumonia when his mother had to stop breastfeeding because she had to return to her work, which did not provide paid maternity leave. Heymann stated these two examples illustrate all-too-real scenarios where parents' time devoted to caring for their children and the children's healthy development were dramatically shaped by the policy environment in which they lived (Heymann, 2006).

Heymann projected a series of maps to illustrate how national laws and policies shape the social conditions that allow parents to invest in their children (Earle et al., 2011; Heymann and Earle, 2010). The geography of policies provides both global and individual country data to map how policies change health outcomes for children and parents and economic outcomes for families. Heymann provided by way of example the nearly global coverage for paid maternity leave (see Figure 4-1)

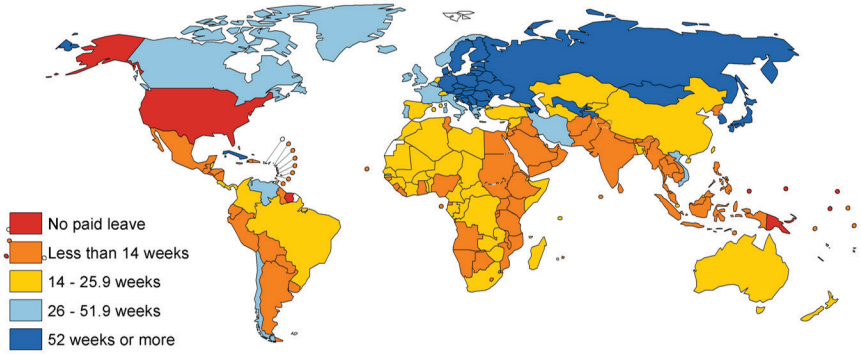

FIGURE 4-1 Global coverage for paid maternity leave.
SOURCE: Heymann, 2015. Data used from WORLD Policy Analysis Center (see www.worldpolicycenter.org).

across 185 countries, but far less global coverage for paid paternity leave (see Figure 4-2). Paid paternity leave is associated with fathers having increased involvement in their children's lives for years after the paid paternity leave, lower rates of maternal depression, and generally better child outcomes (Heymann and McNeill, 2013).

Heymann pointed out only about half of countries offer paid leave for fathers and only one-quarter offer 3 weeks or more. There was global agreement on maternity leave, albeit significant diversity in length globally. Heymann emphasized the need for that same kind of global agree-

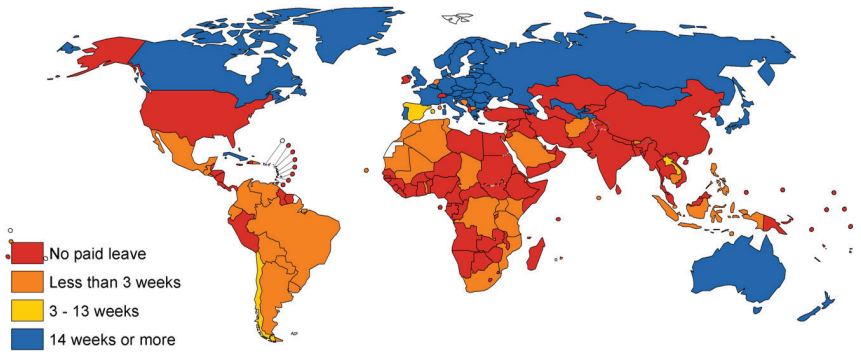

FIGURE 4-2 Global coverage for paid paternity leave.
SOURCE: Heymann, 2015. Data used from WORLD Policy Analysis Center (see www.worldpolicycenter.org).

ment for fathers because this critical window is when fathers set the tone as to whether they will be involved long term in the child's life.

Heymann turned next to a series of maps on breastfeeding breaks at work globally, citing the evidence that breastfeeding lowers infant mortality and is one of the most powerful interventions in early childhood to promote health and well-being (Atabay et al., 2014, 2015; Heymann et al., 2013a). Heymann pointed out that for working mothers, encouraging breastfeeding is more complicated than communicating the importance—particularly for women in low-wage jobs. Heymann noted when mothers are asked if they want to breastfeed, overwhelmingly the answer is yes, but for those mothers who work in the paid labor force, the reality is that they stop. In answering questions around how to ensure women continue breastfeeding when they return to work, Heymann discussed both the role of maternity leave and paid breastfeeding breaks. While breastfeeding breaks support mothers who choose to return to work or for whom leave is unaffordable, they only work when mothers have adequate time to travel from work to their infant or have facilities for pumping and refrigeration. Heymann displayed a map that revealed 141 countries globally allow breastfeeding breaks at work. Heymann pointed out there are 48 countries around the world that neither have paid breastfeeding breaks nor paid maternity leave for 6 months.

Heymann illustrated a series of compounded challenges of time and caring for children for working parents in a series of in-depth studies that were presented. Time off from work to care for sick children did not fare as well as the nearly global coverage for paid sick leave for adults. Heymann argued the fact that paid sick leave has been achieved for working adults should also be in place for these working adults' young children (Earle and Heymann, 2006; Heymann et al., 2013b,c; Schliwen et al., 2011).

Heymann presented minimum wage as a form of investing in young children globally. She stated most parents exit poverty through their work, and while most countries around the world now have some form of minimum wage in place, what persists is that in one-quarter of countries, working adults earning the minimum wage will not lift themselves and their children out of the 2.00 purchasing power parity–adjusted USD per person per day demarcation of poverty (Heymann and Raub, 2014; Mendoza et al., 2014).

Heymann then turned to data gaps, particularly in children from birth to age 3, stating that progress in policies is also important to map. According to Heymann, comparative policy tools help countries see how they and their peers are performing, and link to specific health, education, nutrition, and social protection outcomes. She also highlighted that comparative quantitative data make possible rigorous examination of which

national policies are most effective at improving outcomes for children (Hajizadeh et al., 2015; Heymann et al., 2011; Quamruzzaman et al., 2014). Heymann emphasized the importance of measuring national progress around policy implementation, stating that only by showing every year when countries are starting to move toward better supports for families investing in their own children can policy makers and the leaders who are providing services be rewarded for advancing efforts and those who have yet to make effective changes happen be stimulated to take action.

ECONOMIC IMPACTS AND COST OF CHILD MARRIAGE ON YOUNG CHILDREN

Quentin Wodon, Lead Economist with the Education Global Practice at the World Bank, presented the economic impacts and costs of child marriage, which he stated is a multisectoral issue, much like early childhood development, that affect young children. Wodon suggested that child marriage and early pregnancy are topics that should be given more attention when discussing investments in young children. Child marriage has large effects on child health, including under age 5 malnutrition and mortality.

Through a conceptual framework Wodon presented, he proposed that child marriage directly impacts labor force participation, education attainment, involvement in decision making, violence, and health. He then proposed a common economic metric for those impacts through earnings and productivity losses, investments losses, and out-of-pocket costs. His findings revealed that the largest economic cost of child marriage is through the impact on fertility, demographic growth, poverty, and GDP growth.

Wodon found that in terms of measuring cost, some of the largest impacts in reducing child marriage are not necessarily evident in higher earnings and productivity for adolescent girls who do not marry early. Rather, he stated his findings reveal that the largest benefit comes from the fact that there are simply less children to feed. As a result, Wodon noted that per capita income will increase. He went on to say there were also budget savings for governments in terms of service delivery in education and health.

In looking at the most significant impact in trying to determine an intervention strategy, Wodon took existing data for three countries to show the impact of early marriage on a number of different indicators, and then assigned a dollar value to these impacts. The impacts of early marriage on fertility rates revealed that if the age of marriage for an adolescent girl is delayed to 18, over the span of the childbearing years, this will reduce the number of children the woman has by 1 to 1.5 children on average. Wodon estimated that by eradicating child marriage in a country

such as Bangladesh, the population growth rate as of 2013 would decrease by 0.31 percent. He noted child marriage is a phenomenon that is decreasing in many countries around the world in the absence of any targeted intervention. Yet in looking at the cumulative impacts of change in the total population growth that occurs in countries because of the eradication of child marriage, the population growth for the world as a whole would decrease by 3 percent.

There are cumulative impacts on GDP, quasi-income generation and poverty reduction, government spending, and government savings across health and education services. Furthermore, Wodon pointed out that with lower population growth, it would be feasible to reallocate resources toward interventions for those children who are born and in need of services.

Regarding the relationship between two areas of investments, Wodon articulated that currently some of the most vulnerable young children are born to girls marrying before age 18. To prioritize investments in either early childhood or prevention of early marriage are difficult choices, stated Wodon. While there are economic impacts in terms of health and educational outcomes, the economic impacts of preventing child marriage in adolescent girls is largest on fertility. In terms of what types of interventions are best to reduce child marriage, Wodon referenced the importance of education and providing meaningful alternatives for employment opportunities for adolescent girls. If child marriage is considered an investment decision by a family, Wodon argued, then it is important to change local marriage markets and gender roles in combination with economic incentives and programs to encourage adolescent girls to pursue alternatives beyond marrying at an early age.

REACTIONS TO GLOBAL POLICIES SUPPORTING FAMILY AND COMMUNITY INVESTMENTS

Abubakar provided perspective, drawing particular attention to the implications on the aforementioned policy impacts on the informal sector. Using time as an example of a resource, Abubakar illustrated a typical schedule of a rural Kenyan woman, where time is scarce and allocations to early childhood development are not possible when such women wake up early in the morning to walk 1.5 hours to get water; walk another hour to get firewood; work in the field; quickly cook for the children so they can go back to school; and wash clothes by hand. Through this illustration, Abubakar noted that quickly one can see how the whole day fills up.

As opposed to paid maternity or paternity leave, Abubakar argued, these women need policies that support their involvement in the informal sector and in raising their children—particularly if they have children

with disabilities. Policies that take into consideration families that need to give extra time to care for the most vulnerable children need to be highlighted.

Abubakar stated that policies for working mothers do not protect teenage mothers and child brides because these women have not yet entered the job market. She cautioned that teenage pregnancy should not be a life sentence, but rather there should be mechanisms in place to empower these young mothers to become independent. Drawing on the science of brain development that occurs all the way into early adulthood, Abubakar encouraged that advocating for early childhood development should be the foundation by which investments are made throughout the life course, particularly for girls and women.

Angela Diaz, Jean C. and James W. Crystal Professor in Adolescent Health and Professor of Pediatrics and Preventive Medicine at the Icahn School of Medicine at Mount Sinai, provided her perspective on the presentations of global policies around adolescents, families, and communities. Diaz stated that in addition to investments in early childhood development, it is important to invest in adolescents to sustain and to advance the impact of early childhood investments. Adolescence is a critical stage of life. Both Diaz's and Abubakar's reactions underlie the importance in ensuring the parents of tomorrow are prepared, healthy, protected, and well-educated, so that when they become parents themselves, interventions are no longer necessary.

POLICY TOOLS FOR SUPPORTING FAMILY AND COMMUNITY INVESTMENTS

Decision-support tools help governments measure and monitor country-level progress when the types of initiatives outlined in the section above are scaled up. Three policy tools were presented to breakout groups at the workshop. The session provided the space to identify audiences, uses, and feasibility to integrate into existing policy platforms for each of the three tools.

Guru Madhavan of the U.S. National Academies of Sciences, Engineering, and Medicine presented the SMART Tool, originally developed for vaccines, and how it could be applied to investment decisions in young children, based off a decision-support tool developed at the Institute of Medicine and the National Academy of Engineering (see Box 4-1). Constanza Alarcon, Coordinator of the Intersectoral Commission for Early Childhood Comprehensive Care in Colombia, presented a series of intersectoral tools used in Colombia (see Box 4-2); and Ann Masten, Distinguished McKnight University Professor at the University of Minne-

BOX 4-1
Multi-Criteria Strategic Planning for Early Childhood Development

Madhavan presented the concept for a software platform—based on the Strategic Multi-Attribute Ranking Tool for Vaccines (SMART Vaccines)—that can include a variety of criteria often neglected or not considered in formal decision making. The SMART platform is based on multi-criteria systems analysis that would enable a wide range of decision makers to incorporate their preferred criteria into a comprehensive decision framework. Moving beyond the narrow paradigm of cost-effectiveness, the SMART platform incorporates health, economic, demographic, programmatic, policy, science, business, public concerns, and other user-defined attributes that enrich the analysis (IOM and NAE, 2015). The SMART platform requires input data in the form of population, disease, and intervention characteristics, and user-weighted attributes for final analysis (Madhavan et al., 2015). The software tool could also facilitate discussion among stakeholders (for example, among health, finance, and education ministries) and offer transparency and negotiation support when the value systems and priorities are at odds.

Madhavan discussed the application of the SMART platform as a tool to help prioritize strategies and investments in the domains on which the Forum on Investing in Young Children Globally (iYCG) is focused. Several members of the breakout group agreed there was value in the systems analysis approach that could create a "SMART iYCG" if there was agreement on an initial list of attributes and interventions that could serve as a starting point for a prototype, because early childhood interventions involve complex attributes each posing data demands. Madhavan articulated that the goal moving forward should be to build a minimum viable model that is advanced iteratively along with data considerations and use-case scenarios in consultation with stakeholders and potential users of SMART iYCG.

sota, presented a policy tool originally developed by Emily Vargas-Barón (2005) to assist policy makers in making investments in young children across sectors (see Box 4-3). A summary of the tools and their potential applications to support family and community investments in young children globally is provided.

BOX 4-2
Early Childhood Development Tools in Colombia

Of the 5 million children in Colombia, nearly 60 percent are in poverty and 25 percent in extreme poverty (CEPAL-UNICEF, 2010), noted Alarcon. *De Cero a Siempre*, which translates to "From Zero to Forever" is a policy implemented by the national government in Colombia, with important participation at the local level. The policy is particularly focused on targeting the most vulnerable children in its attempts to cover all children. This integrated policy takes an intersectoral approach whereby all stakeholders and sector-specific actors within the Intersectoral Commission on Early Childhood are coordinated by a position created in the Colombian president's cabinet.

The policy identified several main areas of focus, the first being to create a roadmap to identify benchmarks by which the intersectoral coordination will create an integrated approach across the environments of health, education, public space, and the home for children preconception to age 6. There are eight specific interventions prioritized for the policy to deliver to children: birth certificates, access to health care with insurance, training processes for families, attending an early childhood development unit service, vaccinations, growth and development consultation, nutritional assessment, and access to cultural materials. This provides an integrated registration system that follows each child from preconception to age 6. The tool can be used from the local level to the national level, so there is no loss of quality that frequently occurs in transitioning from a single project to a national policy.

BOX 4-3
Early Childhood Development Policy Planning Tool

Masten presented the Early Childhood Development Policy Planning Tool, which is intended to be used in coordination with other decision-making tools that might already exist at the country level. The tool is geared toward a specific audience, particularly those who are developing national policies related to young children. The tool facilitates an early childhood development (ECD) situation analysis that occurs in a specific context, followed by a consultation phase at the community, regional, and national levels, which involves the stakeholders who are involved or will be touched by a future early childhood policy. This consultation and development phase can then be followed by processes for drafting policies and consensus building, and finally policy approval and adoption.

The process necessary for developing an ECD policy at the national level should be inclusive and move beyond governments acting alone, according to this tool. Cost also needs to be carefully considered in the development and planning phase to move beyond the adoption phase so that implementation is feasible. Adequate resources need to be set aside and made available to those developing policies at the national level. In this regard, public–private partnerships are important, as is more fundamentally engaging private organizations in the policy development process. A policy process tool can be a useful way to illustrate the steps and resources necessary to bring a policy to fruition for stakeholders and key decision makers.

The tool is outlined in a manual by Emily Vargas-Barón that contains information on the justification for having an ECD policy in place at the country level, principles of an ideal ECD system, and guidelines.

5

Program Perspectives

For change to occur in how investments are made in children, knowledge, policy, and political will need to come together with community will, suggested Lorraine Sherr, Clinical Psychologist and head of the Health Psychology Unit at University College, London. Community will, in the contemporary Ethiopian context, was highlighted by a series of perspectives on where and how investments are being made in integrated ways across the areas of health, nutrition, education, and social protection not only in young children but also in adolescents and caregivers. Alan Pence, United Nations Educational, Scientific and Cultural Organization Chair for Early Childhood Education, Care and Development at the University of Victoria, pointed out there are many innovative and effective programs across sub-Saharan Africa, but they are largely invisible and unknown. Sherr emphasized the value in these types of perspectives is that they create a process of setting up programs that seem well articulated and possible to implement. The following perspectives highlight interventions in the Ethiopian context.

ETHIOPIAN SCHOOL MEAL INITIATIVE

Frealem Shibabaw, Director of the Ethiopia School Meal Initiative (ESMI), demonstrated the evolution of changing primary schools into community solution centers. Shibabaw unpacked the meaning of investing as a way of framing the ESMI. She deemed that investments could be quantified across time, energy, and resources—or across more intangibles

in the hope that future benefits actualize within a specified time period. Shibabaw's inspiration for the ESMI was grounded in the realities of children in primary school in Ethiopia and the realization that while schools may be providing in some ways for the country's children, there were other needs not being met—nutrition being one of these needs.

The ESMI was founded on the premise that Ethiopia is not financially equipped to feed all of its children, where stunting occurs in 40 percent of children who attend school (Central Statistical Agency, 2014). Shibabaw charted the progression from critical issues on child investments to policies, systems, and programs and mapped this progression back to the fundamental values of the community and how communities specifically value children. Within this larger framework, she focused on nutrition. To reduce the number of children who attend school while hungry, and because of high costs associated with buying milk, Shibabaw explained that the ESMI brought cows to primary schools.

The initiative was designed to be responsive to the larger philosophical question Shibabaw posed: What are the values of the community and country? To best articulate how the ESMI addressed the value that every child should have proper nutrition in the country, she used the acronym SSM—simple, sustainable, manageable. Shibabaw maintained that the ESMI had to be **s**imple in its process and delivery in the communities; **s**ustainable in that the model had to be both understood and affordable to the local people; and **m**anageable by individuals in the communities without requiring any external expertise.

At the onset, only two cows were brought to the first participating school, because it was not known how the cows would affect the school environment. Shibabaw reflected that the original pilot school proved overwhelmingly successful insofar as both the community and the children responded positively to the presence of the cows. Today, a total of 3,000 primary school children across Ethiopia drink milk and eat bread every day at school as a result of the ESMI.

The model provides 10 cows to each participating school, with a production rate of 200 milliliters of milk to 500 children per day. The project is sustainable on the premise that the cows multiply themselves by giving birth annually. Also, the school keeps half of the milk produced daily for children and sells the rest to the surrounding community to cover the administrative costs. Additional services have now been integrated into the model and managed by the school personnel. These include local kitchens that bake bread daily, which is produced from the income generated from the school's milk sales and given to the children alongside their daily milk intake. With the income generation, the schools are also able to afford purchasing feed to sustain the cows.

The impacts of the program were seen almost immediately, reflected

Shibabaw, with increases in school enrollment and attendance. Additionally, the program supports a school milk forum to engage school communities around the importance of milk so that they can support each other, create awareness, and build the capacity of schools. Shibabaw escalated the issue to the Ministry of Education (MOE) level, capturing its attention with the argument that nutrition should be at the top of the national education agenda, on the premise of nutrition before education—that is, children should not come to school without breakfast. She argued that education cannot be separated from nutrition.

By transforming schools into community solution centers, using the dairy farm as a training center for the local farmers, and having an ongoing dialogue with parents and particularly mothers, Shibabaw is shifting the country's focus from solely crop production to now include dairy and its potential for communities' economic growth and development. Shibabaw pointed out initial investments need to involve communities to make the changes that can be long lasting. To do this necessitates a contextualized understanding of what is important to communities in order for them to in turn invest in their own children in sustainable and engaging ways.

ECONOMIC AND HEALTH IMPROVEMENTS FOR ETHIOPIA'S EVER-MARRIED ADOLESCENT GIRLS

Jeffrey Edmeades, Senior Social Demographer at the International Center for Research on Women, spoke about the evaluation of the Toward Improved Economic and Sexual/Reproductive Health Outcomes for Adolescent Girls (TESFA) project (implemented by CARE Ethiopia), which targets ever-married adolescent girls in Ethiopia. Edmeades defined ever-married within the Ethiopian context as both females who are currently married and those who were formerly married.

Edmeades pointed out the Amhara region of Ethiopia historically had some of the highest rates of child marriage in the world (Bruce and Erulkar, 2015). While the numbers have been declining over the past decade, the region also boasts high rates of divorce (Tilson and Larsen, 2000). Edmeades stated this means there are many adolescent girls who may have children and yet may be in limbo in terms of their marital status.

Edmeades provided figures to further quantify the importance of targeting this particular population. Data point to the fact that there will be an estimated 142 million more married girls over the next 10 years (UNFPA, 2012), given that there are already more than 720 million females who were married as an adolescent (UNICEF, 2014a). Edmeades emphasized that this is a large and important subset of the global population

because they are the primary caregivers for many young children around the world.

According to Edmeades, for an adolescent girl marrying early often means the end of formal education (Stoebenau et al., 2015; UNICEF, 2014b; Warner et al., 2014). In addition, this often marks the beginning of sexual activity and childbearing, as well as the introduction of other physical and mental health issues (Nour, 2009; Plan UK, 2011; UNFPA, 2012). Furthermore, children of very young women comprise a subsequent generation that is susceptible to health, poverty, and developmental challenges (Duvvury et al., 2013; Parsons et al., 2015).

The TESFA program was designed to deliver content to adolescent girls in rural Ethiopia to impact economic empowerment and sexual and reproductive health. Program implementation utilized an innovative group-based peer education model, building off the CARE's Village Savings and Loan Association model. Groups of girls identified two internally selected facilitators who received the initial training and who were then responsible for passing on the key knowledge of the program (with some external assistance). A representative community-nominated group served as the liaison between the project and the group of girls participating in the project from their community and received a separate training curriculum based on CARE's Social Analysis and Action approach. This group was pre-identified by CARE to make sure it was representative of all groups in the community, and in doing so the program benefited from key engagement within the communities.

Edmeades stated the objective of the training was to determine if pairing economic empowerment with sexual and reproductive health would result in improvements across both areas of competencies through the synergistic training. Edmeades summarized the objective by stating that a girl who is receiving economic empowerment training would be more empowered economically and potentially have more resources to access sexual and reproductive health facilities and services. When accessing those services, an adolescent girl may then feel that she can invest more in her future and have more confidence in her future.

The program was implemented for 1 year with baseline and endline data collected from approximately 3,000 female adolescent participants. The quasi-experimental design created a comparison group where the same outcomes were compared across all arms to evaluate both areas of training against each other and against the comparison group to yield an estimate of total effect and of relative effect.

Qualitative data were collected using focus group discussions, in-depth discussions with community members and girls who participated, in addition to the use of innovative photo-voice data collection methods where girls were given cameras and sent out into their community with

instructions to take pictures of elements that were illustrative of the effect of the program on their daily lives. Edmeades noted the qualitative data added rich images of men engaging in child care, cooking, and other activities, as well as evidence of savings and income-generating activities, such as animals that had been purchased. The photo-voice in particular provided a powerful tool for allowing the voices of the girls to come through in a way that even the qualitative research did not.

Edmeades indicated the effects of the program were particularly clear for the sexual and reproductive health outcomes, whereas the economic outcomes were clouded by broader macro-economic changes going on in Ethiopia. More specifically, Edmeades pointed out there was a general confidence communicated in the single-intervention groups and the combined intervention groups they felt they could provide for their family during an unexpected time of crisis. In addition, across the three intervention groups there was evidence of a dramatic increase in the proportion of adolescent girls reporting that they had amassed savings of their own.

Edmeades pointed out the key differences between the intervention groups occurred around questions of savings and anticipated uses for money saved. For adolescent girls who were saving for productive investment in the future either in the form of human capital development or actual capital, there was a sharp increase only in the two groups that received the economic training.

There were also significant changes in knowledge, which Edmeades noted is not too surprising given that advancing knowledge is not as challenging as moving behavior. There were dramatic increases in the percentage of adolescent girls communicating that they knew a way to avoid sexually transmitted diseases, in addition to improvements in the percentage who reported being able to use a condom effectively, and increases in accurate knowledge surrounding antenatal care requirements, stated Edmeades. While these significant improvements were observed across all groups, Edmeades argued they were particularly evident in the group receiving the sexual and reproductive health intervention and the group receiving the combined intervention.

Edmeades reflected on the success of the overarching peer group–based model and the community support that emanated from this model, which was instrumental insofar as the groups functioned as key agents of change on their own account. Edmeades commented that outcomes in the combined program did not necessarily reveal synergies, yet for a population of adolescent girls who were largely invisible in health and education systems in their communities and with fundamentally limited mobility, working with them in any way was creating an impetus for change that was also supported by the community. The types of interventions supported by the TESFA program and their intended outcomes are

important to future engagement with this large population of Ethiopia's ever-married adolescent girls, concluded Edmeades.

ETHIOPIA'S SCHOOL READINESS INITIATIVE

Menelik Desta, Chief Operating Officer of the Ethiopian School Readiness Initiative (ESRI), described the program, which was founded in 2007 as a pilot project to demonstrate the importance of preprimary education in the Ethiopian context. Desta drew inspiration from a World Bank report (2005) that proposed if Ethiopians were educated through grade 4, the poverty index could be reduced by 18 percent. Referencing the World Bank report, Desta quickly realized that the existing condition posed significant barriers, given that less than 5 percent of children were enrolled in school, and out of those, 65 percent did not attend school beyond the elementary grades. The evidence suggested to Desta and his colleagues that dropout rates could largely be attributed to insufficient early preparation for children ahead of enrolling in primary school.

Initial conversations with the MOE were challenging, reflected Desta, because preschool programs were not funded by the government. Translating content from the U.S.-based Head Start program and adapting it to the local context, Desta's group piloted the program for 1 year and delivered the initial results to the Minister of Education. Then, the Government Education Bureau became interested in the program. Working together, and against the national policy that does not support the Treasury to fund preschool education, they developed the ESRI at 10 schools initially with the vision to ensure every child not only stay in school, but also succeed in a holistic manner.

The program works alongside the Government Education Bureau, which provides school infrastructure and teachers' salaries. The ESRI curriculum utilizes teacher-to-teacher and parent-to-teacher engagement strategies designed to empower the teachers and parents to improve the quality of education being provided. Beginning with 80 children, the program has now been scaled up to serve 10,000 children in 52 government-run preschools in Addis Ababa, mostly serving children from families who cannot afford to send their children to private schools. Furthermore, the government mandated that every government preschool use the guidelines created by the ESRI, which is accompanied by a monitoring and evaluation plan. To date, the Ministry of Health, the MOE, and the Ministry of Women, Children and Youth Affairs in Ethiopia adopted 11 manuals on early child care and education created by the ESRI.

Desta presented a sub-program that supports mental health in schools, which is innovative in that there are few trained professionals in Ethiopia who can provide mental health services for young children. In Ethiopia,

Desta pointed out mental health problems are typically attributed to cultural and preternatural factors. In the program he presented, Desta found that in nearly 90 percent of cases, an individual with behavior or mental problems will seek care through traditional mechanisms. Even in instances when individuals are aware of the medical benefit of seeking mental health care, there are few professionals in the field of mental health, particularly when it comes to childhood mental health challenges.

Desta presented the rationale for the mental health program within the ESRI. It operates on the premise that the school is the most adequate setting to efficiently start addressing the issue of behavior or mental health issues in Ethiopia's children. With funding from Grand Challenges Canada, the objective of the project is to improve quality services by engaging teachers and parents who are the key actors in the implementation of early childhood care. After implementing a series of empowering activities with parents and teachers specifically addressing mental health in children, assessment takes place at the community, school, and health facility levels to document change. Specific areas of measurement include the magnitude of mental illness in adults and children, public well-being, community well-being, public perceptions of mentally ill individuals, and community practices in child discipline.

Desta stated the study seeks to determine if training parents and teachers helped them identify signs and symptoms of mental illness in children. Follow-up assessment for those individuals diagnosed by teachers who are referred to centers takes place and is also documented. The centers have professionals who assess the referrals and begin administering treatments.

Findings from the study reveal evidence of depression in both the adults and children admitted to treatment. Desta also reported that more than 75 percent of the adult population still uses physically aggressive means to discipline children. Through the program and training, changes in knowledge, attitude, and practice are also reported to be improving, stated Desta. While Desta pointed to the incremental improvements as a result of the overall ESRI and the program targeting mental and behavioral health, he is looking to next steps, which include the ability for teachers to diagnose children with mental illness.

REACTION TO PROGRAM IMPLEMENTATION IN THE ETHIOPIAN CONTEXT

In her research reaction to the series of community-based programs in Ethiopia, Sherr suggested that gathering evaluation data not only provides feedback to the program developers, but it also ushers in the potential to ask much more complex questions. Sherr went on to state that

evaluation provides opportunities as well as imperatives: the opportunity to ask and the imperative to move on and to start designing around the data that have been generated.

By investing in the balance between children and programs in integrated ways, Sherr articulated that integration creates complexity; but it also looks at the intersections, it brings in multiple disciplines, multiple concepts, and multiple visions. Sherr underscored that existing evidence shows education, nutrition, family support, early childhood development, stimulation, and good health all work as program targets. Sherr emphasized that the program perspectives from the Ethiopian context describe the challenges associated with family and community investments in young children and present a way forward. By asking the right questions, growing through diversification, and placing an emphasis on ownership, Sherr stated, scalability is possible.

6

Community Voices

INTRODUCTION TO CONCEPT OF COMMUNITY VOICES

This session was built around several videos captured across three programs in Ethiopia, Haiti, and Rwanda, and presented by Jocelyn Widmer, Program Director and Assistant Scholar for Online Degree Programs, University of Florida, and Charlee Alexander, Research Associate, Forum on Investing in Young Children Globally. In all three sites, issues were highlighted that addressed barriers to family and community investments in young children and families as well as the opportunities to do so. Many of the voices identify how investments in their lives and the programs serving them led to positive outcomes. The goal of the videos was to bring the end users of government and private investments into the room to share their stories. The methodology for framing the videos sought to highlight the integration across health, nutrition, education, and social protection in an effort to document the continuum from policy makers to the impacts on the ground. One of the main objectives of this session was to capture diverse perspectives. Widmer noted this was not difficult to do, given that perspectives of mothers of children with disabilities, single fathers, and faith leaders are ubiquitous across resource-challenged contexts.

PROJECT MERCY, ETHIOPIA

In rural Ethiopia, Project Mercy is a holistic community-development initiative providing access to, while at the same time investing in, health,

infrastructure, food security, and community development. Mothers and fathers reflected on the importance of education through the in-kind investments they make with their own time. The cyclical nature of community investments in young children was illustrated in the voice of one of the school's graduates, Kidane Sarko, who was accepted to pursue a master's degree in public health at a university in the United States.

Bete and Lale Demeke of Project Mercy stressed the importance of education in Project Mercy's holistic approach to community development across four regions of Ethiopia. Under this education model, children are brought up through formal schooling that extends beyond providing basic lessons in reading and writing to include training in nutrition and water, sanitation, and hygiene, while also instilling a value system grounded in giving back to the community. The children who complete high school and pursue some form of higher education often return to Yetebon, committing their knowledge and skills in exchange for the support the community provided throughout their educational trajectories. Roughly 25 children are now back in the Yetebon area serving the community. Bete and Lale Demeke noted that if investments are made in children from an early age that encompass certain educational and community values, when the children return to the community to become part of the development structure there is greater acceptance by the community. Rather than development being driven by some outside entity, Project Mercy's model brings its own children back into the fold.

RESTAVEK FREEDOM, HAITI

Restavek Freedom in Port-au-Prince, Haiti, works with partners such as policy implementers, public communication strategists, and faith leaders to address *restavek*—a form of child slavery endemic to Haiti that is pervasive across contemporary Haitian culture. Videos captured various community-based interventions targeting awareness across several types of messaging. Two former restaveks gave further dimension to the issue by explaining their own experiences with restavek metaphorically through different outlets they engage in to creatively express their past and also their hopes for the future.

Joan Conn, Executive Director of Restavek Freedom, highlighted the issue of restavek and some of the activities, partnerships, and government initiatives that are necessary to disseminate messages about the negative impacts of restavek on the children of Haiti. Conn underscored the importance of investing in the health of parents, because in Haiti, when a mother dies, unfortunately, her children are often time doomed to a life of child servitude. Restavek Freedom is working to change the cultural mindset of Haitians toward its children, and particularly nonbiological

children. Conn elaborated on one of Restavek Freedom's current initiatives in partnership with Haiti's Brigade for the Protection of Minors to develop a database to track children, because the Haitian government has no technological nor digital approach to monitoring child trafficking or child protection. In addition to tracking children, the database will also track perpetrators and aims to alleviate some of the corruption issues that lead to child protection cases being dismissed in Haiti's judicial system.

PARTNERS IN HEALTH, RWANDA

In Rwanda, Faida Solanje, a mother caring for a child with developmental delays, offered her voice to describe the supportive environment that a pediatric development clinic implemented by the Rwinkwavu District Hospital, a government hospital in coordination with Partners In Health and funded by the United Nations Children's Fund, provided. A social worker, nurse, and program manager also added their perspectives on the value of the pediatric development clinic and All Babies Count program to such mothers and their children throughout Rwinkwavu. The videos were framed by Fulgence Nkikabahizi, Medical Director of Rwinkwavu District Hospital, who discussed the scalability of both programs across health care facilities and the surrounding communities throughout Rwanda.

Christine Mutaganzwa, District Clinical Director for Kayonza, Rwanda, described in further detail the two programs presented in the video. The first, All Babies Count, targets the reduction of neonatal mortality in Rwanda. Mutaganzwa noted that neonatal mortality remains a significant challenge in Rwanda despite decreases in the under 5 mortality. Using existing platforms embedded in the communities, All Babies Count focuses on recruiting mothers and disseminating information and health care through visits, while also seeking to enroll these mothers in community-based programs to support their livelihoods. All Babies Count also targets the supportive environment surrounding a safe birth by mentoring midwives working in the district hospitals and ensuring community health workers who are in charge of maternal and child health know some of the warning signs for both babies and mothers. The second program Mutaganzwa elaborated on is the pediatric development clinic, which she noted is based on the reality that vulnerable babies are now surviving. This program aims to provide a structured system to follow children born preterm to ensure they have the health and nutritional support they need to reach their developmental potential.

BOX 6-1
Poster Session for Young Influencers

Ethiopia
Mubarek Abera
Parents' Perception of Child and Adolescent Mental Health Problems and Their Choice of Treatment Resort in Southwest Ethiopia

Emilia Darmstadt and Bete Demeke
Enriching Educational Experiences for Ethiopian Children at Project Mercy

Atsenash Gossaye
Development in Rural Low Literacy Setting of Ethiopia

Rosa Hoekstra
Increasing Awareness of Autism and Other Developmental Disorders Among Rural Ethiopian Community Health Workers: Impact of a Brief Training

Kenya
Raymond Obuoyo
A Mile for the Brain: Social Entrepreneurship in Last Mile Access of Complementary Foods for Weaning Children

Silas Okengo and Deden Manyara
Development of a Mobile Application to Support Parent Education: A Case of Nairobi Kenya

Patricia Wekulo
Linking Socioeconomic Status and the Home Environment to Language and Motor Outcomes in Children: A Comparison of School-Age and Infant Populations

Malawi
Charles Masulani-Mwale
Caring for Children with Intellectual Disabilities in Malawi: Parental Psychological Experiences and Needs

Uganda
Ronald Sentuuwa
Re-Engineering Literacy Practices for Children and Beyond: A Case of the Community Reading Tents in the Slums of Kampala

Regional
Lynette Okengo
Establishment of the African Network for Early Childhood

Nina Sporer
Foundation Maps for Early Childhood Development in East Africa

REACTIONS TO COMMUNITY VOICES THROUGH YOUNG LIVES ETHIOPIA PROJECT

Yisak Tafere, Lead Qualitative Researcher at Young Lives Ethiopia, framed his response to the community voices presented through the Young Lives project, a longitudinal study of 12,000 children across four countries, including Ethiopia. Bringing the wider community to the fore, Tafere highlighted child aspirations and dreams, stating that no matter what context children grow up in, they have aspirations. Tafere distinguished between aspirations and opportunity and how children are positioned to take advantage of the latter, given that broader national poverty is often a limiting factor for children being able to achieve their aspirations. Tafere warned that while the narratives in the videos presented during this session of the workshop are based on projects, rather than data, it is still an important outlet to capture children's voices and their own expression of their lives. The voices collectively highlighted some of the necessary ingredients for systematic, holistic, and longitudinal studies of children's lives through children themselves. Tafere questioned if we should start from research and apply the science to practice or move from practice to influence future research. In either case, Tafere encouraged smaller projects to provide mechanisms for scaling up.

YOUNG INFLUENCER POSTER SESSIONS

The Community Voices session during the workshop underscored the importance of young influencers and the role they play in family and community investments in young children, according to Alexander. The forum seeks to encourage the next generation of researchers, program implementers, and policy makers to participate in the workshops, and one vehicle by which this occurs is through interactive workshop sessions. Young Investigators were invited to present posters and provide a brief overview of their work relating to investments across health, nutrition, education, and social protection of young children during the workshop as a continuation of the session on community voices. Eleven Young Influencers presented their work across four countries as well as regionally. A list of participants and titles of their presentations is contained in Box 6-1.

7

Ebola and Acute Disruptions

Janna Patterson, Senior Program Officer at The Bill & Melinda Gates Foundation, stressed that the examination of acute disruptions from multiple perspectives highlights dimensions to the human complexities that may not be evident in quantitative data. Patterson stated that while the quantitative data are essential for setting priorities when allocating human and financial resources, she emphasized how important it is to be acutely aware of children's needs during times of emergencies. She illustrated her point by sharing a vignette of a newborn girl during the height of the Ebola crisis in Liberia where there were no clear protocols in place amid the circumstances of her mother's untimely death. Patterson questioned, in a country devastated by a terrible disease, where the fear of it was pervasive, what do you do with the most vulnerable? In this instance, the most vulnerable being an infant born to a mother who would die of Ebola only hours after giving birth. The discussions that followed, at Patterson's urging, grounded the conversation in the full range of complex issues that the vignette highlighted as a way to move the conversation beyond child survival to thriving and also looking toward the future.

ADVERSITY AND RESILIENCE IN YOUNG CHILDREN FROM SUB-SAHARAN AFRICA

Theresa Betancourt, Director of the Research Program on Children and Global Adversity at the Harvard T.H. Chan School of Public Health, presented her work on adversity, resilience, child mental health, and

development, drawing from recent case studies in Rwanda and a 13-year longitudinal study in Sierra Leone. Using mixed methods approaches that moved from observational research to effectiveness studies and implementation science, Betancourt showcased two research programs on children in adversity that sought to identify factors and processes that contributed to risk and resilience in children, families, and communities facing such adversity globally.

The goal of this work is to focus on capacities and not just deficits, in order to develop ways to close the gap between what is known about children in adversity and toxic stress and the quality of investments in terms of what is actually done on the ground.

Betancourt chronicled Sierra Leone's 11-year civil war by highlighting the resulting outcomes in terms of population displacement and integration of children into armed forces and armed groups, where there have been deliberate attempts by rebel groups to sever ties between young people and their communities. Betancourt's longitudinal study began as the civil war was ending and sought to identify risks and protective processes in children's psychosocial adjustment and community reintegration to inform programs and policy.

Betancourt and her team began their work with qualitative studies to glean information on how individuals think about constructs related to parenting, risk, resilience, and child mental health and development given the context in Sierra Leone (Betancourt, 2010; Betancourt et al., 2010a,b,c, 2011, 2013). The data from this process were used to inform the development of measures to assess these constructs. This work involved the adaptation of existing measures as well as the creation and validation of new measures, which subsequently informed intervention models. This process of gathering contextually relevant information from the community informed the development of a set of interventions. The interventions were then tested using randomized controlled trials.

Betancourt noted that the longitudinal aspect of the study made it possible to find the original study participants and assess the intergenerational effects of violence on this population. This process involved multiple partners across government ministries, universities, and a local team. Results of the study revealed that those who continue to have the poorest outcomes today are experiencing an accumulation of war-related toxic stress exposures but also difficulties and additional stressors in the post-conflict environment of Sierra Leone. Especially poignant are ongoing issues related to stigma, which prohibits young people from performing well in school, being able to hold a job, and maintaining interpersonal relationships.

Because of a dearth of mental health professionals in Sierra Leone, Betancourt stated that the intervention model utilized the collectivist

culture, where young people in groups were solicited. Because depression and traumatic stress reactions frequently co-occur in this setting, Betancourt argued that the key was to design cross-cutting interventions where a mental health program would be linked to education, employment, and other life opportunities. The program was designed so it could go to scale and be implemented by partners locally in a way that is ethical and safe for the youth. Findings with 436 youth showed significant effects on improved emotion regulation, interpersonal skills, social support, and also reduced functional impairment (Betancourt et al., 2014a).

Shifting to Rwanda, where there is high population density and a significant percentage of the population under age 18, Betancourt's work studies the effects of compounded adversities such as trauma, chronic illness, and poverty on children and families. Rwanda is a context impacted by multiple adversities, including the effects of the 1994 genocide and the AIDS epidemic.

Working in partnership with Partners In Health in Rwinkwavu, a case-control study (Betancourt et al., 2014b) investigated mental health and protective factors in children across three groups: those who were HIV positive, children who were affected because a caregiver was living with HIV, and unaffected children. Finding depression and mental health issues in both the HIV positive and HIV-affected children compared to the unaffected, Betancourt's team sought to build interventions based on existing resources at the individual, family, and community levels. The objective was to empower caregivers and did so by drawing on Rwandan culture and proverbs.

A subsequent study focused on 82 families, where half were randomized to the family strengthening home visiting intervention and half to usual social work services (Betancourt et al., 2014c; Under review). This group comprised 170 children and 123 caregivers; half of the group consisted of single caregiver households. Betancourt noted that the Family Strengthening Intervention (FSI) was utilized because it focused on enhancing resilience and communication among families managing stressors due to parental chronic illness. The intervention helped families establish a narrative, given a number of genocide survivors in the families, by drawing on existing strengths and supports while also seeking to improve parenting skills, parent–child relationships, and communication skills. Betancourt stated that a family home visitor also helped families navigate support services for school, health insurance programs, and informal resources and supports in the community.

Betancourt reported that impacts of the intervention were seen in improvements in mental health. In particular, the FSI was associated with reduced depression in children. Additionally, Betancourt emphasized that caregiver outcomes revealed significant improvements in social

support for the single caregivers, and for dual-caregiver households at the 3-month follow up. The results revealed the intervention group used less alcohol and reported reductions in intimate partner violence.

Betancourt concluded by making a call to move from observational studies to intervention development and evaluation while keeping attention turned to implementation science. In doing so, Betancourt noted that the types of programs she presented will likely work at scale. Alternate delivery platforms will be critical to this process, Betancourt maintained. For example, the educational and youth employment platforms can be employed to reach youth as well as young children and their caregivers through the social protection system.

Betancourt concluded by stating that efforts being led by local governments and local actors and stakeholders require collaboration to arrive at a point of sustainability. Betancourt said that through integrated responses, times of crisis provide an opportunity to "build back better" for children.

THE EPIDEMIOLOGY OF EBOLA

Taha Taha, Professor of Epidemiology and Population, Family and Reproductive Health at the Johns Hopkins Bloomberg School of Public Health, provided an epidemiological perspective of the impacts of acute disruptions on children and their caregivers. He did so by illustrating how a single infectious disease such as Ebola virus disease (EVD) leads to an acute disruption for states and systems, but also to individual communities and the children in those communities.

The first EVD outbreak occurred in 1976 between Sudan and Zaire (present day Democratic Republic of the Congo). The average case fatality rate for EVD is 50 percent, but Taha noted that it can be as high as 90 percent and as low as 20 percent (WHO, 2015). Taha presented the progression of outbreaks since the first outbreak in 1976, with associative case and mortality data. Taha also presented a hypothesis that explains how EVD moved from the remote jungles of Central Africa to West Africa in the most recent EVD outbreak. The hypothesis he presented indicates that Ebola has always been in West Africa and misclassified as Lassa fever. Taha noted that genetic sequencing on the most recent outbreak revealed 97 percent homogeneity between the strain detected in West Africa and present in Central Africa since the 1970s (Gire et al., 2014; Vogel, 2014).

Taha remarked that questions remain as to whether the outbreak in West Africa could be linked to some of the structural factors that exist in the region. Each of Guinea, Liberia, and Sierra Leone were all recovering from civil war during the onset of the most recent outbreak. Taha said that collectively, weak infrastructure, demographic factors, and the prolonged

civil wars have also been hypothesized to be the cause of the recent West Africa EVD outbreak.

Exploring the reservoir, vector, and host relationship in EVD, Taha noted primates may be an intermediary host, but he also stated more recent evidence suggests bats are the primary hosts, because historically bats were present in large numbers when an outbreak was discovered. In the most recent outbreak, the Centers for Disease Control and Prevention isolated Marburg, which is a virus carried by bats. Central to understanding the dynamic between viruses and humans, Taha noted, is that there must be a disturbance to the equilibrium—certain human and ecological factors—that cause the virus to emerge, which has been the case for EVD.

In terms of EVD transmission, Taha pointed out that there are two settings that are important: the community setting and the clinical setting. The virus is transmitted from wild animals to humans through close contact, which Taha emphasized "close" to mean contact with bodily fluids. He emphasized that every bodily fluid is not only infectious but highly infectious. These include blood, urine, breast milk, and semen. Taha continued by stating EVD is not airborne because the virus exists only in bodily fluids and is unlikely to be aerosolized or transmitted through dust particles. EVD spreads in human populations through human-to-human transmission through direct contact with infected secretions or organs. Thus, hospitals become a source of transmission and Taha stressed that patients and relatives in the clinical setting amplify the transmission.

The rate for secondary cases from a single case of EVD is two to three cases, in that every single case of Ebola will likely lead to a generation of two or three (Chowell and Nishiura, 2014), stated Taha. By comparison, a single case of measles will lead to 15 or 17 additional cases. The most recent EVD outbreak resulted from a single unspecified animal reservoir to human transmission event in Guinea (see Box 7-1). As the outbreak spread to clusters of cases throughout the three interlocking countries of

BOX 7-1
Patient Zero: A Child in Guinea

A 2-year-old boy who lived in a rainforest village in southern Guinea likely contracted Ebola from a tree in front of his home, which had been colonized by bats. By the time an investigation got under way, the tree had already been burned down. Taha stated that this is likely where the most recent outbreak of Ebola started, pointing out how a single case in a child can lead to so many more.

SOURCE: Baize et al., 2014.

West Africa, high population movement was one of the critical factors that contributed to the dynamics of transmission that occurred.

EVD and its aftereffects disproportionately touched the lives of children and women. Post-Ebola impacts were quite pronounced in the number of orphans that resulted, which Taha said was 9,600 by February 2015 (Evans and Popova, 2015). In addition, more women were infected than men, with 56 percent of reported deaths being female (Wolfe, 2014). The fact that women typically care for the sick was the reason Taha cited for these gender-specific mortality rates.

Among survivors, there are a number of clinical complications, including impacts on the eyes, brain, kidneys, liver, joints, in addition to certain chronic clinical complications that are just now surfacing, stated Taha. Taha also pointed out the concern that survivors may be carrying the virus that might have created a reservoir within survivors much like HIV in that it will never disappear, but will remain in a latent phase.

Taha argued that in EVD transmission, the context—including individuals and communities—is a determinant in the outbreak. According to Taha, factors that contributed to making the recent EVD outbreak the most deadly in history include inadequate health care infrastructure; ineffective containment protocols and poor burial practices; contextual factors such as mobile populations in dense urban settings; poor coordination and disempowered local leadership; and community factors, including engagement, which he argued is crucial to successfully controlling outbreaks. Moreover, disruptions in health care led to complications and increased susceptibility to other infectious diseases, noted Taha. For example, it was reported that childhood immunization programs were affected as a result of the outbreak.

LESSONS LEARNED TOWARD BUILDING RESILIENCE

Janice Cooper, Country Lead of the Liberia Mental Health Initiative at the Carter Center, provided her perspective on service delivery after the recent EVD outbreak, particularly related to mental health and disabilities, where in Liberia there are few trained mental health providers. Cooper was at the frontlines of the Ebola crisis as the country representative to the Liberia Mental Health Initiative of the Carter Center, which had three initiatives in Liberia involved in the Ebola response (see Box 7-2).

Cooper laid the foundation for the EVD outbreak by presenting some of the challenges in systems that supported young children in Liberia prior to the outbreak. Generally, Liberia could be characterized as having high rates of poverty and malnutrition, with poor health outcomes. Prior to the EVD outbreak, for children under 5, child mortality rates were 94/1,000 (LISGIS et al., 2008). Of the children under age 5 who died, 60

BOX 7-2
Carter Center Involvement in Community-Based Ebola Response

Access to Justice Program

- Supported a national consultative meeting with traditional leaders to facilitate information exchange on Ebola
- Supported training on Ebola prevention messaging and social mobilization methods for chiefs and community health volunteers
- Translated approved Ebola messages into 16 local languages airing on national and community radios and facilitated media interaction with traditional leaders on Ebola

Access to Information Program

- Used existing networks in the media and civil society to support the use of information to prevent and combat Ebola
- Worked with the Ministry of Information to apply the Freedom of Information Law during Ebola

Mental Health Program

- Conducted psychological first aid training for social workers, health care workers, and mental health clinicians
- Led the mental health and psychosocial component of the National Ebola Response's Incident Management Team
- Supported targeted mental health and psychosocial interventions in outbreak areas
- Implemented an anti-stigma campaign that worked with persons with mental illness and persons with disabilities
- Supported the National Ebola Survivors Network

percent of these deaths occurred within the first 2 years (LISGIS et al., 2008). Data from 2013 revealed 32 percent of children under 5 in Liberia experienced stunting (LISGIS et al., 2008). Among 3–4-year-olds, the prevalence of stunting was 42 percent (LISGIS et al., 2008). Immunization rates and birth registration rates were also very low. Only 48 percent of children were fully immunized by 12 months, 34 percent between 1–2 years, and 40 percent of all 1–5-year-olds had all their basic immunizations (LISGIS et al., 2008). One-quarter of all births were registered (LISGIS et al., 2008). In terms of maternal health, Liberia has high maternal death rates. Maternal mortality accounted for 40 percent of all deaths to women of childbearing age and at 1,072/100,000 is among the highest in the world (LISGIS et al., 2008). More than 95 percent of live births were to mothers who received prenatal care, however, even in these cases only 56 percent were at health facilities (LISGIS et al., 2008). Skilled birth attendants participated in

more than 60 percent of live births (an increase from 46 percent in a 2007 survey) (LISGIS et al., 2008). Traditional midwives assisted in 76 percent of non-facility-based care deliveries (LISGIS et al., 2008). Despite low literacy and education rates among mothers, 62 percent received vitamin A post-partum and prenatally, 21 percent had access to iron, and 58 percent of mothers in Liberia had access to deworming prior to birth (LISGIS et al., 2008). Among children, 6 months to 5 years, 58 percent had access to deworming. Yet access to nutrition that met infant and young child feeding guidelines proved challenging. While 83 percent of young children 6–23 months received breast milk and breast milk substitutes, only 11 percent had a well-rounded diet and only 30 percent had food the number of times per day by age consistent with international nutritional guidelines (LISGIS et al., 2008).

In addition, Cooper pointed to challenges in access to clean water and quality education. According to Cooper, water and sanitation issues were quite prevalent in Liberia prior to the EVD outbreak, where open defecation remains a problem, as does access to safe drinking water. In terms of access to quality education, Liberia continues to have some of the lowest numbers of qualified teachers in sub-Saharan Africa, and only 35 percent of eligible children attend primary school (World Bank et al., 2013). Furthermore, there is heavy reliance on donor support for education. For children who are enrolled, there is a misalignment in terms of children in age-appropriate grade levels (World Bank et al., 2013).

Cooper made reference to President Sirleaf of Liberia shepherding the passage of the Children's Law of Liberia based on the Convention on the Rights of the Child in 2011. Despite this, a Save the Children survey found only 30 percent of caregivers were aware that laws existed to protect children and even fewer (15 percent) knew Liberia had a Children's Law (Ruiz-Casares, 2011). Moreover, there was a high proportion of children living outside the home (54 percent) at one point in a child's life, with 12 percent before age 14 (Ruiz-Casares, 2011). The information above outlines many of the challenges and shortcomings of the services and programs for young children in Liberia prior to the outbreak and the implications these problems had for children during the response phase.

Shifting to child-specific data surrounding the EVD outbreak in Liberia, Cooper presented a number of figures, noting that they had not yet been disaggregated by age (see Box 7-3). Cooper reflected on the many actors involved in the response and that the coordination required to care for the needs of children—both infected and impacted by Ebola—was complex. The United Nations Children's Fund (UNICEF), Save the Children, Plan International, SOS Children's Villages, THINK, and ChildFund were the main actors involved in the EVD response that specifically addressed children's needs. The National Psychosocial Subcommittee was

BOX 7-3
Data on Children Affected by Ebola—Liberia

Number of children orphaned because of Ebola: 3,648 (lost one or both parents)
Percentage of children orphaned: female 52%, male 48%
Number of children who lost both parents to Ebola: 1,907
Number of children receiving case management services: 4,900

SOURCE: Ministry of Health Incident Management System, n.d.

instrumental in supporting affected families and children, particularly helping families and communities understand the disease, which was important when an entire community would have to be quarantined. The quality of care delivered in Ebola Treatment Units (ETUs) drew heavily from protocols established for HIV to ensure individuals understood that they needed both pre- and post-test counseling.

Child care facilities, called interim care centers (ICCs), were set up during the response to care for the specific needs of children who had been in contact but did not have Ebola, and their parents or caregivers were admitted to treatment units. There were five facilities for children who were affected and unaccompanied in Liberia—with four units for children of all ages and one specific to children from birth to age 5. Transit centers were also critical for those children who may have been leaving an ETU or about to enter an ICC and needed a place to stay during times of curfew and compounded by long travel distances back to communities. There was one transit center, called a transitional home. Trained EVD survivors were among the first to staff the ICCs. There were also specific guidelines developed for how children were taken and also to make sure that there were protocols for journalists and others to take pictures of children.

Coordination among the outside actors and their responses was necessary to ensure this coordination came with commitment, stressed Cooper. Delivery was complex, and actors could promise something on the ground yet there were logjams in delivery; whereas, other actors were unfamiliar with the terrain and culture in Liberia, making it difficult to actualize commitments. Coordination largely occurred in subcommittees, one of which was focused on child protection and another on creating an EVD survivors network.

Cooper elaborated on some of the collateral damages that were particularly impactful on children during and after the EVD outbreak. Schools closed given the rapid pace of the outbreak, which caused overcrowding in many schools as well as the need to break the chain of transition. There

was poor water, sanitation, and hygiene (WASH) infrastructure within schools—even prior to the outbreak—so the risk of infection was high. The Ministry of Education (MOE), with support from various nongovernmental organizations (NGOs), created a school radio program that aired on stations nationwide. Despite these activities, children, especially young children, were often left unsupervised and unsupported. This became particularly widespread once individuals returned to work and also began to be engaged in the EVD response. Consequently, there was a surge in teenage pregnancy and prenatal care for all pregnant females was often not available (Ekayu, 2015).

Cooper emphasized it was difficult to build the foundation for supporting young children during the emergency response phase. She argued that in the case of Liberia, the EVD outbreak has been used as a leveraging point for charting a more robust course for children in the future. Cooper noted that the Carter Center hopes to work with and build on efforts by other actors working in the early childhood space, such as the Open Society Foundation that worked with the MOE to craft a progressive intersectoral policy on early childhood development (ECD). She also mentioned the current Assistant Minister of Early Childhood Education at the MOE has been a champion for addressing comprehensively the needs of young children.

Liberia initiated an early childhood training framework, working in communities to provide skills-based training for caregivers, parents, and teachers. During the EVD outbreak, there were very few technical experts who worked in early childhood, with even fewer psychologists and psychiatrists. Cooper went on to state there were no disability specialists for working with young children. In addition, mental health frontline workers were not considered in the initial response and once they were seen as necessary to the response phase, Cooper noted it became necessary to draw from other sectors, particularly education.

Some of the most important actors in the response were Ebola survivors. Cooper stressed how important survivors were to the response phase, and she made the case for survivors' involvement particularly in the mental health response. They were instrumental in combating the stigma and distrust that was pervasive among families and communities during the EVD outbreak.

Cooper reflected on the importance of social trust in the response. Therefore, she pointed out the key role of community leaders, in particular the traditional chiefs and elders in the response phase. In addition, Cooper stated that a priority needs to be placed on strengthening the role of families so that families may be integrated into larger efforts to coordinate a response in the future.

TRANSFORMATION INTO AN EBOLA HOT ZONE

A series of eight publicly accessible videos were assembled by Alex Coutinho, Executive Director of the Infectious Diseases Institute of Makerere University in Uganda, to transform workshop participants into an EVD hot zone to see right up front what life was like through the collective voices of those impacted by Ebola. Coutinho suggested many of the key lessons learned from the EVD epidemic are best highlighted through the voices of those serving on the frontlines. He underscored the impact on children through the series of videos accompanied by available case and mortality data (see Table 7-1).

With more than 4,000 cases, Coutinho emphasized that Ebola clearly had a direct impact on children. There were higher mortality rates in children compared to adults because when children get severely dehydrated they deteriorate much faster, noted Coutinho. Apart from being infected, children were also severely affected by sick parents, caring for dying parents, and becoming orphans after their parents died. Coutinho highlighted the ongoing collateral damages suffered by children across the areas of physical and mental health, social protection, education, and nutrition, particularly the disruption in health services that attend to the needs of children. While schooling resumed, Coutinho warned that the global health community does not yet know what the long-term impact will be on child outcomes, especially nutrition given the lack of agricultural activity in many countries during outbreaks. These examples show the direct and indirect impacts Ebola has on the economy and society of a region.

Despite the challenges, Coutinho pointed out there were many success stories and heroic stories of survival, particularly the vital role children played and the roles they assumed as survivors in otherwise devas-

TABLE 7-1 Ebola Statistics as of July 6, 2015

Country	Total Cases (suspected, probable, confirmed)	Laboratory Confirmed (%)	Total Deaths (%)
Guinea	3,744	3,287 (88)	2,498 (67)
Sierra Leone	13,150	8,673 (66)	3,940 (30)
Liberia	10,670	3,154 (30)	4,807 (45)
Total	**27,564**	**15,114 (55)**	**11,245 (41)**

SOURCE: CDC, 2014.

tated Ebola-impacted communities of West Africa. Coutinho stressed the importance of defining family and community investments so that these investments account for children's needs when shocks occur to various health, education, social protection, and disaster management systems. The needs of children will remain the same, but it is how the delivery mechanisms function during emergencies that determine how young children and their caregivers will fare during these periods of vulnerability. Answering questions about ways for nations and communities to prepare for outbreaks for the future, Coutinho stressed the importance of translating the lessons into action by coordinating well-meaning international organizations and establishing a chain of command that is grounded in the realities of families and communities.

Coutinho reflected the community was blamed in the beginning for the outbreak. In defense, Coutinho noted that no society in the world wants its dead to be buried without ceremony. He stressed that we all have ceremonies, but it just so happened that the ceremonies in the West African countries put those communities at greater risk. Yet it was communities coming together to be mobilized that finally controlled the EVD epidemic, in concert with other efforts, which is one of the greatest lessons to be gleaned from the Ebola outbreak.

EFFECTIVE TECHNOLOGY APPLICATIONS TO INFECTIOUS DISEASE THREATS

Steve Adler, Chief Information Strategist for IBM's efforts in the recent EVD outbreak, framed his perspective as an "outsider" insofar as he claimed to be a technologist, businessman, and process oriented rather than a child expert. Adler focused on his involvement with creating open data (see Box 7-4) during the recent Ebola outbreak, but also how to best prepare for future crises and the role open data play in the preparedness and response phases.

Adler helped launch the Africa Open Data Jam in August 2014, which led to a large-scale, open-data collection effort for application toward the

BOX 7-4
Definition of Open Data

Open data are data sets published, often by governments, nations, states, and cities outside of a firewall in a catalogue that resembles a database in a downloadable file for anybody to use for any purpose without permission.

EVD epidemic. His experiences gleaned that open data in this context was a sound solution, but implementation proved to be a challenge, particularly in the cultures and contexts of West Africa. Even talking about technology with people in the Ministry of Information, the Ministry of Health, and the MOE was difficult because in talking about how to even collect data, Adler noted that high-level officials would be too polite to admit they did not understand data collection. Data literacy among the leaders in West Africa was a result of the fact that these leaders had never been schooled in the technology world, stated Adler.

A call center was set up to amass short message service (SMS) messages to collect data on how individuals were reacting to the crisis by way of a feedback loop. Complicating this effort was the fact that there were seven languages used across Sierra Leone alone. In addition, 70 percent of the population in Sierra Leone is illiterate and therefore could not participate in the SMS effort. An alternative solution was implemented, in which individuals could call into a call center and their information was then transcribed and sent out as a message. Adler noted that this is just one example where there was a great idea to integrate data into a solution, but implementing the solution in the context of Sierra Leone was quite challenging.

Adler also worked with actors in Washington, DC, but quickly found that there was not an effective flow of information nor a central repository or database that all participating actors were drawing from to better understand what was happening across the affected countries in West Africa. Adler found that all of the different actors had their own data they were utilizing to try to determine how they would intervene in the outbreak. Referencing the delayed process by which the resources and staffing for ETUs were mobilized by the U.S. government, Adler lamented that when there is a crisis, different actors show up with what they want to give and not necessarily with what is needed. What was clearly needed during the EVD outbreak was information, noted Adler.

Adler organized an Ebola open data jam in New York where Liberian and Sierra Leonean expats living in the metropolitan area participated by scouring the Internet for available public sources of information about the EVD outbreak and then assembled this data in one place where any aid agency could locate and access it. What emerged as a void in the data was how little digital information was available on the capacity of health care in the affected West African countries. While data may exist, they exist on paper that must be photocopied, faxed, or mailed. This process still does not provide sufficient information about capacity. Adler's efforts resulted in a comprehensive data model to capture a detailed inventory of not only health care capacity in West Africa, but also an inventory of education and infrastructure capacity. Adler reflected it was difficult to determine what

to fix during the most intense moments of the EVD outbreak when there was little information available about what was wrong, much less any coordinated collection of information related to health infrastructure in place to support the outbreak. The 600-member Africa Open Data Group was formed as a result of Adler's efforts, making it the largest open data group focusing on Africa in the world.

Moving forward, Adler suggested there should be a commitment to investing in the skills to gather necessary information ahead of the next acute disruption that can supersede barriers with language, culture, and literacy. By doing so, the information can stimulate economic growth because it informs the decision-making process. Adler urged all workshop participants to keep the dialogue going with regard to inventorying capacity in countries globally and to also publish the information online in open data forms so that the actors who may respond to the next global outbreak will be able to take advantage of the information in the future.

CHALLENGES AND OPPORTUNITIES FOR AN INTEGRATED RESPONSE

Arnaud Conchon of UNICEF prefaced his presentation on challenges and opportunities for an integrated response by surmising that discussions from the workshop seem to converge on agreement that integrated interventions are what need to be done for early childhood, because of the complexity of children in situations of acute disruptions. He informed the group that early childhood considerations during times of emergencies is very new, and subsequently the way humanitarian responses are taking place in particular contexts is also very new.

Conchon presented the landscape of the coordination mechanisms in place for children in emergencies across main categories of actors (NGOs, international organizations, United Nations [UN] agencies, and civil societies) using UNICEF's *ECD in Emergencies* (2014c) as a frame for his presentation. This document explains the basic principles of children in emergencies, illustrates an overarching vision of what an integrated response for children should resemble, and provides guidance to all sectors to include the needs of children in existing sector-based responses.

Conchon provided a working definition of emergencies, noting that there is no one single definition of emergency situations. The definition he provided is the one used by UNICEF to ensure humanitarian situation and emergencies mean the same and there are three main criteria that define an emergency: (1) a sudden high number of deaths; (2) an incapacity to respond locally, so there is a need for intervention by the international community; and (3) a state-declared state of emergency. Conchon clarified that humanitarian action is defined differently because it encom-

passes the pre-emergency phase—or the emergency preparedness, as well as the early recovery that occurs after the emergency, and eventually links to longer-term development. Across these different phases of emergencies there are different actors and donors.

Conchon introduced the UN Cluster System (see Figure 7-1) by way of recounting the increasing range of actors, oftentimes inappropriately matched to the magnitude and scale of needs following emergencies that

FIGURE 7-1 UN Cluster System.
NOTE: FAO = Food and Agricultural Organization of the United Nations; IFRC = International Federation of Red Cross and Red Crescent Societies; IOM = Institute of Medicine; UNDP = United Nations Development Programme; UNHCR = United Nations High Commissioner for Refugees; UNICEF = United Nations Children's Fund; WFP = United Nations World Food Programme; WHO = World Health Organization.
SOURCE: United Nations Office for the Coordination of Humanitarian Affairs (OCHA), 2015.

do not meet the needs of affected children by failing to provide services in any coordinated way—largely because no coordinating mechanism exists. Conchon pointed out that typically in an emergency situation there is a diversity of expertise, mandates, and capacities, but no coordination. Worse, recounts Conchon, is the impact this has on individuals because they become susceptible to answering questions and being assessed by multiple organizations over the span of a very short time, raising expectations of those participating in the inquiries and assessments.

In 2006, John Holmes put into motion the Humanitarian Reform, which included an 11-cluster approach to coordinating emergency response by area of expertise, stated Conchon. The Cluster System evolved since the 2004 Ache tsunami, originally composed of only two clusters with meetings where people share their capacities and their expectations in what they could do to help in a particular emergency context.

Conchon related the Cluster System to children and their particular needs during emergencies. He praised the Cluster System because it allows actors involved in emergency response the ability to identify where the experts within each sector are working. However, the downfall, as Conchon pointed out, is that children fall across all sectors, and this approach is sector based. This model reaches new levels of complexity when the Cluster System also considers the different stages of response from preparedness to reconstruction before, during, and after an emergency. This translates into integrating services specific to children into the emergency programming across time scales. Conchon chose childhood stimulation as an example to illustrate why coordination of services across emergency programming is important for children affected by acute disruptions. Conchon maintained that childhood stimulation does not occur during emergencies because from a clinical perspective during times of emergencies, the supportive tactics that need to be incorporated into the clinical prescriptions usually fall by the wayside. However, Conchon argued it is important to remember that evidence suggests that a stimulated child will have improved growth, increased developmental outcomes, and engage with the mother in ways that are important to long-term outcomes. The benefits of stimulation coupled with nutrition extend beyond the child to decrease the potential for maternal depression.

Conchon used the example of stimulation to explore the benefits of integrated interventions that often do not occur during times of emergencies. He argued that better integration of interventions around the child leads to

- improving the quality of benefits for the whole child,
- minimizing the necessity for needs assessment to occur if needs are already being met,

- increasing the use of common standards and tools,
- promoting a shared vision of children's needs and priorities,
- promoting inter-agency and intersectoral learning of opportunities,
- increasing response coverage,
- guiding donors funding better,
- informing better decision making,
- providing a foundation for planning for the future,
- ensuring resources are used effectively by reducing duplication of efforts and overlap,
- supporting shared monitoring processes, and
- identifying gaps with greater precision.

How this integration occurs during emergencies was proposed in two ways by Conchon. The first approach is to mainstream children's needs within the existing sectors of the Cluster System. Conchon pointed out that this may not ultimately have the desired impacts because this approach creates silos of interventions with missed opportunities when individual clusters do not communicate across the 11-cluster system. Instead, Conchon proposed a way forward where services converge on the child's needs during periods of vulnerability. The difficulty in this approach, Conchon pointed out, is that it requires significant coordination.

The challenges that lie ahead for integrated responses for children during times of emergencies are to overcome the sector-based siloing that all too often occurs and in doing so strengthen the systems, stated Conchon. This strengthening will come by having a vertical response among frontline responders and ensuring the systems are able to support long-term benefits from capacity building put in place during the initial response. The task moving forward, argued Conchon, is to make the needs of children and the corresponding activities already in place visible among the sectors during an emergency. This can be done by creating linkages between locations where services are provided and formal clusters that have subgroups with key actors. By doing so, these linkages point to where certain services can be delivered through each representative sector and highlight a point of contact who can then take responsibility for transferring knowledge and resources between the cluster and the needs of children on the ground.

FRAMING POLICY GUIDELINES FOR CHILDREN IN ACUTE DISRUPTIONS

Zulfiqar Bhutta, Robert Harding Inaugural Chair in Global Child Health and Policy at the Hospital for Sick Children in Toronto, and founding director of the Centre of Excellence in Women and Child Health at

Aga Khan University, laid the foundation for targeted breakout sessions to identify areas of potential policy actions in the context of acute disruptions, which were underscored by Cooper's and Kuku's call to have integrated ECD policies in place ahead of any future emergency.

Bhutta underscored the importance of the work of the breakout sessions, stating that at least one-third of the entire global burden of premature child deaths are in geographies where there are either complex situations or major humanitarian emergencies and population displacements (Bhutta and Black, 2014). Bhutta defined the typology of these disruptions in three ways: natural disasters; conflict and population displacement caused by acute conflict; and the impacts of outbreaks or disease conditions. Bhutta pointed toward Ebola as an example of the latter, and a situation in which important lessons can be learned because it reveals the impacts of a broken health system by increasing risks within a population, in addition to how a lack of health system preparedness can impact the perpetuation of some of the problems that emerge because of outbreaks (Iyengar et al., 2015).

Bhutta next turned to the populations at risk and impacted by acute disruptions. He pointed out women and children are among the most vulnerable not only in terms of their exposure to risk, but also because of the effects of the breakdown of health services and health systems that particularly impact this vulnerable population. This vulnerability transfers to the children of women affected as well, multiplying the impact of the disruptions.

Bhutta noted that the breakout groups provide the space to discuss the latest learning from experiences across recent acute disruptions by considering existing guidelines and strategies for children in emergencies as a starting point to perpetuate awareness within those existing strategies of the importance of the protection of women and children and interventions that can promote and protect child development. Bhutta encouraged the breakout groups to move beyond the existing strategies to propose policy guidelines that also identify state actors and actors within the humanitarian response teams that need to consider different time periods, starting from an acute response to stabilization and to restitution of services in the aftermath of such disruptions and disasters.

Finally, Bhutta suggested the groups create guidance on the timeframe of actions and interventions so that as soon as communities move beyond the acute immediate response, states and other actors may begin to put services and systems in place to focus on child survival and also to focus on what could be done to potentially maximize opportunities and gains for children and families who could be living in some of those circumstances for many months to come.

BREAKOUT GROUPS ACROSS DIFFERENT TYPOLOGIES OF ACUTE DISRUPTIONS

Breakout Groups divided among the three types of emergences to each identify three areas for policy guidelines (see Boxes 7-5, 7-6, and 7-7). Workshop breakout groups discussed three areas of focus for ensuring the needs of children are appropriately accounted for during emergencies of different typologies and magnitude that more broadly covered the

BOX 7-5
Children in Natural Disasters

This Breakout Group drew from experiences from the Haiti and Nepal earthquakes, the drought and famine in Ethiopia, the earthquake and tsunami in Japan, and Hurricanes Katrina and Sandy in the United States. Several Breakout Group members suggested the creation of a national disaster relief and preparedness fund in addition to an international insurance scheme, based on the idea that all countries pay into a fund so that potentially high-income countries can supplement the needs of low- and middle-income countries during times of need.

Preparedness and Prediction

Some Breakout Group members focused on empowering communities on disaster preparedness response, because governments may not always be available to provide immediate assistance. In addition, various Breakout Group members encouraged creating local preparedness kits focused on children's needs across areas of shelters, nutrition, family play, and education, with an emphasis on the restoration of routines. Several Breakout Group members referenced strong evidence available that supports restoring routines to benefit children both in the short term and longer term. These same Breakout Group members also noted that at the state level, it is important to create a national inventory to understand the capacity in a country, both in terms of skills and infrastructure that will include resources and equipment.

Response

Some Breakout Group participants encouraged a multisectoral integrated response, which would include having in place an inter-ministerial committee and fully integrating community-based responses into the national response, based on the notion there are issues more cross-cutting across all levels of community, nationally, and internationally. These individuals emphasized how important it is for communities to have the ability to self-report and to contribute this data toward national data collection efforts. Other Breakout Group participants also stressed the response phase needs to pay special attention to vulnerable populations because they typically are the ones that face some of the most challenging issues during natural disasters.

BOX 7-6
Children in Conflict

Several of this Breakout Group's members emphasized conflict is not linear and it is often cyclical in the sense that conflict typically returns to the geographic region within 10 years of the original occurrence.

Preparedness and Prediction

Some Breakout Group participants stressed the need for more evidence about what the impact of conflict is on young children, stating that those advocacy points are essential to better influence democratic processes and prevent the conflict from happening in the first place. In addition, these same Breakout Group participants noted there is a need for coordination of governance and finance in other sectors to better align democratic processes with health and education sectors and to respond to the needs before a conflict arises. During this discussion, several Breakout Group members emphasized capacity building within the government and among civil servants, in addition to strengthening existing platforms. They articulated this is important in the preparedness stage, because if strong democratic early childhood platforms exist, it becomes easier to transition those to meet the needs of the communities and families during times of conflict.

Response

Some of the Breakout Group members stressed the importance of coordination among governance, finance, and programming. While universal programming is extremely important, these members of the Breakout Group thought so too is the need for targeted programming and understanding what children and families exposed to severe trauma would need as opposed to those receiving the universal programs. Evidence on the impact of programming in the short and long term was also cited by a few members of this Breakout Group as being critical to be able to assess how the programming is impacting children and families.

Recovery

Various members of the Breakout Group noted that because conflict is often cyclical, the prevention of future conflict plays an important role during the recovery phase, by utilizing targeted programming around peace building for children and adolescents. In addition, some Breakout Group members stressed developing family-centered programming that considers the needs of children, the family, and the community by building up existing platforms. These same Breakout Group participants argued that by strengthening systems already in place, recovery is more grounded in the context.

preparedness, response, policies, and financing. Individuals from each of the breakout groups across the three different types of emergencies made the following suggestions:

BOX 7-7
Children in Outbreaks

Some of this Breakout Group's members highlighted that infectious outbreaks often occur in the context of other disruptions. These members noted that other disruptions can exacerbate the outbreak to the point that it becomes an epidemic. Listening and working with communities, especially integrating indigenous knowledge before and during the outbreak response was an area touched on by other Breakout Group members. These Breakout Group participants recognized leadership is instrumental during times of outbreaks. It encourages sensitizing national leaders to early childhood development, children, families, and also to understanding potential epidemics, because often leaders are infected themselves by fear and panic and their response can exacerbate fear and panic in the community and also in the media.

Preparedness and Prediction

Some Breakout Group members stressed that within a national preparedness system there should be a specific reference to early childhood. These members noted it is also important to train teachers and the children themselves in how to respond in the event of an emergency by way of teaching protocols that very specifically are designed around children and parents. The same Breakout Group participants stated protocols should also adapt to specific cultural and age domains.

Response

Some Breakout Group members urged there to be a coordinating structure to manage and coordinate the inevitable chaos that occurs during an outbreak. Within the response system, they suggested there needs to be a national lead agency within which contains expertise in early childhood. They went on to state that in addition, small emergencies should be treated as laboratories and should illicit a response even though the scale of such emergencies may not be a threat to the global community. These Breakout Groups members suggested doing so provides excellent opportunities to test and develop good responses for future larger-scale emergencies. Finally, a subset of the Breakout Group pointed out it is particularly those small emergencies that affect primarily children, from diarrhea to cholera and other infectious diseases.

1. To empower communities by having integrated **preparedness** plans in place that specifically consider children's needs during times of emergencies, including tools and investments to predict the emergency and understand key points for intervention
2. To place primacy on community leaders and capacity to ensure an integrated and culturally and child-aligned **response** phase, and thinking about the response phase in the short term as well as the longer term

3. To ensure **recovery** activities target young children and adolescents anticipating that acute disruptions are often cyclical and this puts in place **preventive** mechanisms for the future

The policy guidelines considered preparedness, response, and recovery across multiple scales from family, community, national, and international levels.

Some Breakout Group members raised the point that the basic needs of children will stay the same whether a community is in a time of peace, immersed in conflict, or in the throes of an epidemic, but the service delivery mechanism must change to best reach the affected children and what their more specific needs might be during times of acute disruptions. While the time sequence is central to all types of emergencies, some of the Breakout Groups participants deemed it important to highlight the specifics surrounding the different typologies of acute disruptions.

Valerie Bemo, Senior Program Officer responsible for the emergency response portfolio within the Global Development Department at The Bill & Melinda Gates Foundation, provided some of these key distinctions for workshop participants. She indicated there are key differentiators among the three types of emergencies that need to be considered for particular emergencies surrounding natural disasters, conflict, or outbreaks. The types of responses that need to be considered actually fall under different areas such as response versus prevention and preparation. Bemo elaborated on this topic by type of emergency, stating there are some distinct elements that characterize different types of acute disruptions and these distinctions should be taken into account so that the response appropriately matches the typology of the emergency.

According to Bemo, for human-induced disasters, typically there is a collapse of the state, and thus disruptions to the state's systems. The response phase cannot always solely count on the government because it is likely part of the conflict. In addition, during a human-induced disaster, there is typically massive movement of people as a result of conflict, turmoil, security issues, and widespread massacre. Disequilibrium then gives way to long-term encampment of displaced individuals.

For rapid onset natural disasters, Bemo indicated the event usually occurs in one place at one moment in time while the slow onset takes place in many days/months. When the rapid onset and threat of one day's event dissipates, widespread consequences of that event are left in its wake. These span the areas of health, infrastructure, services, and security.

Bemo pointed out outbreaks resemble similar characteristics of a natural disaster, despite the fact that they are often approached from a technical perspective. She emphasized it needs to be understood that an

outbreak is not just a medical issue. There is a human face to outbreaks that can easily get lost in technical conversations.

In addition to these distinct characteristics of emergencies made by Bemo, Adler encouraged workshop participants to consider the confluence of disasters in the future from climate change where there is inherent conflict that will arise from resource scarcity and food security issues. Adler stressed that it will be imperative to apply the lessons learned from previous emergencies to a new type of acute disruptions that will pose a threat in the future in a very changing global climate, including its impact on emotions, politics, and power.

A number of the workshop participants reiterated there has to be systems and policies in place to support children, without which any response to an emergency will fail. Specific to Ebola, Coutinho stressed it is important to take the lessons still coming out of this epidemic and translate them into national structures that bring government and civil society together for emergency response units. Yet, national-level units are often not sufficient.

Cooper emphasized the importance of involving the international community, yet at the same time, recognizing the importance of community engagement and feedback to build community trust. She highlighted the importance of community trust, because the assumption now is that communities place their trust in the hands of their leaders. She warned that if a two-way dialogue does not exist prior to an emergency, it is harder to begin during the emergency.

Masten encouraged workshop participants to think about the interactions between and among certain levels and not to concentrate all preparedness efforts at only one level, whether it is the community level or the national level. She said to build resilience, there needs to be scaffolding in place at different levels, so even when complex organizations of multiple systems break down into pieces in a major disaster, the component systems at each level have the capacity to reorganize and reconnect. Masten stated this becomes a process of integrating capacities and it occurs across all levels of the response phase. The result of this type of preparation is that at the time of an acute disruption, when disaggregation and siloing are likely to occur, there is still the scaffolding in place to protect young children.

Masten concluded her comments by stating, when all of these different systems are taken into account, the questions can be formulated around what do people need to know, what do we need to do to prepare at a family level, a community level, at the school level, at the national level, . . . so that for all levels there is a clear interest in protecting children. In this way the capacity for resilience is distributed throughout multiple systems.

8

Aspirations for Young Children Globally

Yisak Tafere, Lead Qualitative Researcher at Young Lives Ethiopia, pointed out children living in poverty have high aspirations, but what they lack is the opportunity to achieve them in many cases. Alex Coutinho, Executive Director of the Infectious Diseases Institute of Makerere University in Uganda, reflected on his own childhood in the African context and what he deems the lottery of life whereby the unpredictable allocation of children to geography, gender, poverty, stability, and many more external contexts will influence each of their lives today and into the future. In doing so, Coutinho stated aspirations are an essential attribute if children are going to be given a future view of what they can become—to be able to say that we, too, can go to the moon.

Aderemi Kuku, president of the African Academy of Sciences, grounded his aspirations in the future science and policies emanating from the African continent, which places an imperative on investing in children today. Kuku aspires for all African governments to have viable and comprehensive early childhood development policies and for all African countries to have science centers where people can have hands on experience with science. Kuku went on to urge that children have the chance to play with the sciences through the creation of child science centers in partnership with the members of the African Science Academy Development Initiative (see Box 8-1).

The aspiration of the Forum on Investing in Young Children Globally is to assist decision makers around the world to use the best science and evidence for investing to optimize the well-being of children and

BOX 8-1
Evolution of the Ethiopian Academy of Sciences

Masresha Fetene, Executive Director of the Ethiopian Academy of Sciences, told the story of the creation of the Ethiopian Academy of Sciences. Aklilu Lemma, who is credited with developing lemma toxin, first had the idea to create an Ethiopian Academy of Sciences in the 1970s. The idea was not supported by the government of Ethiopia at the time, but in 2006 the idea arose again and began to gain momentum. An ad hoc committee was established to discuss the creation of an all-encompassing science academy. The Ethiopian government concluded it should be an academy across the sciences, yet emphasized the academy should be independent and autonomous of the government, seeking only assistance from the government. A launching board began to establish the statutes of the Academy, including the criteria that would be used to select fellows of the Academy, a process that is similar to other Academies across the world. However, in addition to publications and productivity in the sciences, fellows would have to make a significant difference in institution building—particularly in development and education—to become part of the Ethiopian Academy of Sciences.

The Ethiopian Academy of Sciences was founded on March 27, 2010, and there were 49 fellows in the first group. The Ethiopian Academy of Sciences requested of the Ethiopian government that it create an Act of Parliament to recognize the entity as an Academy and grant a submission to give the Ethiopian Academy of Sciences standing. Credibility was earned because the Royal Society and the African Science Academy Development Initiative support allowed the Ethiopian Academy of Sciences to undertake important studies that created legitimacy in the eyes of the Ethiopian government officials.

Today, there are 177 fellows and 75 associate fellows of the Ethiopian Academy of Sciences, all of whom have made a significant contribution to the advancement of science in the country. The Ethiopian Academy of Sciences resides in a historic building of which it received custodianship. Its significance derives from its original owner 100 years ago who was the former Foreign Minister of Ethiopia. The core functions of the Academy include recognizing excellence in science, selecting scholars to be members of the Academy, reward excellence, and serving in an advisory role and to run science, technology, and innovation programs. The logo for the Ethiopian Academy of Sciences (see Figure 8-1) is emblematic of these core functions insofar as the series of concentric circles represent the Academy's role in spreading good ideas and spreading science, which is the Academy's

their lifelong potential. Mellsop urged that those in attendance at the workshop who represent the cross-section of science, policy, and practice owe it to future generations to collectively update the thinking, priorities, and investments to meet the needs of disadvantaged children. Coutinho situated the discussion on the future in the African context by stating if

central function. The graduated rectangular blocks represent that the Academy stands for nation building, and the Academy's role in building and assisting with the development of Ethiopia as a nation. The green represents sustainability, and that the Ethiopian Academy of Sciences stands for sustainable development and environmental sustainability.

The Academy's strategic plan through 2015 seeks to increase and strengthen the Academy's visibility and relevance in the nation, provide consensus building platforms on critical national issues, provide science and technology innovation, recognize excellence, and build institutional capacity and sustainability of the Academy. The Academy is an institution recognized by most government sectors and as a result, it undertakes studies for different government sectors. Examples of studies undertaken by the Ethiopian Academy of Sciences demonstrate that science academies can influence governments to take action by making issues understandable in ways so that government officials can act.

Moving forward the Ethiopian Academy of Sciences aspires to have a center where children may go to have their imaginations kindled so that they may develop a passion for science. Fetene concluded by saying that children need such centers to be inspired.

FIGURE 8-1 Ethiopian Academy of Sciences logo.
SOURCE: Ethiopian Academy of Sciences, 2015.

Africa is to take its place in the world in the future, in both normal times and during emergencies, investments in the continent's children must go beyond basic survival to ensure children can thrive and transform the future.

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Appendix A

Abbreviations and Acronyms

ECD	early childhood development
ESMI	Ethiopia School Meal Initiative
ESRI	Ethiopian School Readiness Initiative
ETU	Ebola Treatment Unit
EVD	Ebola virus disease
FSI	Family Strengthening Intervention
GDP	gross domestic product
ICC	interim care center
iYCG	Forum on Investing in Young Children Globally
MOE	Ministry of Education
MOH	Ministry of Health
MOWYCA	Ministry of Women, Children and Health Affairs
NGO	nongovernmental organization
SMS	short message service
SSM	simple, sustainable, manageable
TESFA	Toward Improved Economic and Sexual/Reproductive Health Outcomes for Adolescent Girls

TRECC	Transforming Education in Cocoa Communities
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
USD	U.S. dollar
WASH	water, sanitation, and hygiene

Appendix B

Workshop Agenda

Forum on Investing in Young Children Globally (iYCG)
Workshop 5: Supporting Family and Community Investments in Young Children Globally

Held in partnership with the Ethiopian Academy of Sciences

Workshop Objectives

Part 1 aims to highlight the science and economics of family and community investments in children and their caregivers using coordinated approaches across the areas of health, education, nutrition, and social protection. Specific areas include

1. Definitions and dynamics determining investment across a diversity of contexts
2. Examples of coordination across sectors, funding entities, and the life course
3. Models of financial and human capital investments in young children and their caregivers
4. Evidence of effectiveness related to investments in families and communities
5. Public- and private-sector approaches to supporting families to invest in young children
6. Innovative potential that is occurring regionally and globally in family and community investments in young children

Part 2 aims to address the impacts of acute disruptions on investments in young children and their caregivers across three broad areas: human-induced disasters, natural disasters, and outbreaks. Specific questions to be addressed include

1. Who responded to children's needs during the acute disruption? Who were the key actors in-country supporting children and families?
2. What happened to the education, health, social protection systems and nutrition programs serving all children and also the most vulnerable children during the acute disruption?
3. How can the lessons learned from these examples lead to investments to strengthen families and communities to minimize the damage from acute disruptions on the health and well-being of children and their caregivers in the future?

Planning Committee

J. Lawrence Aber, New York University
Amina Abubakar, Kenya Medical Research Institute/Wellcome Trust Research Programme
Helena Choi, William and Flora Hewlett Foundation
Pamela Y. Collins, National Institute of Mental Health
Gary Darmstadt, Stanford University School of Medicine
Angela Diaz, Icahn School of Medicine at Mount Sinai and Mount Sinai Adolescent Health Center
Masresha Fetene Workneh, Ethiopian Academy of Sciences
Jody Heymann, University of California, Los Angeles
Tina Hyder, Open Society Foundations
Joan Lombardi, Bernard van Leer Foundation
Kofi Marfo, Aga Khan University
Janna Patterson, The Bill & Melinda Gates Foundation
Alan Pence, University of Victoria
Ruth Perou, U.S. Centers for Disease Control and Prevention
Lorraine Sherr, University College, London
Simon Sommer, Jacobs Foundation
Taha E. Taha, Johns Hopkins Bloomberg School of Public Health
Quentin Wodon, World Bank

SUNDAY, JULY 26, 2015 (open, public session)
Hilton Hotel, Ballroom II/Ibex Nyala

5:30 pm **Moderator: Kofi Marfo**

Keynotes: Masresha Fetene, Executive Director, Ethiopian Academy of Sciences
Theresa Betancourt, Harvard University

MONDAY, JULY 27, 2105 (open, public session)
Hilton Hotel, Ballroom II/Ibex Nyala

8:00 am **Networking Breakfast**

8:30 am **Welcome Messages**
Demissie Habte, President, Ethiopian Academy of Sciences
Zulfiqar Bhutta and Ann Masten, iYCG Forum Co-Chairs
Amina Abubakar and Gary Darmstadt, iYCG Workshop Co-Chairs

9:00 am **Keynotes: Defining Family and Community Investments**
Objective: Define social and cultural factors that influence investments in young children.

Moderator:	Larry Aber, New York University
Speakers:	Alex Coutinho, Retired Director of Uganda's Infectious Diseases Institute (IDI)
	Gillian Mellsop, UNICEF, Ethiopia

10:00 am **Break**

10:30 am **Public- and Private-Sector Views on Financing Models That Meet the Needs of Families and Communities**
Objectives: Highlight examples of financing models for coordinated investments, including how governments are structured and how governments mobilize financial support; and examine examples of private-sector funding models and perspectives on balancing profit with value and impacts related to early childhood development.

Moderator:	Simon Sommer, Jacobs Foundation
Speakers:	Bill Guyton, World Cocoa Foundation
	Afzal Habib, Kidogo—Kenya
	David Harrison, DG Murray Trust
Policy Reaction:	Joe Amoako-Tuffour, African Centre for Economic Transformation (ACET)

12:00 pm **Lunch**

1:00 pm **Views from the Ground on Investing in Young Children and Their Caregivers**

Objective: Highlight the innovative programming occurring on the ground in family and community investments in young children globally through grassroots models that have been evaluated.

Moderator:	Alan Pence, University of Victoria, British Columbia
Speakers:	Menelik Desta Argaw, Ethiopian School Readiness Initiative (ESRI) Jeffrey Edmeades, International Center for Research on Women Frealem Shibabaw, Ethiopia School Meal Initiative
Research Reaction:	Lorraine Sherr, University College, London

2:30 pm **Break**

3:00 pm **Community Viewpoints on Investing in Young Children and Their Caregivers**

Objective: Highlight perspectives from communities that represent different views on investing in children, including how families prioritize and negotiate financial decisions.

Introduction:	Jocelyn Widmer and Charlee Alexander, The National Academies of Sciences, Engineering, and Medicine
Moderator:	Kofi Marfo, Director, Institute for Human Development, Aga Khan University
Video Perspectives:	Series of Videos from the Field • Ethiopia • Haiti • Rwanda
Research Reaction:	Yisak Tafere, Young Lives Project, Ethiopia

4:30 pm **Poster Session Presentations and Networking Reception for Young Influencers**

Format: 2-Minute Presentations in Person or via Video Submission
Moderator: Gary Darmstadt, Stanford University

5:00 pm **Reception**

6:00 pm **Dinner** [Hilton Hotel] *Release of Bernard van Leer's Every Child Matters*
A Good Start: Advances in Early Childhood Development
(Forum Members/Alternates, Staff, Planning Committee, Speakers)

Moderator: Joan Lombardi
Presenters: Gary Darmstadt
Kofi Marfo
Dominique McMahon
Eduardo Queiroz
Susan Walker

Presentation: Early Childhood Funding Map
Nina Sporer, Foundation Center

TUESDAY, JULY 28, 2015 (open, public session continued)
Hilton Hotel, Ballroom I

8:00 am **Networking Breakfast**

8:30 am **Welcome**
Amina Abubakar and Gary Darmstadt, Workshop Co-Chairs

8:45 am **Ethiopian Ministry Policy Perspectives**

Objective: Discuss the national policy perspectives that weigh the benefits and costs for financial and human capital investments in young children and their caregivers.

Chair:	Aderemi Kuku, President, African Academy of Sciences
Moderator:	Helia Molina Milman, Vice Dean of Research and Development in Faculty Medica Sciences at the University of Santiago de Chile, Past Minister of Health, Chile
Panelists:	Fuad Ibrahim, State Minister, Ministry of Education
	Ephrem Tekle, Director for Maternal and Child Health Directorate, Federal Ministry of Health, Ethiopia
	Yayesh Tesfahuney, Director of Child Rights and Promotion Directorate, Ministry of Women, Children and Youth
Reaction:	Yayehyirad Kitaw, Independent Consultant, Ethiopia

10:15 am **Break**

10:45 am **Breakout Session: Decision Support Tools for Countries and Localities**

Objective: Explore multiple decision support tools in breakout groups to identify the audience for each tool, what the tool aims to do, and how the tools might be integrated into a strong decision support tool.

Group Leads:	Guru Madhavan, The National Academies of Sciences, Engineering, and Medicine (SMART Tool)
	Constanza Alarcon, Presidency of Colombia (Tools in Colombia)
	Ann Masten, University of Minnesota (Early Childhood Development Policy Planning Tool)

12:15 pm **Lunch**

1:00 pm **Report Out from Breakout Sessions**
Moderator: Simon Sommer, Jacobs Foundation

1:45 pm **Policies That Support Families and Community Investment**
Objective: Examine systems and governance issues that facilitate or create barriers to increasing opportunities for financial and human capital investments in young children and their caregivers.

Moderator:	Angela Diaz, Mount Sinai Hospital
Speaker:	Jody Heymann, University of California, Los Angeles
Paper Presentation:	Quentin Wodon, World Bank
Research Reaction:	Amina Abubakar, Center for Geographic Medicine, KEMRI Wellcome Trust Research Labs

3:00 pm **Concluding Remarks**
Amina Abubakar and Gary Darmstadt, Workshop Co-Chairs

3:15 pm **Break**

End Part 1 on Family and Community Investments in Young Children

ACUTE DISRUPTIONS

3:30 pm **Welcome and Overview of the Epidemiology of Ebola Outbreaks**
Taha Taha, Workshop Chair

3:50 pm **Keynotes on the Ebola Outbreak: Lessons Learned**
Objective: *Speakers will present data and observations and also provide recommendations, solutions, and strategies that have worked. This session will help to guide the breakout discussions.*

Moderator:	Janna Patterson, The Bill & Melinda Gates Foundation

Presenters: Janice Cooper, Country Lead for the Liberia Mental Health Initiative, Carter Center
Lessons Learned Toward Building Resilience

Ian Crozier
Survivor Perspective

5:15 pm **Keynote: Effective Technology Applications to Infectious Disease Threats**
Objective: Mapping health care services and equipment using data systems.

Moderator: Masresha Fetene, Executive Director, Ethiopian Academy of Sciences
Speaker: Steven Adler, IBM

5:45 pm **Closing Remarks**
Taha Taha, Workshop Chair

6:00 pm **Dinner on Your Own**

WEDNESDAY, JULY 29, 2015 (open, public session)
Hilton Hotel, Ballroom I

8:00 am **Networking Breakfast**

8:30 am **Welcome**
Taha Taha, Workshop Chair

8:30 am **Challenges and Opportunities for an Integrated Response**
Arnaud Conchon, UNICEF

Objectives of Working Groups [via Video]
Zulfiqar Bhutta, iYCG Forum Co-Chair

9:30 am **Working Group Sessions**

Goal: At the end of the day we will draw on the discussions in the breakout groups to identify three areas of potential policy actions in the context of acute disruptions.

Group 1	*Human-Induced Disasters* (e.g., armed conflict—Democratic Republic of the Congo, Rwanda, Sierra Leone, Syria)	
	Chair:	Christine Mutaganzwa, Partners In Health
	Moderator:	Ruth Perou, U.S. Centers for Disease Control and Prevention
	Perspective:	Bonita Birungi, Save the Children, Africa Regional Technical Team
Group 2	*Natural Disasters* (e.g., earthquake, tsunami, drought)	
	Chair:	Joan Conn, Restavek Freedom, Haiti
	Moderator:	Tina Hyder, Open Society Foundations
	Perspective:	Bishnu Bhatta, Association for Childhood Education International, Nepal
Group 3	*Outbreaks* (e.g., Ebola, SARS, AIDS)	
	Chair:	Valerie Bemo, The Bill & Melinda Gates Foundation
	Moderator:	Taha Taha, Johns Hopkins Bloomberg School of Public Health
	Perspective:	Mulugeta Gebru, Executive Director, Jerusalem Children and Community Development Organization, Ethiopia
11:30 am	**Break**	
12:00 pm	**Reporting Out Synthesis of Three Areas of Potential Policy Action**	
	Moderator:	Taha Taha, Workshop Chair

Appendix C

Biographical Sketches of Workshop Speakers

Larry Aber, Ph.D., is the Willner Family Professor in Psychology and Public Policy at the Steinhardt School of Culture, Education, and Human Development, and University Professor, New York University, where he also serves as board chair of its Institute of Human Development and Social Change. He is an internationally recognized expert in child development and social policy and has co-edited *Neighborhood Poverty: Context and Consequences for Children* (1997, Russell Sage Foundation), *Assessing the Impact of September 11th, 2001, on Children, Youth, and Parents: Lessons for Applied Developmental Science* (2004, Erlbaum), and *Child Development and Social Policy: Knowledge for Action* (2007, APA Publications). His basic research examines the influence of poverty and violence at the family and community levels and on the social, emotional, behavioral, cognitive, and academic development of children and youth. Currently, he conducts research on the impact of poverty and HIV/AIDS on children's development in South Africa (in collaboration with the Human Sciences Research Council) and on school- and community-based interventions in the Democratic Republic of the Congo (in collaboration with the International Rescue Committee). In 2006, Dr. Aber was appointed by the Mayor of New York City to the Commission for Economic Opportunity, an initiative to help reduce poverty and increase economic opportunity in New York City. In 2007, Dr. Aber served as the Nannerl O. Keohane Distinguished Visiting Professor at Duke University and the University of North Carolina at Chapel Hill. He is also Chair of the Board of Directors of the Children's Institute, University of Cape Town, South Africa, and

served as consultant to the World Bank on its project Children and Youth in Crisis. From 2003–2006, Dr. Aber chaired the Advisory Board, International Research Network on Children and Armed Conflict of the Social Science Research Council in collaboration with the Special Representative to the Secretary General of the United Nations on Children and Armed Conflict and the United Nations Children's Fund. Dr. Aber earned his Ph.D. from Yale University and an A.B. from Harvard University.

Amina Abubakar, Ph.D., is a research fellow at Lancaster University. She studied educational psychology at Kenyatta University in Kenya before proceeding to study developmental cross-cultural psychology at Tilburg University, where she obtained her Ph.D. in 2008. She previously worked at the Kenya Medical Research Institute/Wellcome Trust Research Program in Kenya. She was also a visiting academic at Tilburg University in the Netherlands and the University of Oxford in the United Kingdom. Her research concerns three broad areas: examining the sequelae of various childhood diseases, neurodevelopmental disorders, specifically autism spectrum disorder (ASD), and contextual predictors of mental health among adolescents across cultural contexts. Her main interests are in the study of developmental delays and impairments among children exposed to various health problems such as HIV, malnutrition, and malaria. Her main focus in this regard is on developing culturally appropriate strategies for identifying, monitoring, and rehabilitating at-risk children. Alongside her colleagues, Dr. Abubakar was instrumental in developing various culturally appropriate measures of child development currently in use in almost 10 African countries. She was also involved in various projects aimed at examining the psychosocial risk factors (i.e., maternal depression, quality of home environment, and parental socioeconomic status) predictive of poor developmental outcomes among vertically infected HIV positive children and adolescents. In addition, she is also interested in examining the prevalence of and risk factors for neurodevelopmental disorders, specifically ASD, within the African context. As part of her postdoctoral work in cross-cultural psychology, she recently completed a study involving more than 7,000 adolescents and emerging adults from 24 countries, where she investigated how various contextual factors (familial, school, peer, and cultural) impact on well-being (mental health and life satisfaction identity formation). Dr. Abubakar has given guest lectures and workshops largely focusing on cross-cultural research methods in various countries, including Cameroon, Germany, Indonesia, Kenya, the Netherlands, New Zealand, South Africa, and Spain. She has co-authored several peer-reviewed journal articles and book chapters.

Steven Adler is IBM's chief information strategist, where he is responsible for IBM's open data, data governance, and system dynamics strategies. He is an early pioneer in the data governance industry, holds four patents on data privacy and security, and is a member of the U.S. Commerce Data Advisory Council, the Global Open Data for Agriculture and Nutrition Program, and the Open Government Partnership. Mr. Adler is the founder of the Open Governance Council, the Africa Open Data Group, and the Australia Open Data Group. He organized the first Africa Open Data Jam during the U.S.–Africa Leaders Summit and two subsequent Ebola Open Data Jams to use open data to improve information about Ebola and health care capacity in West Africa.

Constanza Alarcon, M.S., is a Colombian expert on childhood and adolescent public policies design and implementation, with special focus on early childhood and works in the Presidency of the Republic of Colombia as the National Coordinator of the Intersectoral Commission for Early Childhood. From the Presidency of the Republic of Colombia she led the design and implementation process of an innovative public policy, in terms of integrality and intersectionality, for early childhood in her country.

Through her extended career, Ms. Alarcon has made an important contribution in the area of early childhood and childhood, from academic, public, and private areas in her country. As a recognized leader in her country and Latin America, Ms. Alarcon brings an enriching perspective built on her experience as the former Deputy Secretary for Childhood in Bogotá, Colombia. Being part of national and international, public, and private organizations, Ms. Alarcon has led several social development projects, including the planning, implementation, and evaluation of public policies and intersectoral and inter-institutional coordination, as well as designing and managing public–private partnerships in the social area. Prior to her work as Deputy Secretary for Childhood, she was a United Nations policy adviser to the Office of the Mayor of Bogotá on strengthening social organizations. In the academic sector, she served as Dean and Professor in several Schools of Education in various universities in Colombia. She also coordinated protection, adoption, and care programs for people with disabilities. Ms. Alarcon is a psychologist from Colombian National University. She holds a specialization degree on social comprehensive attention in mental health and received a master's in educational and social development.

Charlee Alexander is a research associate with the Forum on Investing in Young Children Globally. Ms. Alexander graduated from the University of Chicago in 2010 with a B.A. in political science. After moving to

Washington, DC, in September 2010 she worked as a legal assistant for the environmental firm Hill & Kehne, LLC, with a focus on brownfield remediation. Through the efforts of the RACER Trust, Ms. Alexander helped to revitalize and repurpose contaminated industrial properties remaining from the General Motors bankruptcy in 2009. Prior to joining the National Academies of Sciences, Engineering, and Medicine, she was a legal assistant at the civil rights firm Sanford Heisler, LLP, where the majority of her cases involved race and gender discrimination in the workplace. In October 2012 she traveled to Ghana for a 5-week child labor and trafficking volunteer program with a local nongovernmental organization, the Cheerful Hearts Foundation. She conducted interviews with victims of child labor and their families to develop a socioeconomic snapshot of fishing communities. While Ms. Alexander was always interested in civil and human rights, her trip to Ghana led her to focus on public health.

Joe Amoako-Tuffour, Ph.D., is a senior advisor at the African Centre for Economic Transformation (ACET). Prior to joining ACET, he was a professor of economics at St. Francis Xavier University in Canada where he taught for 25 years. He also recently taught in the natural resource governance executive program at the Blavatnik School of Government at Oxford University. He has served in different capacities as a tax policy advisor at the Ministry of Finance (Ghana). In Ghana from 2001–2003 he served as lead economist of a mini-consultative group of donors and provided leadership in the design of the Multi-Donor Budgetary Support System, participated in the design of the Ghana Poverty Reduction Strategy in 2001–2002, and in 2008–2010 was lead advisor in the design of Ghana's Oil and Gas Revenue Management legislation. He has published in international journals on the demand for public goods, recreational demand analysis, fiscal deficits, and public debt. He is a co-author of the book *Poverty Reduction Strategies in Action: Lessons and Perspectives from Ghana*. His current research interest is in taxation, how government spends, natural resource governance, and revenue management.

Bishnu Bhatta, M.B.A., is currently working as director of Partnership for Sustainable Development (PSD)-Nepal. For the past 25 years he served in organizations such as the Students Partnership Worldwide, Save the Children, and the Peace Corps-Nepal. He also served as the Country Coordinator for i*EARN for 2 years and also served as international deputy coordinator for the Medicinal Plants in Our Backyard Project that was implemented in seven different countries. Currently, he is the Asia representative for the leadership team in Nature Action Collaborative for Children, based in the United States. He has presented several papers at numerous international conferences. He was a facilitator for the How to

Connect Children with Nature Conference. Since 2012, he has also been working as the Nepal country liaison for the Association of Childhood Education International. He works for the improvement of early childhood development, which is just one sector of PSD-Nepal work amid many. In order to enhance the quality of education, he has continuously involved himself in raising small-scale funds and investing it to build up quality school environments for children. Mr. Bhatta's work has made the community member feel that investing in early childhood education is in fact investing in community development in the long term. Apart from this, he also plans and implements the PSD volunteer program, manages the volunteer program team, and he plans, reviews, and coordinates all of its activities to ensure effective and focused inputs that lead to the delivery of the program outputs.

Zulfiqar Bhutta, MBBS, FRCPCH, FAAP, Ph.D., is the Robert Harding Inaugural Chair in Global Child Health at The Hospital for Sick Children (SickKids), Toronto, the co-director of the SickKids Centre for Global Child Health, and founding director of the Centre of Excellence in Women and Child Health at the Aga Khan University, unique joint appointments. He also holds adjunct professorships at the Schools of Public Health at Johns Hopkins University (Baltimore), Tufts University (Boston), the University of Alberta, and the London School of Hygiene and Tropical Medicine. He is a designated Distinguished National Professor of the Government of Pakistan and was the founding chairman of the National Research Ethics Committee of the Government of Pakistan from 2002–2014. Dr. Bhutta's research interests include newborn and child survival, maternal and child undernutrition, and micronutrient deficiencies. Dr. Bhutta is one of the seven-member Independent Expert Review Group established by the United Nations Secretary General in September 2011 for monitoring global progress in maternal and child health Millennium Development Goals. He represents the global academic and research organizations on the Global Alliance for Vaccines and Immunizations Board, is the co-chair of the Maternal and Child Health oversight committee of the World Health Organization (WHO) Regional Office for the Eastern Mediterranean (EMRO) as well as the Global Countdown for 2015 Steering Group. He served as a member of the Global Advisory Committee for Health Research for WHO, the Board of Child & Health and Nutrition Initiative of Global Forum for Health Research, and was a founding Board member of the Global Partnership for Maternal, Newborn and Child Health. He serves on several international editorial boards. Dr. Bhutta is currently a member of the WHO Strategic Advisory Committee for Vaccines, the Expert Advisory Group for Vaccine Research, the Advisory Committee for Health Research of WHO EMRO, and a co-chair of its apex

Regional Committee for Maternal and Child Health. He has won several awards, including the Aga Khan University Awards for Research (2005) and Distinguished Faculty (2012) and the WHO Ihsan Dogramaci Family Health Award (2014). Dr. Bhutta received his Ph.D. from the Karolinska Institute, Sweden, and is a fellow of the Royal College of Pediatrics and Child Health, American Academy of Pediatrics, and the Pakistan Academy of Sciences.

Bonita Birungi, M.P.H., is the senior specialist for early childhood care and development for Save the Children in Africa. Ms. Birungi has more than 15 years of professional and program technical management experience in early childhood development, community health and child protection, providing technical and thought leadership and support to programs to ensure technical quality, comprehensive and coordinated programming, and quality service provision. Ms. Birungi provides thought leadership to early childhood care and development country teams by staying abreast of the latest research and evidence as well as input from programs while ensuring that Save the Children's work embodies existing best practices. This is done at the same time Save the Children strategically develops and tests innovative approaches to addressing the next frontier of challenges to improve children's development in low-resource settings and leverages community-level success for national and international changes in policy and practice. Ms. Birungi has a master's degree in child development and a master's degree in public health.

Arnaud Conchon, M.S.C., is a French national who holds a master's degree in humanitarian program management. He has about 10 years of international work as an emergency coordinator and early childhood development (ECD) in emergency specialist. He worked mainly with the United Nations Office for Project Services; The National Academies of Sciences, Engineering, and Medicine; the United Nations Children's Fund (UNICEF); and Save the Children. He was based in Afghanistan, the Comoros, Iraq, Kosovo, and the tsunami-affected areas in Chad, the Democratic Republic of the Congo, and Haiti; and in New York with the UNICEF/ECD Unit. He is currently home-based in Rwanda and on short-term deployment to UNICEF New York, where he works as an ECD in Emergency specialist.

Joan Conn, M.A., is the executive director of the Restavek Freedom Foundation. She received a B.A. in education from Lee University and an M.A. in education from the University of Cincinnati. Ms. Conn has been leading the Restavek Freedom Foundation's efforts to abolish child slavery in Haiti. Splitting her time between the United States and Haiti, she has

become an expert on the restavek issue working with her team in Haiti to provide direct services to 800+ children in restavek, as well as leading national-level conferences and wide-reaching media projects to raise awareness about the damage the restavek issues have on Haiti. In the time that Ms. Conn has been working on the restavek issue, human trafficking legislation has been passed to protect children in Haiti, Haitian government leaders are addressing the issue publicly, and the Miss Haiti pageant partnered with the Restavek Freedom Foundation to make restavek a platform issue for its competition in 2014. Ms. Conn participates in United Nations roundtables focused on child protection, is a member of the Clinton Global Initiative, and has hosted journalists from the BBC, CNN, and *The New York Times* to bring attention to the restavek issue around the world.

Janice Cooper, M.P.A., Ph.D., is the country lead for the Liberia Mental Health Initiative. She oversees a national training, policy, and support program to expand capacity for mental health services delivery. She is also responsible for interacting with national and international colleagues and partners of the program. A native Liberian and health services researcher specializing in children's mental health, Dr. Cooper has worked in the private, public, and nonprofit sectors in the United States and Liberia. Prior to joining the Carter Center in 2010, Dr. Cooper was the interim director of the National Center for Children in Poverty, as well as an assistant clinical professor in Health Policy and Management at Columbia University's Mailman School of Public Health. From 2005–2009, she also served as the Carter Center's director of Child Health and Mental Health, receiving the distinguished Calderone Prize for Junior Faculty in 2007. Dr. Cooper received her M.P.A. and Ph.D. in health policy from Harvard University. She was a 2001 fellow in medical ethics at Harvard Medical School and a 1999 Archibald Bush Foundation Leadership Fellow. She holds additional undergraduate and graduate degrees from the University of Essex, Colchester, England, and Columbia and Harvard Universities in the United States.

Alex Coutinho, M.D., is the retired executive director of Uganda's Infectious Diseases Institute (IDI) and has spent three decades fighting HIV/AIDS in Africa. He is now working with the Accordia Global Health Foundation and its implementing partners to increase Ebola preparedness and to advocate for structural changes to prevent such catastrophic outbreaks. In 2013, Dr. Coutinho received Japan's Hideyo Noguchi Africa Prize, recognizing his outstanding contributions. Born in Uganda, Dr. Coutinho treated some of the earliest AIDS cases, working in Uganda and Swaziland. He went on to lead The AIDS Support Organization (TASO),

which became the largest country-owned support organization for people living with HIV. TASO's innovations were copied and scaled up across HIV-endemic countries. In 2007, Dr. Coutinho became the first Ugandan to head IDI. Launched by Accordia and granted to Makerere University, IDI provides training for 2,000 health professionals from across Africa each year in HIV, tuberculosis, and malaria and helps capacity building in regional and many district Ugandan hospitals. It attracts researchers from around the world and has become virtually self-sustaining in just 10 years.

Gary Darmstadt, M.D., M.S., is associate dean for maternal and child health, professor in the Division of Neonatal and Developmental Pediatrics, and co-director of Global Pediatric Health in the Department of Pediatrics at the Stanford University School of Medicine. Previously, Dr. Darmstadt was senior fellow in the Global Development Program at The Bill & Melinda Gates Foundation (BMGF), where he led a cross-foundation initiative on women, girls, and gender, assessing how addressing gender inequalities and empowering women and girls leads to improved gender equality as well as improved health and development outcomes. Prior to this role, he served as BMGF director of family health, leading strategy development and implementation across nutrition, family planning, and maternal, newborn, and child health.

Dr. Darmstadt was formerly associate professor and founding director of the International Center for Advancing Neonatal Health in the Department of International Health at the Johns Hopkins Bloomberg School of Public Health. He has trained in pediatrics at Johns Hopkins University, in dermatology at Stanford University, and in pediatric infectious disease as a fellow at the University of Washington, Seattle, where he was assistant professor in the Departments of Pediatrics and Medicine. Dr. Darmstadt left the University of Washington to serve as senior research advisor for the Saving Newborn Lives program of Save the Children-US, where he led the development and implementation of the global research strategy for newborn health and survival, before joining Johns Hopkins.

Menelik Desta Argaw, Ph.D., did his undergraduate medical training at Addis Ababa University at Tikur Anbasa Hospital. After working as a general practitioner in rural Ethiopia, Dr. Desta Argaw studied psychiatry at the University of Manchester in England. After serving as a psychiatrist at Amanuel Mental Hospital for 13 years, he studied for his Ph.D. at the University of Umea in Sweden on the epidemiology of child psychiatric disorders in Ethiopia. He then worked in the first child psychiatric clinic at Yekatit 12 Hospital in Addis Ababa until he started the full-time job as the executive director of the Ethiopian School Readiness Initiative, a

nongovernmental charity organization that works in collaboration with the Addis Ababa Education Bureau to promote a child-friendly preschool program.

Angela Diaz, M.D., M.P.H., is the Jean C. and James W. Crystal Professor of Pediatrics and Preventive Medicine at the Mount Sinai School of Medicine. After earning her medical degree in 1981 at Columbia University College of Physicians and Surgeons, she completed her post-doctoral training at the Mount Sinai School of Medicine in 1985 and subsequently received a master in public health from Harvard University.

Dr. Diaz is the director of the Mount Sinai Adolescent Health Center, a unique program that provides comprehensive, integrated, interdisciplinary primary care, sexual and reproductive health, mental health, dental services, and health education services to teens for free. The Center has an emphasis on wellness and prevention. Under her leadership the Center has become the largest adolescent specific health center in the United States, serving more than 12,000 vulnerable and disadvantaged youth each year, including those who are sexually exploited and trafficked. She has been a member of the Board of Directors of the New York City Department of Health and Mental Hygiene and president and chair of the Board of Trustees of the Children's Aid Society of New York. Dr. Diaz has been a White House fellow, a member of the U.S. Food and Drug Administration Pediatric Advisory Committee, and a member of the National Institutes of Health State of the Science Conference on Preventing Violence and Related Health Risk Social Behaviors in Adolescents. In 2003, Dr. Diaz chaired the National Advisory Committee on Children and Terrorism for the U.S. Department of Health and Human Services. She is an elected member of the National Academy of Medicine. In 2009, Dr. Diaz was appointed by Mayor Bloomberg to the New York City Commission for Lesbian, Gay, Bisexual, Transgender and Questioning (LGBTQ) Runaway and Homeless Youth Taskforce. Dr. Diaz is active in public policy and advocacy in the United States and has conducted many international health projects in Africa, Asia, Central and South America, and Europe. She is a frequent speaker at conferences throughout the country and around the world.

Jeffrey Edmeades, Ph.D., is a senior social demographer at the International Center for Research on Women. In this role, Dr. Edmeades manages a variety of projects in which he provides technical assistance to partners, designs and conducts program evaluations, and executes data analysis. His research primarily focuses on the interaction between the development process and demographic behavior, including fertility, contraceptive use, and migration, as well as household decision-making processes and the role gender norms play in shaping demographic outcomes.

Dr. Edmeades has several years of experience in studying the effects of rural poverty, gender inequality, and reproductive health patterns in the developing world. He also has published a number of peer-reviewed papers that address research methodology and the determinants of reproductive behavior and intimate partner violence, among other topics. His work has appeared in academic publications such as *Demography*, *Social Science and Medicine*, *Studies in Family Planning*, and the *Journal of Mixed Method Research*. Dr. Edmeades holds a doctorate in sociology from the University of North Carolina. He earned a master's in demography and a bachelor's in geography from the University of Waikato, New Zealand.

Masresha Fetene Workneh, Ph.D., is a professor of plant ecophysiology at Addis Ababa University (AAU). He obtained his B.Sc. (1982) and M.Sc. (1985) in biology from AAU and his Ph.D. in plant ecophysiology from the University of Darmstadt, Germany (1990). Currently, he is executive director of the Ethiopian Academy of Sciences (EAS). In the past, he has served AAU in various capacities: vice-president for research and graduate studies, head of department of biology, associate dean for research and graduate studies, and director of Addis Ababa University Press. He was also the editor-in chief of *Sinet: Ethiopian Journal of Science*. He has initiated several international and regional partnerships in teaching and research and has led and conducted many research projects with collaborators from East African countries and Europe. He has published extensively in peer-reviewed journals in the area of plant eco-physiology, plant stress and crop physiology, tree physiology, and plant ecology. He is a recipient of several research awards and fellowships, including the United Nations Educational, Scientific and Cultural Organization-International Cell Research Organization research award and the Alexander von Humboldt Fellowship. Dr. Fetene Workneh is a founding and active member of many professional associations, both national and international. He spearheaded the initiative for the establishment of the EAS.

Mulugeta Gebru is an Ethiopian national and executive director of the Jerusalem Children and Community Development Organization. He holds a B.A. in business management with a concentration on civil society and government relationships from the University of Glasgow (United Kingdom); an advanced diploma in development studies; and attended trainings in various disciplines in Asia, England, Ethiopia, the Netherlands, and the United States. He has 28 years of work experience from lower to top management level at government and nongovernmental organizations (NGOs). Mr. Gebru maintains close relationships with governments of Ethiopia at different levels and donors in Australia, Finland, Germany, Italy, the Netherlands, Sweden, the United Kingdom, and the

United States. He plays a strategic and executive management role toward achieving organizational mission and programmatic objectives. Mr. Gebru guides various levels of management groups in the process of developing programmatic work plans, regularly monitors work performance, and ensures effective implementation of strategic management plans. He is involved with policy formulation and advocacy work on children's issues. He serves as a board member and board chair of six NGOs, including the Canadian Christian Relief and Development Association; is an advisory member of the Firelight Foundation; is a member of the International AIDS Society in the United States; and serves as a parental committee member of various schools in Addis Ababa.

Bill Guyton, M.A., is president of the World Cocoa Foundation (WCF) and an internationally recognized expert with nearly 25 years of experience in sustainable development. He acts as a primary spokesman for the international chocolate industry on issues related to a sustainable cocoa economy and the quality of life of independent family cocoa farmers. Mr. Guyton has been with WCF since its inception. He helped grow the foundation's membership from a handful of large companies into a diversified group of more than 90 companies representing more than 80 percent of the global cocoa market. He directs sustainable cocoa programs with an annual budget of more than $10 million. Mr. Guyton brings deep technical expertise and hands-on field experience to his position with in-country experience in 30 different nations in Africa, the Americas, the Middle East, and Southeast Asia.

Afzal Habib is the co-founder and chief imagination officer at Kidogo, a social enterprise that provides high-quality, affordable early childhood care and education to families living in East Africa's urban slums. Mr. Habib oversees Kidogo's strategy, finances, and day-to-day operations from Nairobi, Kenya. Previously, Mr. Habib spent 3 years in management consulting with the Boston Consulting Group, a leading global adviser on business strategy. He has also been an adviser and consultant to numerous social enterprises, including Acumen, CARE, and Karibu Solar Power and is the author of an award-winning business case on micro-franchising. Mr. Habib is a graduate of the international business program at the Schulich School of Business, where he specialized in strategy and social entrepreneurship and studied as a Loran Scholar. He was recently selected as one of Corporate Knights "Top 30, Under 30" in Canada for his work in social entrepreneurship.

Demissie Habte, M.D., is the incumbent president of the Board of the Ethiopian Academy of Sciences, elected in 2010. He is a professor of

pediatrics at the Faculty of Medicine, Addis Ababa University. He has also served as dean of the faculty. Dr. Habte held various positions abroad including executive director of the International Centre for Diarrheal Diseases Research in Bangladesh, health specialist for the African Region at the World Bank in Washington, DC, and founding international director of the James P. Grant School of Public Health, BRAC University, Bangladesh. He is a recipient of the Rosen von Rosenstein Medal of the Swedish Pediatric Society.

David Harrison, M.B.Ch.B., M.Sc., M.P.P., is the chief executive officer of the South African grant-making foundation DG Murray Trust. After completing his medical internship in 1990, Mr. Harrison joined the Child Health Unit of the University of Cape Town, working on policy issues related to child health, nutrition, and early childhood development (ECD). He completed an M.Sc.(Med) related to the planning of child health services in Khayelitsha. In 1991, he founded the Health Systems Trust (HST), a nongovernmental organization supporting health policy and services development in South Africa. In his capacity as director of HST, he established the South African Health Review—an annual assessment of health and health care—and the Initiative for Sub-District Support, working with the Department of Health to improve the quality of health care in clinics throughout South Africa. In 2000, he completed a master's in public policy at the University of California, Berkeley, before returning to South Africa to head up loveLife, a national HIV prevention program for young people. In 2010, he joined DG Murray Trust, which has a significant focus on ECD, education, and opportunities for young people.

Jody Heymann, M.D., Ph.D., dean of the University of California, Los Angeles, Fielding School of Public Health since January 2013, is an internationally renowned researcher on health and social policy. Dr. Heymann is founding director of the WORLD Policy Analysis Center, the first global initiative to examine health and social policy in all 193 United Nations nations. In 2013, the WORLD Policy Analysis Center launched Children's Chances, which focuses on legislation and policies that will help ensure children have a better chance to lead healthy lives. This effort led to collaborations focusing on child policy with the United Nations Children's Fund (UNICEF) and the United Nations Educational, Scientific and Cultural Organization; and the World Health Organization (WHO) public use information has been accessed from 180 countries. In September 2013, Children's Chances data covering education policy, constitutional rights, child labor laws, child marriage, protection against discrimination, and parental care were presented to the United Nations Office of the High Commissioner for Human Rights and the Committee on the Rights of the

Child. In addition to Dr. Heymann's award-winning global social policy research, she has led seminal studies on the risk of HIV transmission via breast milk to infants in Africa, the impact of HIV/AIDS on tuberculosis rates in Africa, and how labor conditions impact the health and welfare of children and families globally. Prior to becoming dean of the Fielding School, Dr. Heymann held a Canadian Research Chair in Global Health and Social Policy at McGill University where she was the founding director of the Institute for Health and Social Policy. While on the faculty at Harvard Medical School and the Harvard School of Public Health, she founded the Project on Global Working Families. Dr. Heymann has worked with government leaders in Africa, Europe, Latin America, and North America as well as a wide range of intergovernmental organizations, including the International Labor Organization, UNICEF, UNESCO, WHO, and the World Economic Forum. She helped develop health and social policy with national policy makers as well as with United Nations agencies based on the implications of her team's research results.

Tina Hyder, M.S.C., is deputy director of the Early Childhood Program of the Open Society Foundations (OSF), based in London, and leads OSF's early childhood development projects and grants in Africa and Asia. As deputy director, Ms. Hyder helps forge partnerships to strengthen early childhood policies, research, networks, and programs for young children and their families. Prior to joining OSF in 2009, Ms. Hyder was a global adviser for Save the Children UK, supporting more than 50 country offices around the world to promote the rights of children affected by discrimination. Earlier work includes programming for children affected by conflict and other emergencies, in addition to research on children's perspectives of physical punishment and policy and practical responses to working with refugee children.

Yayehyirad Kitaw, M.D., is a fellow of the Ethiopian Academy of Sciences. Dr. Kitaw was the past treasurer at the Ethiopian Medical Association, a past Executive Board member at the Ethiopian Public Health Association, and past president of the Ethiopian Malaria Professionals Association. Dr. Kitaw has published more than 50 papers in peer-reviewed Ethiopian and international journals on malaria, smoking, immunization, HIV/AIDS, HIV-related Dementia, and health care development. He is also the main author of several chapters in books and manuals, including *The HIV/Security Nexus: The Cornucopia Horn* (Inter-Africa Group, 2008); "Old Beyond Imaginings: Harmful Traditional Practices in Ethiopia" (2nd Edition, 2008); *The Evolution of Public Health in Ethiopia: 1941–2010* (2nd Revised Edition, Ethiopian Public Health Association [EPHA], 2012); *The Evolution of Human Resources for Health in Ethiopia: 1941-2010* (EPHA, 2014); *History*

of the Ethiopian Public Health Association (EPHA, 2014); and *History of the Ethiopian Medical Association* (Ethiopian Medical Association, 2015).

Aderemi Kuku, Ph.D., is currently president of the African Academy of Sciences (AAS) and was president of the African Mathematical Union for 9 years from 1986 to 1995. He has more than 40 years of teaching and research experience at the university level. He was professor, head of mathematics (1983–1986) and dean of the Postgraduate School (1986–1990) at the University of Ibadan, Nigeria; and foundation chairman, Committee of Deans of Post-Graduate schools in Nigerian Universities (1987–1990). Dr. Kuku was a professor of mathematics at the International Centre for Theoretical Physics in Trieste, Italy, from 1995–2003 and the William W. S. Claytor Endowed Professor of Mathematics at Grambling State University, Louisiana, in the United States. He has held many visiting positions at universities and research institutes in Canada, China, Europe, Hong Kong, and the United States, including as a member of the Institute for Advanced Study in Princeton, New Jersey, in the United States. Moreover, he has given numerous colloquia and seminar lectures and organized numerous conferences, symposia, and workshops all over the world. Dr. Kuku is a recipient of several honors such fellow of the American Mathematical Society in 2012; fellow of The World Academy of Sciences in 1989; European Academy of Arts, Science and Humanities in 1986; AAS in 1986; Nigerian Academy of Science in 1989; and foreign fellow of the Mongolian Academy of Sciences in 2005.

Guru Madhavan, Ph.D., is a senior program officer and project director at the Institute of Medicine of the National Academies of Sciences, Engineering, and Medicine. Since 2010, he has led the research and development of Strategic Multi-Attribute Ranking Tool for Vaccines (SMART Vaccines)—a widely recognized prioritization software tool to help reduce barriers for vaccine innovation—produced in partnership with the National Academy of Engineering. Dr. Madhavan received his M.S. and his Ph.D. in biomedical engineering and an M.B.A. from the State University of New York. He worked in the medical device industry as a research scientist developing cardiac surgical catheters for ablation therapy and served as a strategic consultant for tech start-up firms and nonprofit organizations. Dr. Madhavan was a founding member of the Global Young Academy, and is a vice president of the Institute of Electrical and Electronics Engineers (IEEE)-USA of IEEE, the world's largest professional society for engineering and technology. Among many honors and fellowships, Dr. Madhavan received the Innovator Award from the presidents of the Academies and the Cecil Medal, the highest distinction for a staff researcher of the Institute of Medicine. He has been named as one of the "New Faces of Engi-

neering" in *USA Today* and as a distinguished young scientist under the age of 40 by the World Economic Forum. Dr. Madhavan has authored or co-edited seven books.

Kofi Marfo, Ph.D., is professor and founding director of the Institute for Human Development at Aga Khan University (South-Central Asia, East Africa, and the United Kingdom). He was the founding director of the Center for Research on Children's Development and Learning at the University of South Florida, where he was professor of educational psychology (and special education) from 1992–2014. His current scholarly interests are in the areas of developmental science, social policy and childhood interventions, the advancement of a global science of human development, and philosophical issues in behavioral science and education research.

He has published extensively in the areas of early child development, early intervention efficacy, parent–child interaction, behavioral development in children adopted from China, and childhood disability in low- and middle-income countries. His scholarship has been cited across disciplines in more than 180 different journals worldwide. He is co-leader of an initiative to support child development research capacity building in Africa and is a co-convener of the African Scholars in Child/Early Child Development Workshop series. He is a member of the Society for Research in Child Development, the International Society for the Study of Behavioral Development, and the American Educational Research Association. He has been a U.S. National Academy of Education Spencer Fellow, a Zero to Three Irving B. Harris Mid-Career Leadership Fellow, and more recently a Residential Fellow at the Center for Advanced Study in the Behavioral Sciences at Stanford University. For 4 years he was a member of the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development's Bio-Behavioral and Behavioral Sciences Subcommittee. He is a member of the Governing Council of the Society for Research in Child Development and serves in advisory roles for two private foundations with substantial investments in early childhood development. He is a graduate of the University of Alberta, Canada (M.Ed. and Ph.D.) and the University of Cape Coast, Ghana (B.Ed., Honors).

Ann Masten, Ph.D., LP, is Regents Professor, Irving B. Harris Professor of Child Development and Distinguished McKnight University Professor in the Institute of Child Development at the University of Minnesota. She completed her doctoral training at the University of Minnesota in clinical psychology and her internship at the University of California, Los Angeles. In 1986, she joined the faculty in the Institute of Child Development at the University of Minnesota, serving as chair of the department from 1999 to

2005. Dr. Masten's research focuses on understanding processes that promote competence and prevent problems in human development, with a focus on adaptive processes and pathways, developmental tasks and cascades, and resilience in the context of high cumulative risk, adversity, and trauma. She directs the Project Competence studies of risk and resilience, including studies of normative populations and high-risk young people exposed to war, natural disasters, poverty, homelessness, and migration. The ultimate objective of her research is to inform sciences, practices, and policies that aim to promote positive development and a better future for children and families whose lives are threatened by adversity. Dr. Masten currently serves on the Board on Children, Youth, and Families (BCYF) and the U.S. National Committee of Psychology of the National Academies of Sciences, Engineering, and Medicine. She formerly served on the BCYF Committee on the Impact of Mobility and Change on the Lives of Young Children, Schools, and Neighborhoods and the planning committee on Investing in Young Children Globally. She also has served as president of the Society for Research in Child Development and president of Division 7 (Developmental) of the American Psychological Association (APA). She is a 2014 recipient of the Urie Bronfenbrenner Award for Lifetime Contributions to Developmental Psychology in the Service of Science and Society from APA. Dr. Masten has published and presented extensively on the themes of risk and resilience in human development. Her book *Ordinary Magic: Resilience in Children* was published by Guilford Press and she taught a free MOOC (mass open online course) on the same theme beginning in September 2014 on Coursera.

Gillian Mellsop, M.A., graduated from the University of Auckland with a bachelor's degree in anthropology and history, and began her international development career in 1979 with New Zealand's Ministry of Foreign Affairs in the External Aid Division (1979–1982). She then joined the Australian Agency for International Development (AusAID) (1984–2003). Her work with AusAID included serving as AusAID's representative in Australian missions in Bangladesh, India, and Laos (also covering Bhutan and Nepal), where she was responsible for Australia's development cooperation programs in those countries. She was also involved in managing Australia's aid programs in the Pacific, Papua New Guinea, and the Philippines. Prior to joining the United Nations Children's Fund (UNICEF) she was the director of AusAID's United Nations and Commonwealth Program. Ms. Mellsop joined UNICEF in April 2003 as a representative in Suva, Fiji. She then served as a representative with UNICEF in Kathmandu, Nepal, from December 2006 to March 2011. Prior to joining UNICEF in Ethiopia in April 2015, Ms. Mellsop was UNICEF's representative in China from April 2011 to April 2015. She obtained a postgradu-

ate diploma in community counselling from the University of Canberra and a master's degree in development management from the Australian National University.

Helia Molina Milman, M.D., M.P.H., is vice dean of research and development in Faculty Medica Sciences at the University of Santiago de Chile, a consultant working with the Forum on Investing in Young Children Globally, and recently completed her term as Minister of Health of Chile. Dr. Molina Milman is a pediatrician and professor in public health at the Pontificia Universidad Católica de Chile. She is the past national executive director (at the Ministry of Health) of Chile Crece Contigo, the Chilean Social Protection System for early infancy. Previously, she was chief of the Healthy Public Division at the Ministry of Health from 2006 to 2010. From 2005–2008, Dr. Molina Milman was a member of the Knowledge Network in Early Childhood Development World Health Organization Social Determinants of Health Commission. She served as regional advisor in Child Health and Development to the Pan American Health Organization in Washington, DC, and was previously the director of the Chilean Epidemiology Society from 2000 to 2004, and the past president of the Chilean Pediatric Society (1987). She has an M.D. from the University of Chile, where she specialized in pediatrics, and an M.P.H. from the Universidad de Chile (1990). She has written many technical publications about early child development and infant public policies.

Christine Mutaganzwa, M.D., is a Rwandan in the current role of Kayonza District Clinical Director for one of the three districts that Partners In Health supports. She oversees the implementation of Partners In Health, Rwanda Clinical Programs, and serves as the liaison for Clinical Program leads and the medical director of the Rwinkwavu District Hospital. She has been a general practitioner since March 2009, with an M.D. from the University of Rwanda Medical School. She practiced from 2009–2011 as a medical officer at King Faisal Hospital in the Pediatrics Department. Dr. Mutaganzwa received her master's degree in epidemiology and biostatistics in tropical medicine and hygiene in South Africa in 2013. She joined Partners In Health/Inshuti Mu Buzima in April 2014. Her areas of research center on HIV, hypertension, and child's health, including projects such as All Babies Count and Pediatric Development Clinic initiatives.

Valerie Nkamgang Bemo, M.D., M.P.H., is the senior program officer responsible for the Emergency Response portfolio within the Global Development Department at The Bill & Melinda Gates Foundation. Dr. Nkamgang Bemo has 12 years of experience in clinical and public health

worldwide. Before joining the Foundation, she held various roles at the International Rescue Committee, most recently serving as senior technical advisor for health in the Democratic Republic of the Congo and West Africa. Dr. Nkamgang Bemo also worked with various nongovernmental organizations and had extensive involvement in Aceh, Chad, Cote d'Ivoire, Indonesia, Kenya, Mauritania, and Sierra Leone. She is a board member of the Global Health Council and the Fetzer Institute Advisory Council for Health Professionals. Dr. Nkamgang Bemo received her M.D. from the University of Cote d'Ivoire, her epidemiology diploma at the University of Paris, and her M.P.H. from Madrid Autonome University.

Janna Patterson, M.D., M.P.H., FAAP, is a senior program officer at The Bill & Melinda Gates Foundation with the Maternal, Newborn, and Child Health (MNCH) team. She manages a portfolio of grants on neonatal health ranging from the prevention and treatment of newborn sepsis to the care of the preterm infant, including kangaroo mother care. Dr. Patterson is a board-certified pediatrician and neonatologist. Prior to joining the Foundation, she was a practicing neonatologist and researcher on faculty at the University of Washington. Her research in Kenya focused on transplacental transfer of antibodies to respiratory pathogens in the mother–infant dyad. Her peer-reviewed manuscripts and book chapters are focused on maternal–neonatal infections, HIV, and prematurity. Previously, Dr. Patterson spent several years living and working in Tanzania, including work as a programme officer at the Tanzania Public Health Association, and she remains fluent in Swahili. Her education includes a B.A. in African development from the University of Wisconsin–Madison and an M.D. and an M.P.H. from the University of Alabama–Birmingham, with graduate medical studies at the University of Washington/Seattle Children's Hospital.

Alan Pence, Ph.D., is the United Nations Educational, Scientific and Cultural Organization chair for early childhood education, care, and development at the University of Victoria, and professor, Faculty of Human and Social Development, University of Victoria, Victoria, British Columbia, Canada. His research interests include historical, cross-cultural, international, and post-structural perspectives regarding young children's care and development. He has applied these interests in the co-development of educational and capacity-building programs with various indigenous communities in Canada and internationally, and subsequently with more than 20 countries in various parts of Africa. This work has been recognized by the Canadian Bureau for International Education's Award for Educational Leadership, the University of Victoria's inaugural Craigdarroch Research Award for Societal Contributions, and he was a finalist for the

international World Innovation Summit for Education Awards for innovation in education. Dr. Pence has published more than 130 articles, book chapters, and monographs on a range of education, development, and early childhood development (ECD) topics, as well as authored or edited 11 books and 4 special issue journals. He is the former director of the School of Child and Youth Care, University of Victoria, and established three specialized units: the Unit for Early Years Research and Development; the First Nations Partnership Programs for Community-Based Aboriginal Child and Youth Care Education; and the Early Childhood Development Virtual University, focusing on ECD leadership promotion and capacity building in the Majority (Developing) World. He received his Ph.D. from the University of Oregon.

Lorraine Sherr, Ph.D., is a consultant clinical psychologist and professor of clinical and health psychology at the University College, London, Medical School. She is head of the Health Psychology Unit. She has been involved in HIV infection and studying the psychological aspects of the disease since the beginning of the epidemic. She is editor of the *International Journal AIDS Care* as well as *Psychology Health and Medicine* and *Vulnerable Children and Youth Studies*. She jointly coordinated the European study on policy on HIV in pregnancy and was co-director of the European initiative on HIV discrimination and mental health, HIV and antenatal testing policy in Europe, and psychological services for HIV/AIDS and HIV prevention. Dr. Sherr sat on the British HIV Association (BHIVA) Social and Behavioral Group and was a member of the Writing Group for the BHIVA Adherence guidelines, reproduction guidelines, and the psychological care guidelines. She sat on the Strategic and Technical Advisory group for the World Health Organization (WHO) HIV section. She was co-chair of Learning Group 1 on Families for the Joint Learning Initiative on Children and AIDS. She also sits on the steering committee of the International Coalition on Children affected by AIDS.

She was appointed a Churchill Fellow for life in respect of her work on HIV and AIDS in obstetrics and pediatrics. She has held numerous research grants looking into aspects of health psychology, family, HIV, and AIDS in Africa, Europe, and the United Kingdom. She chaired the British Psychological Society Special Group on HIV and AIDS and the Special Group on Teaching Psychology to Other Professions. She has provided psychosocial evaluations for international organizations such as the North American Aerospace Defense Command, Save the Children, the United Nations Children's Fund, the U.S. Agency for International Development, the U.S. President's Emergency Plan for AIDS Relief, WHO, and World Vision. Dr. Sherr represented psychology on the International Scientific Board of the International AIDS Conferences in Geneva and Washington,

DC (2012), and is on the International Organizing Committee of the AIDS Impact Conference and was previously appointed to the Review Support Panel of the Global Fund. Dr. Sherr chaired the WHO committee on HIV Disclosure.

Frealem Shibabaw is an entrepreneur in the education sector with an educational background in business, human and social studies, and development studies. Ms. Shibabaw has worked with women and children for the past 13 years, is founder of Bahirdar Academy, and the current director of the Ethiopia School Meal Initiative.

Simon Sommer, M.A., is the head of research and a member of senior management at the Jacobs Foundation in Zurich, Switzerland, one of the world's leading charitable foundations dedicated to facilitating innovations for children and youth. The Jacobs Foundation is committed to contributing to social change toward better welfare, productivity, and inclusion of current and future generations. It supports research and intervention of the highest quality leading to significant and vital outcomes for children and youth worldwide. In his current position, Mr. Sommer is responsible for the area of research funding. His responsibilities include research project funding, intervention research, the annual Jacobs Foundation Conferences, and workshops and symposia at Marbach Castle. He developed the Klaus-J-Jacobs Research Prize as the largest and most renowned award honoring research on child and youth development. In addition, he coordinates the Foundation's cooperation with research funding agencies and organizations as well as with professional and scholarly societies in the area of child and youth development. Before joining the Jacobs Foundation in 2006, he worked at the Volkswagen Foundation in Hannover, Germany, which is the largest private research funder, and as a management consultant with McKinsey & Company in Berlin, Germany. He holds graduate degrees from the Leuphana Universität Lüneburg, Germany, and the University of Maryland, College Park, in the United States. Most recent publication include "Leapfrogging as a Principle for Research on Children and Youth in Majority World Settings" in the *Journal of Research on Adolescence, Special Issue: Adolescents in the Majority World* (Volume 23, Issue 1, pp. 187 ff).

Yisak Tafere, M.A., is the lead qualitative researcher for the Young Lives Study in Ethiopia. Young Lives is an international study of childhood poverty, following the lives of 12,000 children in 4 countries (Ethiopia, India, Peru, and Vietnam) over 15 years (www.younglives.org.uk). It is funded from 2001 to 2017 by United Kingdom aid from the Department for International Development. Mr. Tafere is a Ph.D. candidate at the

Norwegian Centre for Child Research, Norwegian University of Science and Technology. He has an M.A. in social anthropology from Addis Ababa University. His research focus is on childhood poverty, life-course poverty, intergenerational transfer of poverty, intergenerational relationships, children's educational and occupational aspirations, socio-cultural construction of child well-being and transition, and social protection.

Taha E. Taha, MBBS, MCM, M.P.H., Ph.D., is a professor of epidemiology and population, family and reproductive health at the Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland. Dr. Taha is a physician with extensive training and experience in infectious diseases, community medicine, public health, and demography. Dr. Taha is the principal investigator of the Malawi Clinical Trials Unit—a National Institutes of Health (NIH) research consortium that includes the Johns Hopkins Bloomberg School of Public Health and institutions in Malawi. He has also been the principal investigator of the HIV Prevention Trials Network and the HIV Vaccine Trials Network NIH-funded projects in Malawi. He is the principal investigator, co–principal investor, or co-investigator on other cooperative agreements, subcontracts, or investigator-initiated NIH, Centers for Disease Control and Prevention, or other sources-funded research and training projects in Malawi. For approximately 20 years, Dr. Taha has directed several large cohort studies and clinical trials in Malawi. His expertise is in the conduct of epidemiologic studies in the areas of HIV, sexually transmitted infections, malaria, other tropical diseases, and assessment of the impact of HIV/AIDS on the health of women and children. He has worked in several African countries. He has published extensively in the fields of HIV and genital tract infections. He has participated in the teaching of graduate medical students and postdoctoral fellows in several countries in Africa, and currently is a full-time faculty member in the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health. In addition to teaching and research, Dr. Taha is extensively involved in training and the development of infrastructure in African countries.

Yayesh Tesfahuney, M.A., has been director of the Child Rights Promotion and Protection Directorate at the Ministry of Women, Children and Youth Affairs of the Federal Democratic Republic of Ethiopia since 2009. She previously served as the head of the Women's Affairs Department at the Ministry of Works and Urban Development. Prior to this, she was the Women's Affairs team leader of the Bole Sub-city Administration in Addis Ababa. These responsibilities cover 2003–2009. She was also head of the Department of Training, Monitoring and Policy Implementation at the Women's Affairs Bureau in the Tigray Regional State. Ms. Yayesh

contributed to the development of effective policies concerning children in Ethiopia. Her passion for the protection and promotion of children's rights has always guided her in her work. She has a master's degree in development studies and has worked extensively in the areas of women and children's rights, gender development and management, gender analysis, and gender mainstreaming for more than 10 years.

Jocelyn Widmer, Ph.D., M.P.H., is the program director and assistant scholar for online degree programs, Department of Urban and Regional Planning at the University of Florida and a consultant for the Forum on Investing in Young Children Globally at the National Academies of Sciences, Engineering, and Medicine. Dr. Widmer holds an M.P.H. and a Ph.D. in urban and regional planning with a concentration in international development (University of Florida); in addition to a masters in landscape architecture (M.L.A.) from Texas A&M University. She was also a Mirzayan Science and Technology Policy Fellow for the Board on Children, Youth, and Families at the Academies.

Dr. Widmer has extensive experience in online education at the undergraduate and graduate levels, including program and certificate design, course development, and course instruction both at the University of Florida and at Virginia Tech. Dr. Widmer's experience in online technologies and engagement is also present in her international research agenda. She has worked in Latin America, Micronesia, and Southeast Asia with organizations, foundations, institutions, businesses, and governments to address global development issues from the policy realm to impacts at the community scale with an emphasis on innovative opportunities and partnerships. Her research lies at the intersections of urban planning and global health, with a particular focus on community- and technology-based approaches to development where communication and education are equally critical for dissemination and development.

Dr. Widmer's teaching crosses disciplines of the built + natural environment and global health in both classroom-based and online settings in the areas of community engagement, international development, urbanization and development, and international field-based experiences.

Quentin Wodon, Ph.D., is an adviser/lead economist in the Education Global Practice at the World Bank where he serves as cluster leader for equity, resilience, and early childhood development. Previously, he managed the World Bank unit working on faith and development, served as lead poverty specialist for Africa, and as an economist/senior economist for Latin America. Before joining the World Bank, he worked as assistant brand manager for Procter & Gamble Benelux, as a volunteer corps member and deputy director with the International Movement All Together in

Dignity Fourth World, and as a tenured assistant professor of economics at the University of Namur. He is a fellow with the Institute for the Study of Labor in Bonn, Germany, and the European Centre for Advanced Research in Economics and Statistics in Brussels, Belgium, and taught at Georgetown University and American University in the United States in addition to the University of Namur. Dr. Wodon serves on various advisory boards, as associate editor for journals, and is a past president of the Society of Government Economists. He is also actively involved in service work with Rotary and through pro bono consulting for nonprofits. Dr. Wodon's work focuses on improving policies that can contribute to poverty reduction and development. He has more than 350 publications and is a recipient of the Prize of Belgium's Secretary of Foreign Trade, a Fulbright grant, and the Dudley Seers Prize. He holds graduate degrees in business engineering, economics, and philosophy (Université Catholique de Louvain), as well as Ph.D.s in economics (American University) and in theology and religious studies (The Catholic University of America).