



## Moving from Evidence to Implementation of Early Childhood Programs: Proceedings of a Workshop—in Brief

### DETAILS

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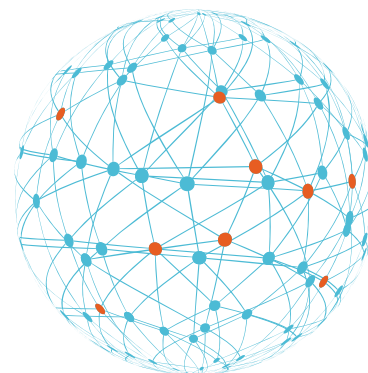
# Proceedings of a Workshop

IN BRIEF

October 2016

## Moving from Evidence to Implementation of Early Childhood Programs Proceedings of a Workshop—in Brief

On June 23, 2016, the Forum on Investing in Young Children Globally (iYCG) of the National Academies of Sciences, Engineering, and Medicine, in partnership with the Fraser Mustard Institute for Human Development, Grand Challenges Canada, and the SickKids Centre for Global Child Health, held a workshop in Toronto, Canada, titled “Moving from Evidence to Implementation of Early Childhood Development: Strategies for Implementation.” The focus of the workshop was bringing science to practice at scale in order to bridge research to practice in local communities. Also discussed was the critical issue of the implementation of early childhood development programs; a program that serves 100 children is vastly different from one that can serve 100,000 children reliably over time. Reaching entire populations requires understanding the challenges of implementation at scale and applying the best knowledge available to ensure effective and sustainable service delivery to children and their caregivers. Workshop presentations and discussions explored two questions:



1. How can implementation science in early childhood development be applied to improve outcomes at scale for children?
2. How can evidence be translated to action among policy makers and the public to finance and support large-scale implementation of effective programs, practices, and policies?

In his opening remarks, Zulfiqar Bhutta, Robert Harding Inaugural Chair in Global Child Health at SickKids in Toronto and founding director of the Centre of Excellence in Women and Child Health at the Aga Khan University, challenged participants to think about how to convert early childhood development into a global movement, framed in the context of people who have to make decisions in their daily lives with the resources that they have and the additional resources that they need. He added that the forthcoming *Lancet* series on early childhood development is one initiative that has the potential to firmly place child development on the global landscape. Ann Masten, Distinguished McKnight University Professor at the University of Minnesota, highlighted the recently published discussion paper, “Beyond Survival: The Case for Investing in Young Children Globally,”<sup>1</sup> which argues that investing in young children is a primary means of achieving sustainable human, social, and economic development, all of which are vital to ensuring international peace and security. The paper, authored by 31 experts from many disciplines, is a call to action to decision makers to turn attention and resources toward coordinated investments and delivery platforms, thereby closing the gap between what is known and what is done to support young children globally.

This Proceedings of a Workshop—in Brief highlights topics raised by the presenters and discussants. It represents the viewpoints of individual workshop participants and should not be viewed as the conclusions or recommendations of the workshop as a whole.

<sup>1</sup> See <https://nam.edu/beyond-survival-the-case-for-investing-in-young-children-globally> (accessed July 1, 2016).

## **GENERATING GLOBAL POLITICAL PRIORITY FOR EARLY CHILDHOOD DEVELOPMENT**

Hundreds of serious and worthy development issues deserve attention, but resources are limited, which sparks competition, stated Jeremy Shiffman, professor of public administration and policy in the School of Public Affairs at American University. To achieve an allocation of resources that reflects its importance, an issue has to achieve global political priority among national and international political leaders, explained Shiffman. Generating global political priority for early childhood development requires that four strategic challenges be addressed, Shiffman continued: problem definition, positioning, coalition building, and governance.

With regard to problem definition, the greater the consensus on an issue, the greater the political leverage. For example, by emphasizing the consensus on the efficacy of a directly observed treatment short course (DOTS), global political leaders have been persuaded to make tuberculosis control a priority. Similarly, a greater emphasis on consensus regarding maternal health among advocates who previously supported various intervention strategies has led to a higher priority for the issue.

Positioning refers to how an issue is framed externally, said Shiffman, with the goal being to position an issue so it inspires action, especially from leaders in a position to catapult an issue to a level of global priority. As an example, in its early days, the HIV/AIDS crisis was portrayed as an issue affecting only certain marginalized segments of society, which limited its ability to gain political traction. Gradual reframing of HIV/AIDS as “a security issue, a rights issue, a development issue, [and] ultimately an existential threat to humanity” led to much broader global attention, said Shiffman.

Assembling wide-ranging coalitions that include finance and other sectors is needed to increase political support, continued Shiffman. For example, tobacco control represents a relatively successful effort to expand political support beyond traditional health sectors. Finally, establishing the right governance structure may provide a roadmap for achieving a collective goal.

In research conducted with Yusra Shawar and other colleagues, Shiffman examined how the early childhood development community generates global political priority. Interviews with 19 members of the early childhood development community and a literature review revealed key issues with problem definition. For example: What constitutes the contours of the field? Should violence be considered a core element? What time period corresponds to early childhood? The absence of agreed-upon parameters that define the field leads to a host of different and competing interventions and strategies, Shiffman explained. One study respondent said, “We don’t have a unified problem statement. We desperately need to articulate one.”

One problem with positioning is the perception in many countries that early childhood development has no immediate payoff. Many countries also exhibited confusion about the actions they are being asked to carry out. As one interviewee said, “Early childhood development is too nebulous a concept.” Coalition building has been limited both internally and externally, Shiffman noted. Global development networks have proliferated within the past three decades, and some of these have formal governing structures while others are more informal, which has an influence on both coalition building and an issue’s global priority. Finally, governance has been characterized by competition for credit and financial resources, as well as by fragmentation. A lack of institutional leadership or one unifying leader, along with the absence of an overarching body at the international level, have contributed to this fragmentation. Despite the challenges, many opportunities exist, said Shiffman. High-profile global resolutions, new initiatives, and growing evidence related to interventions all are increasing interest, even as the field continues to grow. The community must leverage these strengths while addressing the field’s challenges, Shiffman concluded.

## **PROMOTING THE WELL-BEING OF INDIGENOUS POPULATIONS IN CANADA**

According to Suzanne Stewart, associate professor of indigenous healing in counseling psychology at the University of Toronto, in general, the term “indigenous,” which has replaced aboriginal in the political landscape, and the term “native” can refer to three distinct Canadian groups: the First Nation, both status and nonstatus Indians (status confers an identifying number and legal government recognition); the Metis, created by the intermarriage of French immigrants and the James Bay Cree; and the Inuit people of the far north. In Stewart’s work, the term Western refers to the Western paradigm, an “individualistic worldview based on the psychology and the ontology and epistemology of Western European thought.”

A vast swath of cultural differences marks the relationships among groups in Canada, including differences between indigenous and Western concepts of health, said Stewart. The Western worldview is centered in the mind, whereas an indigenous “system of knowing” or “system of being” exists in the spirit. In the indigenous paradigm,

health is focused on wellness and is described as a “balance within and between” aspects of the self, whereas in Western medicine, health is marked by the absence of disease. This difference in perceptions and understanding underscores the need to rethink interventions and assessments in working with indigenous populations, explained Stewart.

Indigenous people’s identity and health have been negatively affected by colonization, said Stewart. They have been relocated from traditional lands, confined to reserves, and separated from parents and children through forced placement in residential schools, forced adoption, and continued political and social marginalization. Many indigenous people in Canada have extremely poor health, including high suicide rates and deaths from injury or poisoning. They also have high rates of anxiety disorders, trauma, addiction, and drug and alcohol abuse. In addition, data show that Western health interventions can be unsuccessful within indigenous populations, Stewart noted. Health as it relates to indigenous people is a “political construct and not a biological or technical process,” Stewart pointed out. Health is intertwined with issues of housing, food and water security, education, racism, and discrimination. Surveys have shown that 85 percent of indigenous people who have seen health providers leave because of an oppressive or racist experience, noted Stewart. They feel that they have not been treated respectfully and that there is no “relationship of trust.” A hybrid model that incorporates both Western and indigenous approaches can help address the gap in worldviews, observed Stewart. In addition, indigenous knowledge, values, wisdom, and healing practices could benefit all people if they were more widely applied, she said.

## POTENTIAL METHODOLOGIES AND MEASUREMENTS IN IMPLEMENTATION SCIENCE

The methodologies and measures used to implement interventions can directly influence the integration of evidence-based interventions into particular settings. For example, several contextual factors have been associated with the successful implementation of exclusive breastfeeding—defined as offering only breast milk for the first 6 months of life—in Ethiopia and Mali, according to Melanie Barwick, senior scientist and head of the Child and Youth Mental Health Research Unit at SickKids. These contextual factors include the process of implementation, the characteristics of the intervention being implemented, the characteristics of the practitioners charged with the implementation, the characteristics of the “inner setting” (the village or region), and the characteristics of the “outer setting” (the health system). In her research, Barwick uses the consolidated framework for implementation research (CFIR) that synthesizes factors involved in the successful implementation of evidence in health care settings. Relying on the framework helps to identify a “universality” of influential factors and helps build external validity, Barwick said.

In their research on exclusive breastfeeding, Barwick and her colleagues conducted interviews and focus groups in Ethiopia and Mali, considering perspectives from mothers, program implementers, community health workers, and health extension workers. They learned that barriers to exclusive breastfeeding included a concern from mothers that babies would not develop properly if they received only breast milk. Greater success was associated with buy-in from others, including husbands, religious leaders, and village leaders; educating mothers and community health workers about an intervention; clear messaging about expected behavior and actions; more access to knowledge and information; and more openness to change. Using conceptual frameworks such as CFIR as a foundation for implementation helps codify processes, planning, and results, Barwick said.

Global health—to some extent by necessity—focuses attention on some issues and not on others. In the era of the Millennium Development Goals (that came to an end in 2015) the focus was on “survive” with much less emphasis on “thrive,” and the extent to which it is important to create the conditions for children to meet their developmental potential, said Mark Tomlinson, professor at Stellenbosch University in South Africa. Implementation science adds in addressing these issues because thriving “is not an event, it’s a process” that plays out through the life span. Together with colleagues at the World Health Organization, Tomlinson reviewed the evidence base on scaling up, and found 16 scaling-up frameworks. Yet, when they interviewed stakeholders involved in large scale-up projects around the world, they found that respondents had little understanding of these frameworks and had not used such frameworks in scaling-up plans and implementation. This represents a significant knowledge gap among research, policy, and implementation that needs to be remedied, remarked Tomlinson.

Based on a recent randomized controlled trial in Cape Town, South Africa, where researchers followed mother–children cohorts visited at home by paid community health workers, Tomlinson and colleagues made several observations. First, leadership matters. Sometimes, less dramatic but consistent leaders achieve stronger results. Also, good problem-solving skills can affect lasting change, but change cannot happen overnight. Tomlinson said, “The first 1,000-day concept is essential and has huge advocacy impact. Having said that, while the first 1,000 days are necessary, they are not sufficient to affect lasting change across the life course. Other interventions in childhood and adolescence are essential to build on the gains achieved in the early years.”

Cultivating a strategic, emotionally compelling vision is important, continued Tomlinson. In addition, organizations may cultivate a culture of discipline around management and accountability. Scaling requires proper training, supervision, management, and accountability, he observed, and consistency and the willingness to tweak processes and policies are critical to sustained change. Finally, Tomlinson stated that central to accountability is ensuring that community health workers are paid, because it is much more difficult to hold volunteers accountable. There is also increasing evidence of how paid community health workers achieve better child outcomes than when volunteers are used.

Chris Sheldrick, research associate professor at Tufts Medical Center, described decision analysis as a model for how to make evidence-informed decisions about evidence-based practices (EBPs). This approach acknowledges that EBPs result in a range of outcomes, each of which may be valued differently by different stakeholders. Moreover, the efficacy of EBPs is often subject to considerable uncertainty, especially when implemented in a new context, said Sheldrick. Thus, rational decision making requires information on stakeholders' values and preferences. In addition, decision makers often turn to local evidence to mitigate uncertainty in implementation. How well local evidence is used and interpreted is therefore of paramount importance, noted Sheldrick.

As a case example, Sheldrick discussed his collaboration on the study of an evidence-based, multistage screening protocol to detect children with autism. Local evidence is used to optimize fidelity and to inform the need for adaptations. For example, process mapping tracks how the process actually works in practice from the perspective of various stakeholders. Statistical process control is used to monitor performance at each site and to make valid inferences regarding trends. Qualitative interviews reveal that relationships and families' trust in providers are key elements in making the protocol successful. If providers perceive that a model interferes with their primary goals, such as forming relationships with families, they may not comply or participate. A diversity of methods for the analysis of local evidence can enhance decisions regarding the implementation of EBPs.

## **TAKING RESEARCH TO SCALE**

According to several individual workshop participants, many issues arise when scaling up early childhood care interventions: engaging the key players, unique contextual opportunities or challenges, and whether a model changes with scale. As an example, Sonia Sharma, senior manager of the construction sites day care program for Mobile Crèches, described the organization's 47-year effort to provide care, protection, health care, and learning needs to the children of migrant construction workers in construction sites and urban slums in India, where 20 million children lack basic health care and protection and suffer physical, psychosocial, and emotional neglect. Over time, Mobile Crèches has developed protocols and tested training models internally and externally. In this way, it has evolved into a comprehensive program of early childhood centers delivered by trained care workers. Demand was so great that Mobile Crèches sought to cultivate other providers, as "Mobile Crèches cannot be everywhere," explained Sharma. The program now provides expertise on implementation and management, with other organizations providing the child care provisions onsite. Mobile Crèches is achieving scalability, but it is challenging to inculcate sensitivity in workers regarding the developmental needs of young children, observed Sharma. The model has retained its core components of trained workers, adult-to-child ratio, play-way methodology, and a child-centric approach while scaling up. Mobile Crèches continues to advocate with government for a systemic change through better programs, laws, and policies for younger children in India.

The health care system of Cuba provides another example of scaling up programs, said Gisela Álvarez Valdés, coordinator of the National Work Group of Childcare of the Health Ministry of Cuba and assistant professor at the University of Medical Sciences at Havana's Julián Grimau University Polyclinic. The Cuban health system is free and available to anyone of any race, sex, religion, or political affiliation. The country's national health system consists of family doctor and nurse offices, basic working groups, and polyclinics that feed into hospitals, which in turn lead to specialized institutes if required. Since 1957, when there were more than 60 deaths per 1,000 births, Cuba's mortality rate for children under 1 has dropped precipitously, to just 4.3 per 1,000 births. Cuba has 100 percent vaccination coverage and it is the first country in the world with no documented cases of congenital syphilis or mother–baby HIV transmission, noted Valdés.

These achievements are a result of attention to maternal–child health programs and the intersectoral work, including emphasis on birth weight, breastfeeding, human milk banks, early stimulation, and child care, said Valdés. Other programs are focused on vaccination, disability, and the prevention of unintentional injury, chronic diseases, genetic diseases, anemia, chronic actinic damage, and buccal damage, as well as the preparation of the family in the

education of the early age through the Educate Your Child program. Cuba also supports research projects that have national impact, including studies of child mortality, child development, child nutrition, child injuries, and disabilities.

A third example was cited by Susan Walker, professor of nutrition and director of the Tropical Medicine Research Institute at the University of the West Indies. Lack of stimulation is one cause of poor development in young children. Walker and her colleagues have been working to expand access to effective parenting interventions by empowering others to do the implementation. Walker noted that some challenges to overcome during scaling included maintaining quality and effectiveness, and building human resource capacity to implement the programs and maintain sustainability over the long term. A key strategy included designing a training manual for three types of people: those who implement the program (community health workers or education assistants), those who train the home visitors, and those who perform the supervision. The interactive training materials include an overview of child development, an explanation of what defines a successful visit, and a walk-through of the curriculum components. The material is conveyed through discussions, demonstrations, films, and practice. In addition, a supervision manual explains to supervisors their responsibilities, the components of a successful visit, and the need for supportive supervision and positive feedback.

## THE ROLE OF RESEARCH IN POLICY MAKING

Research also plays a critical role in policy making, said Nathalie Charpak, director of the Kangaroo Foundation in Colombia. What is the most effective way for researchers to convey their knowledge to policy makers? How can policy makers convey the urgent questions they want researchers to answer? What are barriers to implementing evidence-based programs?

Funders are interested in catalyzing scale and sustainability, noted Charpak. Kangaroo Mother Care (KMC) is an intervention for premature and low birthweight infants that has three components: (1) kangaroo position: continuous skin-to-skin contact between mother and infant, which provides appropriate thermal regulation among other benefits; (2) exclusive breastfeeding when possible; and (3) timely (early) discharge with close follow-up. Mother and father or the primary caregivers are involved in the care of their infant and are educated in KMC. Research has shown that KMC benefits infants and has a long-lasting effect, said Charpak. Randomized control trials have shown that KMC infants in general had lower morbidity and mortality, fewer hospital-acquired infections, higher breastfeeding rates, and a greater feeling of competence reported by their mothers.

The Kangaroo Foundation has scaled up KMC significantly both in Colombia and internationally. Since 1994, 30 countries have sent multidisciplinary health teams to Colombia to receive training in KMC in Bogotá's KMC Center of Excellence and return to implement a KMC program in their own health institutions. The success of knowledge transfer has been high: in 80 percent of the teams trained in Bogotá, KMC implementation has been successful, despite specific needs and difficulties encountered by each program in each setting. Some major difficulties faced by many newly established programs include insufficient access to a Kangaroo network and scientific literature on KMC, local research, and performance-monitoring capability. To address these issues, Charpak and her colleagues have created a KMC e-learning platform to significantly disseminate KMC by training KMC Centers of Excellence and having these KMC Centers of Excellence train second and third generations of KMC programs at regional and district levels.

Cameroon is one of the countries that prioritized KMC after a stakeholder (who is now director of the Cameroon Kangaroo Foundation) visited Colombia more than 15 years ago for KMC training. As Martina Baye, coordinator of the National Multisectoral Program for Combating Maternal, Newborn, and Child Mortality at the Ministry of Public Health in Cameroon, pointed out, Cameroon has had an “unacceptable “ neonatal mortality rate, and KMC was implemented to address the problem. The original stakeholder's hospital now serves as the country's national training center, with training occurring at several regional hospitals. These employees are trained both in person and through the e-learning platform once they have returned to their home hospitals.

Funding has been a critical element of sustainability, both Charpak and Baye observed. Drawing on evidence of the program's effectiveness, a development impact bond is being formalized in Cameroon to reduce newborn mortality, and the Cameroon government has pledged \$2 million from the Global Financing Facility. Significant dedicated funding would help proliferate KMC across the country, said Baye.

In Carabayllo, an impoverished district north of Lima, Peru, the partnership between nongovernmental organizations and local governance proves to be tremendously important in successfully scaling up programs, noted Leonid Lecca, executive director at Socios en Salud. Lecca and Rafael Álvarez, mayor of Carabayllo, spoke about their partnership to increase home visits by health workers in an area where the nearest health center is a 3-hour walk away.

Project CASITA trains families on how to work with their children who have developmental delays. The program has led to better caretaking for the children in Carabayllo, who are benefiting physically and mentally. Lecca emphasized that effective programs need to engage communities and can thrive on those partnerships. Mayor Álvarez has backed Project CASITA with local government support in order to sustain improvements in the health of the community's children, youth, and caretakers.

## **TRANSLATING EVIDENCE TO ACTION AMONG POLICY MAKERS AND THE PUBLIC**

The translation of evidence can be critical in inspiring action by policy makers and the public. According to Günther Fink, associate professor of International Health Economics at the Harvard T.H. Chan School of Public Health, four arguments support the need for early childhood development. The first is that reducing disparities promotes equality and fairness. The second is that funds spent on early childhood development have a high return on investment in later years. Third, robust early childhood development programs allow mothers to go back to work, which strengthens the economy. Finally, early childhood development builds skills such as executive functioning and self-control that improve outcomes later in life.

As an example of these arguments, Fink observed that countries rightly consider education, including public schooling, as an investment in the future. More stimulation and better health care in early childhood have a positive effect on children's cognitive and socioemotional skills and on their subsequent education. Yet, recent research by Fink and his colleagues showed that one-third of children in developing countries are not reaching basic cognitive and socioemotional milestones and another 18 percent have physical developmental delays. Altogether, said Fink, approximately "half the children in low- and middle-income countries today are not reaching milestones they should be reaching." The economic cost of up to one-half of children in low- and middle-income countries struggling developmentally is about \$200 billion per exposed birth year cohort, said Fink. The immediate return on investment is likely three to one—"a hugely attractive investment," he said.

Such arguments make it possible to enlist powerful people to promote early childhood development, even those who have no direct connection to the field, noted Sara Watson, global director of ReadyNation. ReadyNation is a nonprofit business membership organization that leverages the experience, influence, and expertise of more than 1,500 executives to promote public policies and programs that build a stronger workforce and economy. These "unexpected champions for early childhood" cannot replace the efforts of experienced advocates, she said, but they can help influence policy makers who control the purse strings. People in industries unrelated to young children can be especially persuasive, said Watson, "because they are not invested in a particular system."

ReadyNation members, ranging from Fortune 500 CEOs to small business owners, have helped attract more than \$3 billion to early childhood development in the past 3 years, said Watson. The organization is active in countries as varied as Australia, Romania, and Uganda; has sponsored a European business forum on the issue; and recently participated in the Latin American Business Leader Forum. Business support for early childhood can take the form of corporate volunteer efforts, supporting and spreading the word about family-friendly practices for employees, communicating through messaging on product packaging, strengthening social ventures and social impact financing, speaking out in the media, and advocating for policy change at every level. As Watson noted, business leaders are obvious potential backers of early childhood development because "all business leaders want a better workforce."

Specifically in Canada, public policies in early childhood development have been significantly influenced by the Early Years 1, 2, and 3 studies, according to Jane Bertrand, program director at Canada's Margaret and Wallace McCain Family Foundation. This body of research recognized that vulnerable children are not always "poor," pointed out Bertrand. In Bertrand's view, all children can benefit from early child development and improved parenting.

Early Years Study 1 highlighted the long-term effect of early brain development on lifelong learning, behavior, and health, and it influenced the government of Canada's expansion of parental leave benefits from 6 months to 1 year. Early Years Study 2 promoted the Ontario government to expand kindergarten for 4- and 5-year-olds from half day to full day. Bertrand presented findings from the Early Years Study 3 report. It found that for every dollar invested in early childhood education, Quebec, which introduced expanded parental leave 1 year before other provinces and championed low-cost child care, received \$1.25 in return, and the federal government received \$0.55. At the same time, social assistance decreased, more mothers went back to work, and child poverty decreased.

Another innovative platform creating social change for children and families is the Alberta Family Wellness Initiative (AFWI), which was established by the Palix Foundation. AFWI originally focused on problems of access to quality addiction treatment. The association among addiction, mental health, adverse childhood experiences, and later health

outcomes has since become AFWI's primary interest. "If we can better support adults who are grappling with addiction or mental health issues, this is primary prevention for the children they care for," said Palix Foundation president Michelle Gagnon.

By mobilizing the science of child development the Palix Foundation engages academics, professionals, policy makers, community members, and others to raise awareness of the issues it focuses on to catalyze systems change. The Palix Foundation has spread the word via child care workers, social workers, teachers, health care providers, ministers, lawyers, and decision makers in general. It has also built and nurtured a network of change agents in various sectors and works with them to promote the importance of early childhood development and ensure optimal outcomes for all children and families based on knowledge. Gagnon noted this involvement has contributed to the Alberta Ministry of Human Services' requirement that all applicants for funding demonstrate knowledge competency in three areas: brain and child development, loss and grief, and trauma.

"The world is a complex place," which creates resistance to change, said Bhutta in summing up the day's deliberations. But by creating a civic movement around early childhood development, everyone from policy makers to parents will "see the wisdom of investing in children," Bhutta concluded.◆◆



## Forum on Investing in Young Children Globally (iYCG)

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\*The National Academies of Sciences, Engineering, and Medicine’s planning committees are solely responsible for organizing the workshop, identifying topics, and choosing speakers. The responsibility for the published Proceedings of a Workshop—in Brief rests with the rapporteur and the institution.

**REVIEWERS:** To ensure that it meets institutional standards for quality and objectivity, this Proceedings of a Workshop—in Brief was reviewed by **Michelle Gagnon**, Palix Foundation, and **Mark Tomlinson**, Stellenbosch University. **Lauren Shern**, National Academies of Sciences, Engineering, and Medicine, served as the review coordinator.

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For additional information regarding the meeting, visit [nationalacademies.org/iYCG](http://nationalacademies.org/iYCG).

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