Massachusetts General Hospital
Corporate & Foundation Relations
Office of Development

PRIVATE FUNDING OPPORTUNITIES: MAR 17, 2017

Please contact Corporate & Foundation Relations in the Office of Development at devcfr@mgh.harvard.edu if you wish to submit a proposal in response to any of these opportunities. Note that proposals are still routed through the standard InfoEd/Research Management process.

*Please be aware that any grant that brings in less than **15% in indirect costs (IDC)** will need to be supplemented up to the 15% equivalent by existing investigator or departmental sundry funds. Resolution of this issue must occur prior to submission of the award. Training fellowships from foundations, public charity, and non-profit organizations are excluded from this minimum IDC requirement.*

1. Medical Research Grants: Reach Awards, Alex's Lemonade Stand Foundation for Childhood Cancer (ALSF)

ALSF's mission is to raise money and awareness of childhood cancer causes, primarily for research into new treatments and cures, and to encourage and empower others, especially children, to get involved and make a difference for children with cancer.

The purpose of the Reach Grant is to advance ALSF's mission to find cures and better treatments for childhood cancers by providing support to move hypothesis-driven research into the clinic. Significant barriers exist that impede the translation of innovative and important ideas to the clinic. The Reach Grant seeks to remove one of these barriers by providing support for important preclinical projects that are necessary to move a study from the pre-clinical arena into a clinical trial. Thus, the goal of this award is to support selected late translational studies. Preference will be given to those research projects which, if funded, will likely result in the initiation of a clinical trial two to three years from the start of the project.

Proposals must fall within the scope of ALSF's mission, focused on childhood cancers. Proposals with a sole/primary focus on patients >21 years of age will not be considered.

Proposals will be evaluated based on their late-translational potential. Thus, screening projects, discovery projects, and early-translational projects are more appropriate for other ALSF funding mechanisms.

Preliminary data are required. The proposal must be hypothesis driven and demonstrate feasibility.

Explicit timeline and time-based deliverables for the proposed studies must be presented.

A plan for clinical implementation of the concept and an overall clinical development plan for the therapeutic approach must be included with a projected timeline for completing the trial. (Note: This grant does not fund clinical trials.)

Clinical trial expenses are not fundable under this mechanism.

ALSF funds cannot be used for research utilizing human embryonic stem cells or non-human primates.

Applications in psychosocial aspects of pediatric cancer and/or cancer control are not eligible for the Reach Grant.

Award Amount: Up to $250,000 paid over 2 years
Indirect Costs: None
Application Deadline: May 22, 2017
Website: http://www.alexslemonade.org/grants/guidelines

2. 'A' Award, Alex's Lemonade Stand Foundation for Childhood Cancer (ALSF)
ALSF's mission is to raise money and awareness of childhood cancer causes, primarily for research into new treatments and cures, and to encourage and empower others, especially children, to get involved and make a difference for children with cancer.

In line with its mission, ALSF offers the 'A' Award as a four-year grant designed for the early independent career scientist who wants to establish a career in pediatric oncology research. The ideal applicant has an original project that is not currently being funded. Demonstration of a future commitment to pediatric cancer investigation as well as institutional support for the career development of the investigator are critical components of a successful application. A career development plan should be outlined. A mentor is optional but is strongly encouraged at least in the initial stages of the project (the first 1-2 years of support). A career development plan must be included.

'A' Award Program Goals
- To encourage the best and brightest early career independent researchers to build lifelong careers and become leaders in the field of pediatric cancer research.
- To advance research that will lead to new treatments and cures impacting children with cancer.

Proposals must be aligned with ALSF's mission and 'A' Award program goals.

Only one resubmission of a previously reviewed 'A' Award is permitted.

Applications in psychosocial aspects of pediatric cancer and/or cancer control are ineligible for funding.

ALSF funds cannot be used for human embryonic stem cell or non-human primate research.

Award Amount: $1 million paid over 5 years
Indirect Costs: None
Application Deadline: May 22, 2017
Website: http://www.alexslemonade.org/grants/guidelines

3. Lupus Insight Prize, Alliance for Lupus Research (ALR)
With the goal of recognizing and honoring significant insights in scientific investigation relevant to understanding the causes, biology, treatment or cure of lupus, and to stimulate further advances leading to improved outcomes for patients with lupus, the Alliance for Lupus Research, Lupus Foundation of America, and Lupus Research Institute announce the 2016 Lupus Insight Prize.

The Prize will provide research funds to an outstanding investigator with a documented record of creativity, innovation, and productivity and who has made a novel insight and/or discovery in an area of research that is applicable to the pathogenesis or treatment of lupus and who is judged to have a high likelihood of generating further significant advances by applying the insight to lupus.

The prize is also meant to shine a light on lupus and lupus research. As well, to raise the visibility of this important disease. The awarding of the prize at a special session at the annual FOCIS meeting has become a highlight of the meeting and provides a forum for discussion of research advances.

The Selection Committee will review nominations and award the Prize based on a variety of criteria, including academic achievements, creativity, insight and potential for future advances that will impact people with lupus.

The Prize is given toward advancing understanding of the genetic, environmental, molecular, immunologic or cellular aspects of lupus or its treatment.

Award Amount: $150,000 for up to 3 years
Indirect Costs: None
Nomination Deadline: Apr 12, 2017
Website: http://www.lupusinsightprize.org/

4. Preclinical Drug Discovery, Alzheimer's Drug Discovery Foundation (ADDF)
Eligibility is open to:

- Academic Investigators seeking to create and support innovative translational programs in academic medical centers and universities.
- Biotechnology companies with programs dedicated to Alzheimer's disease translational development. New biotechnology company spinouts or existing biotechnology companies that demonstrate a clear need for non-profit funding are eligible to apply. Funding is provided through program-related investments (PRIs) that require return on investment based upon scientific and/or business milestones.

Applicants can apply for each review cycle, but cannot have more than one application per review.

Award Amount: $150,000-$600,000 for 1-2 years
Indirect Costs: None
LOI Deadline: May 19, 2017
Website: http://alzdiscovery.org/research-and-grants/funding-opportunities/preclinical

5. Program to Accelerate Clinical Trials (PACT) RFP, Alzheimer's Drug Discovery Foundation (ADDF)
The true test for new Alzheimer's drugs is in human clinical trials. Numerous treatments for Alzheimer's disease have been shown to be safe and to have some positive effect when tested in animal models of Alzheimer's disease. However, many of these potentially successful treatments have not been brought to human trials because of the increased cost and risk at this stage of research.

The goal of this Request for Proposals (RFP) is to increase the number of innovative treatments tested in humans for Alzheimer's disease, related dementias, and cognitive aging. This program will fund exploratory Phase 0 microdosing studies that assess preliminary target engagement and PK, Phase I safety testing, Phase 2 biomarker-based proof-of-concept clinical trials in patients, as well as IND-enabling studies to accelerate new drugs into trials. Through this PACT RFP, the ADDF is also interested in supporting biomarker-based trials to validate putative mechanisms of action for targeted pharmacological and non-pharmacological approaches to prevention.

PACT Research Funding Priority Areas
- Repurposing - Testing drugs approved for other indications in Alzheimer's disease clinical trials. Proposals should be hypothesis driven and drugs chosen for testing should target a rational mechanism(s) of action.
- Novel therapies supported by preclinical in vivo data linking the therapeutic approach to Alzheimer's disease or related dementias.

With regards to potential drug targets, the ADDF is interested in novel targets that include, but are not limited to: Neuroinflammation, protein degradation/autophagy, growth factor signaling, synaptic function/morphology, calcium regulation, energy utilization/mitochondria function, insulin sensitivity, epigenetics, ApoE function and cholesterol metabolism, vascular injury and the blood-brain barrier interface, cognitive enhancers, myelin changes, ischemia and oxidative stress, and tau-related toxicities.

The ADDF has limited interest in funding anti-amyloid approaches, including anti-amyloid aggregation programs, Abeta vaccine development and beta- or gamma-secretase inhibition programs. The ADDF also has limited interest in funding cholinesterase inhibitor programs.

Award Amount: $1.5 million
Indirect Costs: None
LOI Deadline: May 19, 2017
Website: http://www.alzdiscovery.org/research-and-grants/funding-opportunities/pact

6. Clinical Research Grant, American Speech-Language-Hearing Foundation (ASHFoundation)

These research grants are intended to encourage research that will impact the delivery of services to individuals with communication disorders. Research should directly advance our knowledge of the efficacy of treatment and assessment practices in speech-language pathology and audiology, or investigate the implementation of evidence into practice. This competition is designed to build capacity within the discipline for investigators to develop and evaluate evidence-based practices.

Priority will be given to proposals investigating promising approaches that have potential for improving the everyday functioning of individuals with, or at-risk for, communication and related impairments. The research grants are intended to support new research ideas and directions for the discipline. Preference will be given to studies that are likely to progress to future large-scale studies with the potential to compete for federal funding.

These research grants are not intended to provide the investigator with additional or extended support for an existing study already supported through extramural funds. However, proposals will be considered if a new investigator is proposing to join an established research team to develop a treatment efficacy, implementation, or service-delivery study that holds promise for subsequent funding of the investigator.

Investigators at different stages of their careers may apply for support for efforts ranging from innovative, small-scale studies of treatment and assessment practices undergoing development or refinement to preliminary studies of well-developed protocols to demonstrate feasibility for large-scale studies.

Award Amount: The support mechanism options are:

1. Mentored research studies: maximum $50,000
2. Independent research studies: $50,000 for one year or up to $75,000
3. Collaborative research studies: maximum $50,000

Indirect Costs: None
Application Deadline: Apr 27, 2017
Website: https://www.ashfoundation.org/grants/Clinical-Research-Grant/

7. Grand Challenges Exploration: Health Systems Strengthening: Ensuring Effective Health Supply Chains (Round 19), Bill and Melinda Gates Foundation (BMGF) New

GCE supports early-stage research projects - including many ideas that have never before been tested. The GCE initiative funds innovative ideas that could lead to new vaccines, diagnostics, drugs, and other technologies targeting diseases that claim millions of lives every year, as well as improvements and innovations in agriculture development and others of the Foundation priority areas. This GCE challenge is entitled: "Health Systems Strengthening: Ensuring Effective Health Supply Chains (Round 19)."

In 2015, the Sustainable Development Goals (SDG) were adopted by countries focused on 17 critical goals to ensure a "better world with no one left behind" by 2030. SDG 3 represents health and focuses on ensuring healthy lives and promoting well-being at all ages. It includes ambitious goals to end preventable deaths of newborns and children under 5 years of age, end the epidemics of AIDS, tuberculosis, and malaria, ensure universal access to reproductive health care services, and achieve universal health coverage and access to safe, effective, quality and affordable essential medicines and vaccines for all.

The health supply chain is comprised of people, processes, policies, technology and resources to ensure the right products reach the right place in the right condition. When effective, the supply chain is "the backbone" for access to safe and effective health products, and supports the goals of eliminating AIDS, TB and malaria, ending childhood vaccine-preventable deaths, and ensuring universal access to reproductive health services. An efficient supply chain also safeguards the significant financial investments on the procurement of health products by donors and country governments - estimates on donor-financed health products alone range from $7 - 10 billion dollars per year procured for low- and middle-income countries (LMIC).

Yet, public health supply chains are often sub-optimal and unable to support achievement of the broader health goals of a country, due to a combination of failures relating to people, processes, technology or resources. The recent UN Commission on Life Saving Commodities focused on increasing access to 13 critical medicines and health products that often fail to reach the women and children with significant implications on the health and well-being of both. Insufficient supply at the locations most needed was identified as one of the common barriers to access. The UN Commission noted that addressing barriers and ensuring access could save up

to 6 million lives over five years and contribute to reductions in maternal mortality rates and under-5 deaths.

Recognizing the need for innovation to tackle these supply chain barriers, the Gates Foundation and the U.S. Agency for International Development (USAID) have collaborated to issue this joint call for innovative and potentially transformative solutions with the potential to overcome key roadblocks to more effective supply chains in low- and middle-income countries.

The Challenge

As noted, supply chains are an essential component supporting LMIC health systems in achieving the SDG goals and ensuring healthy lives for all. Some of the key challenges we see include:

- Last mile availability: Challenges in infrastructure (e.g. inadequate roads, electrification, etc.), people (e.g., lack of necessary competencies and accountability), and processes (e.g., existence and implementation of SOPs) create barriers at the "last mile" and limit access to essential health products for health system clients and patients.
- First mile data: Multiple barriers limit efficient collection and reporting of critical health supply chain data at the health clinic or community level (i.e. the "first mile" of data flow). These include limitations in scalable tools and platforms that efficiently capture and transmit data in a way that meets the full requirements of local systems; overburdened staff with heavy data reporting burdens; and poor quality control of reported data.
- Data driven performance management at all levels: Even where data is "unlocked" from paper tools--meaning that that data and information becomes accessible to other staff within and outside of the facility -- weaknesses remain in how data is analyzed and used. Integration and analysis of data from multiple sources, particularly consumption data, and triangulation of data remains challenging; data are rarely used in a systematic way to inform decision- and policy-making.
- Supply chain system design: Traditional LMIC public health supply chain designs often result in lack of supply chain efficiency, agility, resilience and responsiveness, as well as problems of execution. These weaknesses can produce unintended consequences that may impede achievement of public health goals, for example through increased expiries, increased costs, and/or lower availability at dispensing points.
- Governance and accountability: The formal and informal incentives in public health supply chain systems, and the workforce that manage and operate them, can be misaligned to public health goals at multiple levels (from warehouse and clinic staff to policy makers). This "political economy" of the supply chain can lead to inaction, poor decision making, or rent-seeking behaviors that hamper the effective and efficient management of supply chain systems.
- Sustainable human capacity: Years of investment in training and capacity building for supply chain management have, in many countries, failed to produce national systems that effectively or efficiently operate their supply chains without external support. Public health supply chains often face difficulties in developing, attracting, and retaining

staff with the required supply chain competencies. Further, many countries lack mechanisms to produce a workforce that is able and available to meet the needs of the public health supply chain and similar supply chain needs of other industries.
- Resource mobilization and supply chain operations financing: Sufficient funds are not allocated for or expended on critical supply chain operations, including distribution (e.g. vehicle maintenance, fuel, per diems, etc.), information collection, monitoring, and performance improvement. Information on the actual costs to operate the supply chain are rarely known or visible within the public sector.

What the sponsors are looking for:
The Foundation and USAID seek proposals that address challenges in effective health supply chains that are daring in premise, and clearly different from the approaches currently under investigation or employed. The solutions submitted to this topic could focus on an integrated health supply chain, or they could focus specifically on immunization and/or family planning supply chains and their respective programmatic goals. They must have the potential to be scaled up or reproduced in multiple settings. We encourage solutions that translate leading and best practices and solutions developed by the private sector (e.g. outside of health), as well as academic research and findings, to LMICs in a way that support their public health goals.

Proposals must provide a strong rationale for the work proposed, demonstrating a clear understanding of country context and needs, and present a defined hypothesis and associated plan for how the idea would be tested or validated. Proposed ideas must ultimately be translatable to practical interventions accessible in resource-limited settings.

A few examples of work that would be considered for funding:
1. Distribution and delivery technologies & approaches
    - Novel approaches, technologies and tools that enable effective and efficient delivery of health products to the last mile (this may include all health products or a focus on specific product groups).
    - Supply chain design tools or processes that will optimize the supply chain for achievement of public health goals.
2. New channels and designs to access and deliver health products
    - Unique and innovative uses of other channels (beyond the standard public sector channels, e.g. private distributors, retail pharmacies, other retail services, social enterprises, etc.) to deliver health products, including to underserved population segments.
    - Utilization of other sectors, such as agriculture (e.g. flower exporters or other agricultural export) or fast-moving consumer goods (e.g. food including ice cream, beauty care, etc.) to improve access to essential health products and supply chain efficiencies.
3. Visibility and analytics
    - Innovative solutions to establish and maintain end-to-end supply chain visibility, including data capture, reporting, and use at all levels.

- Approaches, tools or technologies that can support data analysis and data-driven decisions and actions to improve supply chain performance.

4. Improve governance and accountability
    - Systems or frameworks that will better align public health supply chain incentives (at the individual, organizational or systemic level) with public health goals.
    - Technological or system innovations that will reduce corruption, wastage and leakage in the supply chain.
5. Sustainable capacity within a country
    - Innovative means for developing or accessing local supply chain technical and managerial capacity that will be sustained within the local institutions and/or systems, including through partnerships with the private sector.
    - New systems and mechanisms for improving staff motivation and human resource performance management within the supply chain.
6. Financing and costing
    - Tools and methodologies to increase insight into costing and budgeting for supply chain operations.
    - Approaches and solutions to help LMICs determine a balanced/optimized costing and financing model for supply chains that manage free, donor-provided health products and/or cost-recovery products; especially models that address actual supply chain operations costs and optimize pricing for achievement of health system goals.
    - Innovative mobile technologies, tools, mechanisms and approaches to ensure funds are available and expended for supply chain operations and to overcome public financial management challenges, such as delayed public fund transfers and low liquidity in countries.

The sponsors will not consider funding for:

- Proposals that do not directly address at least one of the challenges described above;
- Proposals without a clearly-articulated objective or an objective that cannot be easily assessed for quality, efficiency and/or effectiveness;
- Preclinical or clinical research: proposals for vaccine or medicine administration or delivery devices; proposals aimed at improving vaccine or medicine stability or formulation; proposals involving animal models or human subjects in clinical trials;
- Approaches that represent incremental improvements to current activities or conventional solutions, or iterative solutions;
- Approaches that are not applicable in low- and middle-income country settings;
- Approaches for which proof of concept cannot be demonstrated within the funding levels described for this call;
- New solutions that do not have the potential to be used widely or scaled-up, or are only relevant to a single geography or context.
- Proposals that do not describe or outline the innovation's down-stream effects on the supply system or consider innovation in the context of the broader health and routine immunization system or local landscape capacity;

- Proposals based upon, or that rely solely on, an SMS platform for sending reminders or communication; and
- Proposals that can only be applied to individual manufacturers' products or specific product improvement initiatives.

Award Amount: Initial grants will be US $100,000 each, and projects showing promise will have the opportunity to receive additional funding of up to US $1 million.
Indirect Costs: None
Proposal Deadline: May 3, 2017
Website: http://gcgh.grandchallenges.org/challenge/health-systems-strengthening-ensuring-effective-health-supply-chains-round-19

8. Grand Challenges Exploration: New Approaches for Improving Timeliness of Routine Immunizations in Low-Resource Settings (Round 19), Bill and Melinda Gates Foundation (BMGF) New

GCE supports early-stage research projects - including many ideas that have never before been tested. The GCE initiative funds innovative ideas that could lead to new vaccines, diagnostics, drugs, and other technologies targeting diseases that claim millions of lives every year, as well as improvements and innovations in agriculture development and others of the Foundation priority areas. This GCE challenge is entitled: "New Approaches for Improving Timeliness of Routine Immunizations in Low-Resource Settings (Round 19)."

The Opportunity
Vaccinations have greatly reduced the burden of infectious diseases. Only clean water, also considered to be a basic human right, performs better in reducing the burden of infectious disease. To reduce mortality from vaccine-preventable diseases, vaccine coverage rates, or the percent of people who have received a specific vaccine, must go up. Despite the importance of vaccination, in many low-resource settings, vaccine coverage rates remain unacceptably low, sometimes even in the single digits. Reducing missed opportunities for vaccinations will likely increase immunization coverage simply by making better use of existing vaccination sites (at health centres, hospitals, outreach/mobile services etc.). However, many vaccinations require a series of health center interactions, and improving coverage goes beyond ensuring high coverage of the first dose.

Vaccine effectiveness depends on the timing of its administration, and it is not optimal if given early, delayed, or not as recommended. To achieve maximum protection against vaccine-preventable diseases, a child should receive all immunizations within the recommend intervals. Even if coverage improves with time, postponed vaccination adds to the pool of unprotected children in the population. This can be particularly problematic during the introduction of new vaccines. However, there are few validated, evidence-based approaches available to improve timeliness of routine immunizations.

The Challenge
GCE is soliciting innovative ideas for improving timeliness of routine immunizations. GCE is specifically seeking applications proposing innovative approaches that successfully improve timeliness while reducing missed opportunities for vaccination, respect gender and equity inequalities, and target hard to reach populations, such as nomadic or remote. Successful proposals will include details on the design and pilot testing of the approach in their application. The effectiveness of the proposed approach on timeliness should be evaluated in Phase I, and a clear plan for the impact of the approach on vaccine timeliness, completeness and coverage rates should be evaluated in Phase 2 if subsequent funding is awarded.

What GCE is looking for:
Successful proposals will include:

- A clear hypothesis underlying the proposed approach to improve timeliness as well as documentation of timeliness (e.g. by a woman/child's card, by health facility register that can track individual names of women/children vaccinated);
- Plan for evaluating the effectiveness of the approach in improving timeliness using established metrics;
- Outline of the design of the proposed approach to improve timeliness; and,
- A plan for evaluation of the impact of the approach on completeness and coverage rates, should Phase II funding be granted.

Additionally, GCE will consider proposals identifying and testing approaches for improving timeliness of vaccines in low and middle income countries that support:

- Mothers and families seeking to overcome barriers regarding timeliness and completeness of routine immunization;
- Innovations that involve building on, disrupting, or adapting existing systems. Successful proposals will describe how their approach would work within existing health systems or what change would need to occur within health systems for their approach to be effective; and,
- Projects which constitute transformative rather than incremental improvements to improving timeliness that would be deliverable and scaleable in low-income countries.

GCE will not consider funding for:

- Innovative ideas without a clearly-articulated and testable approach;
- Approaches not directly relevant to low-income settings;
- Approaches for which proof of concept cannot be demonstrated within the scope of the GCE Phase 1 award ($100,000 over 18 months);
- Secondary analysis of existing studies or systematic reviews of approaches for vaccine timeliness, completeness or coverage;
- Proof of concept studies that do not clearly consider the current context of available financial systems and infrastructure for resource poor health settings. For example, ideas that are tested using expensive devices or require government-issued IDs in a country where few people have them;

- Approaches that circumvent the public sector completely;
- Approaches that present significant data safety risks (for mobile solutions, these risk must not be greater than the relative risk inherent in developed world mobile payment systems);
- Approaches which would require a donor's long-term financial support to sustain; or,
- Innovative ideas that repeat conventional approaches without novel application

Award Amount: Initial grants will be US $100,000 each, and projects showing promise will have the opportunity to receive additional funding of up to US $1 million.
Indirect Costs: None
Proposal Deadline: May 3, 2017
Website: http://gcgh.grandchallenges.org/challenge/new-approaches-improving-timeliness-routine-immunizations-low-resource-settings-round-19

9. Grand Challenges Exploration: Innovations for Integrated Diagnostics Systems (Round 19), Bill and Melinda Gates Foundation (BMGF) New
GCE supports early-stage research projects - including many ideas that have never before been tested. The GCE initiative funds innovative ideas that could lead to new vaccines, diagnostics, drugs, and other technologies targeting diseases that claim millions of lives every year, as well as improvements and innovations in agriculture development and others of the Foundation priority areas. This GCE challenge is entitled: "Innovations for Integrated Diagnostics Systems (Round 19)."

The Opportunity
Diagnostic services are essential to guide patient treatment and care for a variety of health conditions. In the developing world, diagnostic services range from centralized laboratory settings in highly populated regions to remote health outposts that have limited resources (Figure 1). A well implemented centralized laboratory has the potential to achieve high throughput testing with multi-purpose platforms, often at low cost. To date, the function of existing laboratory services in the developing world remains poor due to multiple factors including low instrument utilization rates, poor data management, supply chain issues, human resource challenges, low rates of results returned, poor quality systems, poor sample transportation systems and low quality specimens.

The obstacles to making this a reality include but are not limited to the following areas:

Connectivity: one of the key failures of local testing is due to the fact the sample drawing, patient data, test results are either recorded on paper based systems or not recorded at all. As a result, it is difficult to monitor the effectiveness of local testing thus preventing actionable review.

Sample Collection & Specimen Processing: many test results are wrong or inconclusive due to the fact that the specimen was collected in insufficient quantities or was not stabilized for analysis by the intended centralized lab test.

Transportation & Distribution of Samples: transportation of stabilized specimens can extend the reach of many centralized laboratory services. In the current situation, there is an inadequate transport network to move samples between the clinic where care is taking place and the centralized lab.

Simplified/Streamlined Workflow: numerous high performance testing platforms and assays work well in a setting with abundant resources and highly trained personnel. When these same platforms are used in a resource limited setting, their performance suffers.

The Challenge
The challenge is to make technological and process improvements in all the areas mentioned above, while at the same time paying attention to balance the cost trade-offs.

- Optimize transportation networks, and leverage distribution capabilities from other local services to improve sample transport logistics, timelines, and cost.
- Adapt selective centralized laboratory instrument platforms and assays that improve ease of use or robustness in developing world settings.
- Seek novel ways to implement interconnected laboratory networks that will efficiently track patients, specimens and data to and from various types of settings, ensuring quality diagnostic services are provided and can inform treatment and care decisions.

Because financing for healthcare in the developing world is limited, for any new technology to scale, it must demonstrate cost savings and increased efficiency to the system overall. To balance the cost trade-offs and efficiently manage services, interconnected and coordinated systems from specimen collection, local testing, sample transportation, centralized testing and return of results must be in place.

What GCE is looking for:
Technical innovations that have a measurable improvement in an integrated laboratory network, starting from sample collection, transportation, laboratory testing (local or centralized) to return of the results. Innovations should have the potential to improve turn-around time (from specimen collection to return of result), laboratory instrument capacity utilization rate, percentage of quality results generated, percentage of quality results returned or cost per quality result returned. Early stage feasibility studies are encouraged.

Options to be considered include:

- Improved reagents for centralized lab tests enabling greater robustness to developing world conditions, improving percentage of quality results generated.
- Improved usability of existing laboratory processes, such as an integrated sample processing device, improving the laboratory instrument capacity utilization.

- Technology that can stabilize specimens during collection and transportation, improving the quality of the results generated.
- Technology that can improve ease of specimen collection such as simpler blood or plasma collection systems, improving quality of results generated.
- Novel methods of improving the transportation network such as digital trackers or apps that improve sample transportation, reducing turn-around times.
- Patient-managed data systems, with secure and easily accessible information that patients can contribute to themselves, enabling better access and result return.
- Methods to identify patients who may not have a unique identification number, consistent demographic information or visit multiple clinic sites, ensuring high percentage of results returned.

To be considered for funding, proposals must clearly describe how the proposed innovation would work within and improve existing laboratory networks. Estimates of current wastage that could be improved, a description of how the technology could improve a component of the entire system, a description of how the improvement could eventually be demonstrated, will be required for a proposal to be reviewed.

GCE will not consider funding for:

- Any technology that is currently used in the developing world setting for improvement of diagnostic services
- Point of care diagnostics instruments
- New diagnostic laboratory instrumentation
- Implementation or scaling of existing solutions
- Innovations that cannot demonstrate impact on efficiency

Award Amount: Initial grants will be US $100,000 each, and projects showing promise will have the opportunity to receive additional funding of up to US $1 million.
Indirect Costs: None
Proposal Deadline: May 3, 2017
Website: http://gcgh.grandchallenges.org/challenge/innovations-integrated-diagnostics-systems-round-19

10. Grand Challenges Exploration: Wearables and Technology for Maternal, Neonatal and Child Health Behavior Change (Round 19), Bill and Melinda Gates Foundation (BMGF) New
GCE supports early-stage research projects - including many ideas that have never before been tested. The GCE initiative funds innovative ideas that could lead to new vaccines, diagnostics, drugs, and other technologies targeting diseases that claim millions of lives every year, as well as improvements and innovations in agriculture development and others of the Foundation priority areas. This GCE challenge is entitled: "Wearables and Technology for Maternal, Neonatal and Child Health Behavior Change (Round 19)."

Roadblocks
Maternal, newborn and child health has seen significant yet inconsistent improvements over the past 15 years. In order to meet the Sustainable Development Goals set for 2030, mortality reduction must accelerate. We are challenged to lower annual global neonatal deaths from 2.7 million to 1.2 million, and annual global maternal deaths from 303,000 to 97,000. Achieving these targets will require scaling up proven interventions such as:

Newborns
- kangaroo mother care (KMC)
- clean cord care
- neonatal resuscitation
- diagnosis and treatment of infection

Mothers
- prophylactic uterotonics
- antenatal care
- prevention and treatment of hypertensive disorders for mothers.

Existing tools may be inadequate to 1) facilitate behavior change among target populations, and 2) improve data collection for research in low-resource settings. The barriers for behavior change are numerous and span motivation, ability (skills and knowledge), and environment. For example, some barriers to KMC practice include women's discomfort in performing typical household tasks while their fragile newborn is on their chest, limited knowledge of the benefits of KMC, and lack of social support.

Research data is often limited by burden of collection resulting in incomplete or inaccurate data. Data is often easiest to collect in facilities, which means that mothers and newborns that don't reach facilities are left out and data may not reflect population realities. GCE is excited to explore the role that wearables and sensors can play in overcoming these barriers.

What GCE is looking for:
GCE seeks a wearable and/or sensor technologies that will improve the health of mothers and newborns by 1) increasing uptake of healthy behaviors and/or 2) facilitating research on maternal and neonatal interventions in low-resource settings.

These new wearables and sensors should:
- Have a clear theory of change for catalyzing healthy maternal/newborn behaviors
- Facilitate data collection for maternal-newborn health research with consideration of data privacy mechanisms
- Be feasible within limited infrastructure environments (e.g. electricity, internet access, etc.)
- Consider projections and trends in technology in low-income settings (e.g. level of mobile phone technology)

- Consider the societal norms of target communities in low income countries
- Consider the comfort and safety of the proposed user
- Consider the sustainability and maintenance of the technology
- Be easy to use
- Incorporate a human-centered design approach. For more on human-centered design, please refer to this resource and this website.

GCE seeks proposals that:

- Are rooted in authentic understanding of and experience in local contexts
- Bridge the gaps between user need and demand with technology
- Are forward-thinking, leveraging upcoming and future technological trends

What GCE will consider for funding:

- Tracker of temperature and position that can stimulate KMC practice
- Sensor for newborn that measures heart rate, respiratory rate, temperature, apnea or more
- Sensor on the infant that can alert the mother to infant sleep/wake state, hunger and activity
- Wearable on an expectant mother that could measure and transmit data on blood pressure, heart rate, temperature, activity, sleep state and fetal heart rate
- Patch that can measure metabolites in an infant transcutaneously including glucose, bilirubin, Na and Hb.
- Wearable that will reinforce positive behavior in the mother in breastfeeding, language interaction, soothing behaviors
- Sensor to facilitate handwashing or other infection prevention measures

What GCE will NOT consider for funding:
In addition to proposals that do not meet the requirements outlined above, GCE will also not consider:

- Applications proposing basic research without clear relevance to the goals of this topic;
- Ideas that do not specifically address causes of neonatal or maternal death;
- Ideas without a clearly articulated and testable hypothesis and metrics;
- Ideas for which the described indicator of success cannot be demonstrated within the scope of the GCE Phase 1 award ($100,000 over 18 months);
- Proposals involving clinical trials in human volunteers or patients or large-scale field trials at this time (although those may be needed in the future).

Award Amount: Initial grants will be US $100,000 each, and projects showing promise will have the opportunity to receive additional funding of up to US $1 million.
Indirect Costs: None
Proposal Deadline: May 3, 2017
Website: http://gcgh.grandchallenges.org/challenge/wearables-and-technology-maternal-neonatal-and-child-health-behavior-change-round-19

11. PEACE Grants, Mind & Life Institute New

The Mind & Life Institute is a non-profit organization committed to building a scientific understanding of the mind and human behavior as a way to reduce suffering and promote flourishing. In particular, we promote the integration of rigorous scientific inquiry with contemplative practices and wisdom traditions by supporting the emerging field of contemplative sciences. As part of this mission, we are offering a new grants program to fund research on novel interdisciplinary approaches for investigating and nurturing wholesome mental qualities related to Prosociality, Empathy, Altruism, Compassion, and Ethics (PEACE).

Programs delivering contemplative training in various settings have expanded rapidly over the past decade. Our knowledge of cognitive, physiological and clinical effects of these practices (particularly mindfulness) has grown steadily, in large part due to the ongoing efforts of the Mind & Life Institute. Expanding from a focus on awareness-based practices to include the cultivation of virtuous, prosocial qualities and actions is clearly warranted as we look to foster positive change in the world. To this end, the Mind & Life Institute is pleased to lead the way in supporting the development of this critical field through our new funding program, the PEACE Grants- supporting projects that advance our understanding of the mechanisms, implementation and outcomes of contemplative strategies to promote wholesome mental qualities and positive interpersonal and social action. In addition, we encourage the development of measures to rigorously assess these qualities in various real-world contexts.

Here, "contemplative" approaches can include a wide range of practices that involve introspection and awareness of mind-body states, including various forms of meditation, embodied or movement-based practices, reflective writing, contemplative prayer, and others. Likewise, our use of the term "PEACE" is meant to encompass a range of wholesome characteristics beyond the acronym itself (prosocial, empathy, altruism, compassion, ethics), including gratitude, love, forgiveness, sympathetic joy, patience, presence, and resilience. We encourage research proposals that work across traditional disciplinary boundaries, and use methodological approaches that meet the highest standards of rigor.

Applications are reviewed and selected based on the following criteria:

- Significance and impact to the field
- Methodological approach/design
- Innovation/novelty
- Quality of the applicant, likelihood of success and future contribution to the field
- Strength of research environment

Award Amount: Up to $100,000 for 2 years
Indirect Costs: Unpublished
LOI Deadline: Apr 14, 2017
Website: https://www.mindandlife.org/peace-grants/rfl-peace-grants/

12. Collaborative Awards in Science, Wellcome Trust

Collaboration promotes the development of new ideas and can bring disciplines together to speed the pace of discovery. The Trust has therefore launched a new Collaborative Award scheme, supporting groups of researchers who are pursuing scientific problems. The Trust encourages applications which propose to carry out interdisciplinary research across our Science, Humanities and Social Sciences, and Innovations funding.

Award Amount: £4 million paid over 5 years
Indirect Costs: None
Preliminary Proposal Deadline: Apr 20, 2017
Website: https://wellcome.ac.uk/funding/collaborative-awards-science