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A Message from the Executive Director



John D. Clemens, MD
Executive Director

Welcome to the year's first edition of *Glimpse!* In this issue, we highlight icddr's work during the latter half of 2013. It was my privilege to do the same for our board members and staff at the 29 November-1 December Board of Trustees (BoT) meeting at our main campus in Dhaka.

The meeting celebrated several icddr's successes, including the launch of two special series in *The Lancet* titled *Maternal and Child Nutrition 2013* and *Bangladesh: Innovations for Universal Health Coverage*. icddr's

played a crucial role in the publication and dissemination of the articles that formed the series.

I would again like to commend the outstanding work done by the Mission Iraq Team in assisting the World Health Organization (WHO) to undertake a cholera risk assessment among Syrian refugees in the Kurdistan Region in northern Iraq last July. You can read about it, *The Lancet* series and much more in this issue.

At the board meeting, Chair Dr. Richard W. Smith introduced two new BoT members, Dr. Maxine Whittaker and Mr. Kenneth Dye—as well as Mr. Rajesh Agrawal, assistant director general of finance at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), who has been given observer status.

Dr. Whittaker is a professor of international and tropical health and director of the Australian Centre for International and Tropical Health at the University of Queensland, Australia. She is recognised interna-

tionally for her work in reproductive health.

Mr. Dye is a chartered accountant, certified internal auditor and independent consultant. A former Auditor General of Canada, Mr. Dye has worked with Canadian CIDA (presently known as the Department for Foreign Affairs, Trade and Development) in Bangladesh at various times since 2003. He is an expert in governance and an experienced fundraiser.

We had a productive and constructive board meeting that will lead



Dr. Maxine Whittaker



Mr. Kenneth M. Dye

to many positive changes and enable us to best execute our vision. I would like to thank the board for its dedication and expertise. I hope that you enjoy reading more about icddr's work over the last half of 2013. ■

For more than 50 years, icddr has provided practical, low-cost solutions to the health problems affecting billions of people living in poverty in Bangladesh and across the globe. The institution's unique proximity to the health challenges of the developing world, both urban and rural, allows for the development of evidence-based interventions that are relevant, rigorously tested, translatable and scalable in resource-limited settings.

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Studies Show High Rates of Violence Against Women



Bangladesh has the highest prevalence of physical violence against an intimate partner in Asia and the Pacific and one of the highest rates of child marriage in the world. These findings, by two surveys released in September, show the urgent need for public education and policy change.

Almost half of men in the Asia and Pacific region have used physical or sexual violence against a female partner, and nearly 25% have committed rape, according to *The UN Multi-Country Study on Men and Violence in Asia and the Pacific*. Published at <http://www.partners4prevention.org>, the study surveyed more than 10,000 men and 3,000 women across nine sites in six countries—Bangladesh, Cambodia, China, Indonesia, Papua New Guinea and Sri Lanka—three of which are post-conflict zones.

The highest prevalence of physical violence against an intimate partner was reported in Bangladesh (42-45%), which also had the lowest proportion of men

reporting to have raped a woman (an average of 10%). Both physical and sexual violence reported by men in Bangladesh were high when compared to other countries in the region.

“Men who reported having committed violence against women were significantly more likely to hold gender-inequitable attitudes and have experienced abuse as a child,” said Dr. Ruchira Tabassum Naved, the Centre for Equity & Health Systems principal investigator who conducted the Bangladesh component of the survey.

Men’s abuse of women starts earlier than previously thought, says the study. Almost half of the men who reported having raped a woman did so for the first time when they were teenagers. The most common motivation for rape across all sites was the perception of male entitlement to sex regardless of consent—the highest being in Bangladesh at 80%. The vast majority of perpetrators (72-97% in most sites) did not experience any legal consequences.

The study recommends community mobilisation, parenting programmes and school-based education to address cultural norms, prevent child abuse, promote healthy gender attitudes and criminalise all forms of violence against women. Other similar recommendations were put forth to end child marriage in Bangladesh with the release of *Child Marriage in Bangladesh: Findings from a National Survey 2013*.

More than 60% of young women ages 20 through 24 in Bangladesh have been

victims of child marriage, according to the survey conducted by icddr,b. This makes Bangladesh the first in Asia and third in the world in prevalence of child marriage, despite laws prohibiting marriage before 18 years of age for girls and efforts by the government and the non-governmental sectors to prevent it.

Funded by Plan International Bangladesh, the survey was carried out by the icddr,b Centre for Child & Adolescent Health; Centre for Population, Urbanisation & Climate Change and Centre for Equity & Health Systems. It interviewed 5,367 women across all seven administrative divisions of Bangladesh. The full report can be found at <http://www.plan-international.org>.

Geography, education and employment were major factors affecting the prevalence of child marriage in the study. Early marriage was more common in rural areas for uneducated women without employment, and fathers were found to be the main decision maker regarding the marriage of their daughters.

The most common consequence of child marriage found in the survey was the negative impact on a woman’s health. Early marriage means early pregnancy, and adolescent girls are more likely to experience birthing complications than older women. Also, despite parental perception, child brides are more vulnerable to domestic violence than are their older counterparts.

The study recommends the enforcement of legal processes to stop child marriage, the implementation of nationwide online birth registration to prove age at the time of marriage and improvement of girls’ safety in communities—including through national and community-based child protection systems and mechanisms. Involving men and boys as key agents to stop child marriage is important, and investing in girls’ education is recommended. ■

Ensuring Cholera Readiness for Syrian Refugees in Iraq



icddr's cholera risk assessment prepared northern Iraq for a summer surge of Syrian refugees amid worsening water and sanitation conditions.

Clinicians Drs. Md. Azharul Islam Khan and Ramendra Nath Mazumder and microbiologist Dr. Md. Sirajul Islam travelled to Iraq on 28 July with a team formed by the World Health Organization's (WHO) Global Outbreak Alert and Response Network (GOARN). They undertook a cholera risk assessment among Syrian refugees in the Kurdistan region in northern Iraq, at the invitation of the Kurdistan Regional Government

(KRG) Ministry of Health.

Since the armed conflict began in Syria in 2011 between government and rebel forces, thousands of refugees have fled across the border to Iraq, Turkey, Lebanon, Egypt and Jordan. At the time of the visit, there were 8,500 refugees in Iraq, the majority in Kurdistan. Since then, the number has risen dramatically to 210,000 in the Kurdistan region alone.

The icddr team assisted WHO/

GOARN and Ministry of Health officials in Duhok and Erbil, two of the three provinces that make up this autonomous region of Iraq. They focused on improving public health preparedness, strengthening surveillance and enhancing field investigation and rapid control capacity on the ground.

Almost all the camps the team visited were overcrowded, and local health and utility services were struggling to cope with worsening water and sanitation conditions. The assessment identified potential epidemic risk of a number of diseases.

Based on findings, the WHO developed a joint plan with the local health authorities of northern Iraq to implement a summer outbreak containment plan. This ensured that the Kurdistan region was prepared for the August surge that saw 60,000 Syrians crossing into the Kurdistan region, necessitating temporary border closure with Syria. ■

New Centre to Improve Detection of Infectious Diseases

A new global disease detection center will provide intensive training in epidemiology, surveillance and outbreak response to Bangladeshi scientists and government personnel, contributing to a global effort to better detect and control priority infectious diseases.

The Bangladesh Global Disease Detection (GDD) regional center and its Field Epidemiology Training Programme, Bangladesh (FETPB) officially launched this past fall in Dhaka. icddr, the US Centers for Disease Control & Prevention (CDC) and Bangladesh's Institute of Epidemiology, Disease Control and Research (IEDCR) under the Ministry of Health and Family Welfare (MOHFW) are partners in the effort.

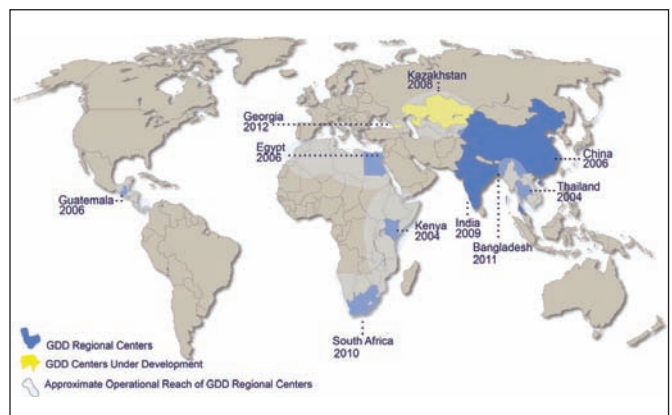
The GDD is one of 10 regional

centres established worldwide by the CDC to identify, control and combat priority infectious diseases by quickly and accurately detecting them when and where they emerge.

The FETPB is the fourth and most recent addition to

GDD efforts to develop essential detection and control capacities in Bangladesh.

It joins three other icddr-based GDD programme areas: the International Emerging Infections Program (IEIP), the influenza programme and the One Health zoonotic diseases



programme. The two-year, intensive, hands-on FETPB will provide expertise through mentorship and technical support to trainees. The strengthened public health capacity will ultimately lead to better health outcomes for the people of Bangladesh. ■

The Lancet Profiles Health Achievements & Challenges

Two series published by *The Lancet* in the last six months of 2013 highlight icddr's contribution to the improved health of Bangladesh and offer recommendations for addressing continuing challenges within and without its borders.

Bangladesh has made remarkable progress in infant and under-five survival, life expectancy, immunisation coverage and tuberculosis, despite low spending on healthcare, a weak health system and widespread poverty. However, the country still faces considerable problems, including deep poverty and malnutrition, made worse by an evolving set of modern challenges, such as massive and rapid urbanisation, an upsurge in chronic and non-communicable diseases and increasing vulnerability to climate change.

This was the focus of the six-part *Lancet* series, *Bangladesh: Innovations for Universal Health Coverage*, published in November (<http://www.lancet-journals.com/bangladesh>). The lead authors of four of the six papers in the series are from icddr, which organised the series' Bangladesh launch with BRAC and *The Lancet* in Dhaka.

"Promoting an open culture of innovation has made Bangladesh a pioneer in scaling up community-based approaches that have brought key health interventions to every household. This has made huge inroads into improving maternal and child health and reducing population growth," said icddr Deputy Executive Director Dr. Abbas Bhuiya, co-coordinator of the series' steering committee. The authors concluded the series by setting out a plan to create a second generation of health-system innovations that will guide Bangladesh towards universal health coverage.

Authors of July's *Maternal and Child Nutrition* series of papers published by *The Lancet* urged governments and the



President of Bangladesh Mr. Md Abdul Hamid announces the launch of *The Lancet* series on Bangladesh with icddr Deputy Director Dr. Abbas Bhuiya (centre) and former Health Minister Prof. AFM Ruhul Haque (right).

private sector to address nutrition and food security needs at a time when almost half of all child deaths globally are caused by malnutrition (around 3.1 million deaths annually).

Undernutrition causes 45% of all deaths of children younger than five years of age. Among the 165 million who survive, stunted growth from chronic malnutrition has compromised their cognitive development and physical capabilities, impacting whole economies. Countries will not be able to break out of poverty and sustain economic advances without ensuring that their populations are adequately nourished.

Scientists from the Centre for Nutrition & Food Security contributed to the series, which icddr launched in Dhaka with the National Nutrition Services of the Government of Bangladesh and Save the Children International.

The series is a follow up to the journal's 2008 series that helped put nutrition on the global health and development agenda. It created the Scaling Up Nutrition (SUN) movement supported by many development agencies and emphasising the nutritional importance of a child's first 1,000 days (during pregnancy and the first two years of life).

"Although Bangladesh has made significant achievements in several areas, including reducing infant, child and maternal mortality annually by 3.3% against the Millennium Development Goal target of 3%, child malnutrition remains high," notes Centre for Nutrition & Food Security Director Dr. Tahmeed Ahmed. "More than 40% of under-five children in the country are stunted—the highest percentage in the world—and become vulnerable to infectious illnesses and impaired mental development."

Thirty-four countries account for 90% of the global burden of malnutrition. The series features new data and recommendations for building on progress to address nutrition. The authors expect that it will help policymakers, programme implementers and academia address this issue.

They emphasise that the United Nations' post-2015 sustainable development agenda must make all forms of malnutrition (stunting, wasting and deficiencies of essential vitamins and minerals) a priority. For their recommendations, visit <http://www.thelancet.com/series/maternal-and-child-nutrition>. ■

Pilot to Scale up ORS-Zinc Model in Nigeria



The ORS Moms pilot, funded with a Grand Challenges Canada grant, seeks to improve household demand for ORS and zinc to combat diarrhoea in Nigeria.

Diarrhoeal disease is one of the leading causes of childhood mortality and morbidity globally. Although in recent years progress in reducing annual diarrhoeal deaths has been impressive—from 4.5 million in early 1980s to 800,000 in 2010—diarrhoea remains a significant problem in many countries. With nearly 200,000 deaths annually, Nigeria has the world's second highest concentration

of diarrhoeal disease deaths in children under five years of age.

Now, researchers at icddr are collaborating with the Nigerian Inter-Faith Action Association (NIFAA) to replicate successful models from Bangladesh to improve household demand for oral rehydration solution (ORS) and zinc to combat diarrhoea in Nigeria.

Grand Challenges Canada, a compe-

titive grant programme funded by the Government of Canada, has awarded a CAD\$113,000 grant to icddr investigators Drs. S.M. Rafiqul Islam and Azharul Islam Khan to design a pilot programme in Nigeria of the innovative project.

Called "ORS Moms," the programme works through faith networks to mobilise women's groups, particularly mother's groups, within religious congregations. The mothers serve as vehicles for behaviour change messaging and community-based suppliers of ORS and zinc for treatment of diarrhoeal diseases in children.

Once the ORS Moms concept is successfully designed and piloted in several communities, the insights gained will better position icddr and NIFAA to scale up engagement of the faith community and family leaders across high-burden target states and establish a replicable model for ORS-zinc implementation across all of Nigeria. ■

Vaccine Trial Offers New Insights for Flu Prevention

Each year, scientists try to match the flu vaccine to that season's circulating flu viruses to ensure effective protection for the public. Trivalent flu vaccines have been the gold standard for decades. These are formulated to protect against three flu viruses—two type-A (H1N1 and H3N2) and one type-B. But the flu typically results from one of two type-B viruses, and it has become more difficult to predict which type-B will be circulating in any given year.

Enter quadrivalent flu vaccines, which protect against two different type-B strains. The findings of a multinational trial study, published in *The New England Journal of Medicine* on 26 December, have successfully shown an inactivated quadrivalent influenza vaccine (QIV) to be effective in preventing influenza A or B in children aged three to eight years of age.

Researchers with icddr's Centre for Child & Adolescent Health, GlaxoSmithKline Biologicals and collaborators in several countries conducted the phase 3, randomised, controlled, observer-blind study among 5,220 children on three continents. It found the vaccine to be 59% efficacious for influenza of any severity and 74% for moderate-to-severe influenza.

This is good news, given that the incidence of influenza is particularly high among children and can lead to severe complications.

Healthy children were recruited from 15 centres in Bangladesh, the Dominican Republic, Honduras, Lebanon, Panama, the Philippines, Thailand and Turkey for the study. The total vaccinated cohort included 2,584 children in the QIV group and 2,584



Influenza may lead to severe complications in children. Two young children with acute respiratory infection receive treatment at an icddr field site in Dhaka.

in the control group.

The children were randomly assigned to receive the QIV (0.5-ml dose) or hepatitis A vaccine (Havrix, 0.5-ml dose), as a control. Both vaccines were manufactured by GlaxoSmithKline, which funded the study. The vaccine efficacy and the effect of vaccination on daily activities and utilisation of healthcare resources were also assessed. ■

icddr,b Joins Global Discussion on Achieving MDGs ▬▬▬

icddr,b Executive Director John D. Clemens, MD joined global health leaders in September for an online debate about what must be done better or differently to ensure that Millennium Development Goals (MDGs) 4 and 5 are met. The influential Skoll World Forum on Social Entrepreneurship hosted the debate at <http://www.skollworldforum.org> as part of its ongoing mission to find innovative solutions to pressing social issues.

Titled *Investing in Women Can Accelerate Progress Toward Achieving MDGs*, Dr. Clemens' op-ed admits that there are no "magic bullets" that can help developing nations reach MDGs 4 and 5 by 2015, but that lessons can be learned from Bangladesh's equity focus, in particular its use of young, well-trained, local women to deliver an integrated package of family planning and primary healthcare to their communities. An excerpt from the op-ed is reprinted here.

Investing in Women Can Accelerate Progress Toward Achieving MDGs

By John D. Clemens, MD
Reprinted from <http://skollworldforum.org>



A community health research worker collects socio-economic and health data from a family at icddr,b's Matlab field site.

The contribution of female community health workers to improving maternal and child health followed a decision by the Government of Bangladesh and the non-governmental sector to place great emphasis on the delivery of both primary healthcare and family planning services, and to invest in women to serve on the frontline for delivering these services.

This approach was first developed and tested by icddr,b in the 1970s in its maternal and child health program at Matlab, a rural subdistrict of 142 villages and 220,000 residents some 30 miles

southeast of Dhaka. Initially, working with the village dais (illiterate, female elders who traditionally attended births), contraceptive use rates failed to rise appreciably.

Pursuing an alternative—and at the time novel—approach, researchers reached out to young, educated, married women who lived in the villages and could counsel their neighbors about contraception and family planning with credibility.

These young women were trained to deliver simple, effective interventions inexpensively. By drawing on and sharing their own experiences with their contemporaries, the female community health workers successfully created demand for maternal and child health and family planning services. Over time, they also became the frontline agents for a broader range of primary care interventions, including those to treat diarrhea, respiratory infections and other infectious diseases, as well as immunisations and nutrition counseling.

The community health workers in Matlab were taught to keep accurate

records of their visits and services—information vital for monitoring and assessing impact, and improving service delivery—and as such helped establish Matlab as a leading site of continual health and demographic surveillance. The lessons from this seminal experiment provided the basis for the later countrywide roll out of female community health workers, both by government and non-governmental sectors, as the principal deliverers of family planning services and primary health care to the country.

Today in Matlab, about 80 percent of pregnant women deliver in facilities, in large part due to demand creation by icddr,b's community health workers and to community-friendly obstetric facilities. While the national average for the rate of facility-based deliveries is lower, around 30 percent, it has more than tripled since 2001.

In addition, the emphasis on family planning has reduced total fertility rates in Bangladesh from over 6 births per woman in 1970 to 2.3 births per woman in 2011, which has not only greatly slowed population growth, but also synergised with direct interventions to reduce maternal and child deaths. Child deaths have decreased by two thirds since 1990, representing an early achievement of MDG 4. These results are remarkable considering the poverty and relatively weak healthcare system in Bangladesh. ■

Improving Early Brain Development in Children



A researcher from the child health unit works to improve a child's cognitive development.

Almost 60% of children in Bangladesh are at risk of poor physical and mental development due to low body weight (22%) and undernutrition (41%), poverty and sub-optimal stimulation due to low parenting knowledge. The mother is usually the key childcare provider, and her physical and mental health is a major predictor of child development, particularly in low- and middle-income countries such as Bangladesh.

grant award and nomination from Grand Challenges Canada (GCC), funded by the Government of Canada, to undertake two bold and creative projects aimed at improving the early brain development of children in Bangladesh.

A total of 14 projects have received grants under GCC's Saving Brains programme: five in Africa, six in Asia and three in Latin America and the Caribbean. icddr,b secured a seed grant

A major focus of icddr,b's research and humanitarian services has been on the holistic approach to the well-being of children—their mental and physical growth in relation to the overall health status of both mother and child.

Now, icddr,b has received a

of CAD\$270,000 to enlist home-based community workers from health clinics in rural Bangladesh to offer a first-ever combined intervention.

It includes a) a Thinking Healthy programme for mothers, of children six to 12 months of age, with depressive symptoms and b) psychosocial stimulation (that contributes to mental and psychomotor development) for their children. icddr,b will collaborate with the University of the West Indies and the Institute for Child Health at University College in the UK for this project.

icddr,b also has been nominated for a scale-up grant of up to CAD\$2 million to improve development of malnourished children in Bangladesh through nutrition and psychosocial stimulation. This project will promote early cognitive development among 3,000 malnourished children visiting health clinics in rural Bangladesh.

The larger grant seeks to improve the knowledge and skills of both mothers and field staff in early cognitive development. Researchers expect that language skills among children will improve, along with mental and psychomotor development. ■



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