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The United Nations Initiative to Reduce Childhood Mortality

### THE UNITED NATIONS INITIATIVE TO REDUCE CHILDHOOD MORTALITY

Change and challenge is in the wind as 2008 comes to an end. The same is true when examining this month's ReachMD XM160 special series focus on global medicine. We take a look at both the changes and the challenges impacting global medicine.

In the last 100 years, there has been dramatic reductions in child mortality in western countries, but 90% of the world's people do not share in this prosperity and progress. You are listening to ReachMD, The Channel for Medical Professionals. I am your host, Dr. Shira Johnson and joining us today to discuss the United Nations goal to reduce childhood mortality, is Dr. Trevor Duke, an Intensive Care specialist at Royal Children's Hospital in Melbourne, Australia. Professor Duke is a director of this center for International Child Health in the University of Melbourne Department of Pediatrics. The center works closely with WHO and has a focus on improving child survival in developing countries. They have looked at areas of research to include respiratory infections, vaccine preventable diseases, TB, neonatal care, just to name a few. We are very fortunate to have Dr. Duke with us today.

**DR. SHIRA JOHNSON:**

So, Dr. Duke, welcome to ReachMD.

**DR. TREVOR DUKE:**

Great to be here Shira. Thanks for inviting me.

**DR. SHIRA JOHNSON:**

How did you get involved in World Health Medicine practicing in an ICU in Melbourne, Australia?

**DR. TREVOR DUKE:**

I am influenced heavily during my training by several pediatricians who had made major contributions to child health in developing countries and one of which was Professor Frank Shane for had worked for many years in Papua New Guinea and after I completed my training in 1996, I went to work in Papua New Guinea as a pediatrician in the highlands, stayed there for many years and then came

back to Melbourne to the Center for International Child Health in the Department of Pediatrics ER and of my time my contact with Papua, New Guinea and countries in the Asia Pacific since then and I have been involved with the World Health Organization and they are working in the Asia Pacific and globally since 2001.

**DR. SHIRA JOHNSON:**

Why haven't some of the reductions that we have had in pediatric mortality in this country carried over to international medicine?

**DR. TREVOR DUKE:**

In the 1950s, the Under-5 mortality right in the OECD countries was about 40 to 1000 live births and now in the 26 or 28 OECD countries is down to 5 per 1000 live births, that is under 5 mortality. In the rest of the world though there hasn't been the same progress. There has been in some region, so in the central and South American region there has been very substantial progress such that that region is on track for the achievement of the millennium developmental goals in child health, but other regions such as in Africa and parts of Asia, the countries are not on track and the reasons for that are complex, but they include limited resources and low priority given for child's health, very limited human resources, war, corruption, a whole range of things.

**DR. SHIRA JOHNSON:**

What is MGD #4?

**DR. TREVOR DUKE:**

The Millennium Developmental Goal #4 is a goal that all countries have signed up to and for most countries, it's a goal to achieve a reduction by two-thirds of the Under-5 mortality that the country had in 1990 and the timeline is by the year 2015. So, for countries that started off with an Under-5 mortality of 100 in 1990, they would aim to achieve a reduction down to 33 by the year 2015.

**DR. SHIRA JOHNSON:**

That is a mammoth task. What are some of the steps involved in that process?

**DR. TREVOR DUKE:**

Yes, it's a big task and for some countries it is an unattainable task, but for many countries and many regions, it actually is an attainable task. The goal was set in the year 2000, so already even at the point of setting the goal, the goal was about 35%-40% of the way through in terms of time. Now, we have just 7 years for countries to achieve their MDG #4 targets as well as the other targets in the millennium declaration. Some of the challenges to achieving MDG #4 are to have a high profile for child health and to implement essential interventions that will reduce child mortality and those interventions are now well known.

**DR. SHIRA JOHNSON:**

What countries are actively participating right now?

**DR. TREVOR DUKE:**

Well, all countries are participating in that they have signed up to the millennium development goal, but some countries are, I suppose more along the path of a systematic approach to reducing child mortality than others, as I said the countries in central and South America have in general done quite well and many countries in Africa have not done so well, although there are countries in Africa that have done reasonably well.

**DR. SHIRA JOHNSON:**

What are the common causes of death of children in these countries that you are trying to target?

**DR. TREVOR DUKE:**

Throughout the world each year about 10 million children die. The figure is now down to about 9.7 million, but they die of common conditions. Most causes of death remain infectious diseases. So, acute respiratory infections particularly pneumonia, malaria, although that has regional variation of course, diarrheal disease are common the world over, HIV, also regional differences, measles, and tuberculosis, again common conditions and then about a quarter of all deaths are due to perinatal conditions. So, low birth rate, prematurity, infections, and birth asphyxia, they are the common causes of death throughout the world.

**DR. SHIRA JOHNSON:**

So, given these causes of mortality, what type of interventions are effective?

**DR. TREVOR DUKE:**

In 2004, the Lancet published a series on effective interventions to reduce child mortality if people are interested, its well with rating as a monograph on the subject and in that series of meta analysis, the Lancet published on 23 highly effective interventions that would reduce mortality from one or a number of the conditions I mentioned before and could be scaled up to a universal scale in developing countries and of that 23 interventions, there were 15 that were preventative and 8 that were curative and the interventions are pretty basic things were improving the quality and uptake of breast feeding; for example, improving the nutrition and complimentary feeding in infancy after breast feeding is weaned, improving access to safe water and sanitation, improving access to essential vaccines like Haemophilus influenza type B vaccine, use of infected citrated bed nets to reduce mortality from malaria and anemia and low birth rate, for example. Of the treatment interventions, simple things like antibiotics for pneumonia or rehydration solution for diarrhea; for example, antibiotics to treat neonatal sepsis, they are all interventions that have been proven to be effective and the other things that all countries should have as a minimum standard of care.

**DR. SHIRA JOHNSON:**

You mentioned HIV. What can you tell us about HIV and children in developing countries?

**DR. TREVOR DUKE:**

HIV has been one of the main reasons why Africa is not on track for achieving the millennium development goal #4 and there has been recent progress in the prevention and management of HIV. So, for example, the prevention of parent to child transmission programs that are now running in many countries has reduced the number of children being born with HIV, improving antiretroviral therapy access for children and their parents has markedly improved and increased the number of children who are surviving from HIV and going on to live productive lives albeit with a chronic illness. That itself carries a burden to the Healthcare system that previously wasn't not there. HIV has had profound effects on health systems in many developing countries. So, for example, in some African countries many, many health workers are dying from HIV and yet the paradox is that to implement programs to reduce HIV, to implement programs for the prevention of parent to child transmission or antiretroviral therapy programs, many more health workers are needed, so at the same time as health workers are being lost to HIV, it is actually more and more that are needed to role out these programs and the effect of that is even more complex because as more interventions for HIV come on board and are taken up by countries and as health worker numbers don't increase, then that has a risk of stealing resources from the management and prevention of other common childhood conditions like pneumonia and diarrheal disease and malnutrition away from those conditions towards HIV. So, it's a very complex and interactive impact on the health system is HIV.

**DR. SHIRA JOHNSON:**

What about malnutrition? Isn't that almost competing or right up there with diseases in terms of these kids and mortality?

**DR. TREVOR DUKE:**

Yes, of the 10 million deaths occur each year, 95% of which are in developing countries, more than 50% of them are associated with malnutrition and its not all malnutrition as we see it on the television, say kwashiorkor or marasmus, the very severe forms of malnutrition, probably what contributes greatly to mortality is actually the much larger proportion of children who have had moderate malnutrition and that contributes to death from pneumonia and diarrheal disease and malaria. So, moderate and severe malnutrition contributes to more than 50% of all child deaths globally each year.

**DR. SHIRA JOHNSON:**

Can you tell us some stories perhaps give us some examples of what you and WHO workers are up against or some experiences you have had?

**DR. TREVOR DUKE:**

Well, I think some good examples are worthwhile here and I have particularly experience in a couple of countries in Papua New Guinea and the Solomon Islands, both countries of which were considered at least up until a few years ago not to be on track for the achievement of the Millennium Development Goal #4 and with a sustained and systematic approach to improving the child health program in those countries, there has been a very substantial reduction in child mortality. So, in Papua New Guinea in 1996, the Under-5 mortality rate was 93 to 1000 live births and the last demographic health survey that was done just in 2006 showed a reduction by 20 percentage points down to 73 or 74 to 1000 live births. Its a very substantial reduction and I attribute this reduction to a comprehensive approach to improving child health not focussed on any one intervention, but really focused on the implementation of these effective interventions that we know are useful in a systematic way and scaling them up to achieve as best as possible in a country like PNG universal access. The same is true in the Solomon Islands where a systematic approach to a National Child Health Plan has resulted in improvement in child health both in the human resources available and in the outcomes that we are starting to see.

**DR. SHIRA JOHNSON:**

Doctor, do you tell me what specific obstacles do you see to further progress in the future with this?

**DR. TREVOR DUKE:**

Well, I think some of the challenges relate to re-sourcing, in particularly human resources. It has recently been estimated that there is a deficit across the world of 4.3 million health workers. So, 4.3 million doctors and nurses are needed to substantially improve health to the level that the millennium developmental goals would be achieved. It's a great challenge to health training institutions in developing countries and the governments in terms of resource allocation for training. The other obstacle, I think, is the absolute amount of resources that are available from government health budgets for health and at the moment, an increase by a couple of percentage points in terms of the proportion of GDP that's spent on health would make a very, very big difference. At the same time, there's also a need to focus on child and maternal health as being a substantial part of the health budget and not all countries have yet done that.

**DR. SHIRA JOHNSON:**

Lastly, where can physicians go for more information if they want to get more involved or if they want to make donations to this work?

**DR. TREVOR DUKE:**

More information or more resources can be available through the center for international child health website, which can be found through Google, I suppose or from the WHO website or the UNICEF website. They are both good sources of information about global child health. There are some journals that publish excellent articles on global child health or global health particularly the Lancet, but there are others that publish regularly on global health issues.

**DR. SHIRA JOHNSON:**

Well, thank you for being our guest today.

**DR. TREVOR DUKE:**

I really appreciate.

**DR. SHIRA JOHNSON:**

We have had Dr. Trevor Duke. He has been our guest on ReachMD and we have been discussing United Nations goal to reduce childhood mortality. I am Dr. Shira Johnson.

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