

## Sometimes you have to give a man a fish

Top-down and bottom-up approaches are both needed to improve diabetes outcomes worldwide

“**T**he effort of diabetes care is great, but the reward is also great, for the prize is life itself.” Unfortunately, this statement by Elliot Joslin, made in 1928, is still true today. Over 90 years after Banting and Best’s Nobel prize-winning discovery of insulin, a front cover of *The Lancet* in 2006 posed Edwin Gale’s question “What is the commonest cause of death in a child with diabetes? The answer — from a global perspective — is lack of access to insulin.” This tragedy has particular relevance to people with type 1 diabetes in developing regions. Children and adults who develop this increasingly common, incurable condition, through no action or inaction of their own or their family, are totally dependent on insulin treatment for their survival, and if that is achieved, then for their quality of life. Even in affluent countries that subsidise insulin, blood tests and health care, the demands of balancing insulin doses with food, exercise, hormonal changes, intercurrent illness and stress are challenging.

In disadvantaged countries I have found that the average HbA<sub>1c</sub> (glycated haemoglobin) of people with type 1 diabetes is 10%–12%, reflecting blood glucose levels three times higher than normal. The consequences: growth retardation, malnutrition, recurrent infections and diabetic ketoacidosis, early vision loss and renal failure (in settings where laser therapy and dialysis are not often available), and premature death. I have seen stunted listless children with little energy to play, met families who choose to buy insulin rather than enough food and education for their children, and who have moved from their farms and villages to near an urban hospital. I know parents who have watched their child die from diabetic ketoacidosis. I have admired the dignity of a teenager with type 1 diabetes hours away from her death from renal failure and watched the distress of her endocrinologist who (fortunately) could provide morphine and valium then, but, unfortunately, not dialysis or enough insulin in the preceding years. I have met the health minister and the head of the national diabetes centre in one of these countries and negotiated an 80% reduction in the purchase price of insulin from industry. The government took up the lower price offer, but did not increase the quantities of insulin purchased. The savings in funds for diabetes were “needed



**Alicia J Jenkins**  
MB BS, MD, FRACP,  
Professor, Diabetes and  
Vascular Medicine

NHMRC Clinical  
Trials Centre,  
University of Sydney,  
Sydney, NSW.

alicia.jenkins@  
ctc.usyd.edu.au

doi: 10.5694/mja13.10813

“  
What is the commonest cause of death in a child with diabetes? The answer — from a global perspective — is lack of access to insulin  
”

elsewhere”. Due to early deaths, the type 1 diabetes prevalence in that country was 30 times less than expected based on the population and the type 1 diabetes incidence rate. While many people with type 1 diabetes in developed countries live long and full lives, with 50 or more years of diabetes, the life expectancies of far too many in disadvantaged countries can be measured in days, weeks or just a few years.

Disparities in diabetes care are also emerging in affluent nations. Access to insulin pumps in Australia is predominantly supported by private health insurance, and continuous glucose monitors that can be linked with a pump that can suspend insulin delivery in a life-threatening hypoglycaemia are entirely self-funded. When I was a young doctor in the 1980s, this inequity in diabetes care based on ability to pay did not exist. As an endocrinologist I now see it often. People with diabetes who may benefit from and want an insulin pump or a glucose sensor often cannot afford it. Many with diabetes cannot afford the multiple drugs to control their glucose, blood pressure and lipids, goals that evidence-based medicine has shown can substantially improve health outcomes. Our governments and the health insurance industry are rightly worried about the economic impact of diabetes. The problems of diabetes prevention and care are global problems.

As Martin Silink, an Australian endocrinologist and past President of the International Diabetes Federation (IDF) commented regarding poor diabetes outcomes, “We must move from awareness to action”; and he has done this and continues to do so. His leadership, and that of his individual and organisational partners in addressing the global health challenge of diabetes, is worth supporting and emulating. Martin Silink and like-minded partners, such as the IDF, the United Nations, Diabetes Australia and Insulin for Life (IFL), realise that type 1 and type 2 diabetes are major personal, social and economic challenges for all countries, and that a medical solution alone is not enough. A persistent multipronged approach by many, including health care professionals, people affected by diabetes, academia, industry, organisations and governments, is needed to address the already daunting problem of diabetes, a condition estimated to affect 552 million people worldwide by 2020.

As well as diabetes-related medicines and a sustainable health care system to prevent or delay diabetes onset, to diagnose it and deliver treatment, culturally appropriate diabetes education in local languages and for those who cannot read is essential. It is

not only people with or at risk of diabetes and their families and clinicians who need diabetes education — the community, including teachers and employers, policymakers, economists and people in the media, town planning, agriculture and the food industry need to know about diabetes. Research and development and postmarketing surveillance need to continue in academia and in the pharmaceutical and medical device industries. Health care delivery systems, including telemedicine, must be used effectively, and must include rural and remote communities. Costing needs to be fair to all.

Local, national and international agencies and governments must be aware of and responsive to diabetes. Bangladesh and the IDF led a global campaign that resulted in the unanimous passing of a UN resolution on diabetes in December 2006. Resolution 61/225 affirms diabetes as a major global health threat and encourages the development of sustainable national policies for diabetes prevention and care. The roll-out of this resolution is an important work in progress.

As well as empowering people with diabetes, we must first keep them alive. A wise statement is “give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime”. True, but sometimes we must do both. People with insulin-requiring diabetes in disadvantaged countries cannot wait. I am active in the IDF Life for a Child program, led by Martin Silink and Graham Ogle, which facilitates local medically supervised diabetes care to young people with type 1 diabetes. Currently over 12 000 youth in 43 countries are supported. I am also extensively involved at board level and in running a distribution centre of IFL. Established over 20 years ago by two Australians with long-term type 1 diabetes (Ron Raab and Bruce Wainwright), IFL aims to ease and save the lives of people with diabetes around the world. We collect and provide in-date insulin and related supplies to clinics in over 30 disadvantaged countries, supporting thousands of people with diabetes. IFL has collection centres in nine countries, most staffed by lay volunteers and supported by thousands of community-based donors. Both top-down and bottom-up approaches are needed to improve diabetes outcomes.

It is vital that the current and the next generation of leaders, including health care professionals, address the global diabetes challenge. Similar needs exist for other health problems. Readers of the Journal, please lead or be led.

**Competing interests:** I am on the board of Insulin for Life and also on the advisory panel of the IDF Life for a Child program. □