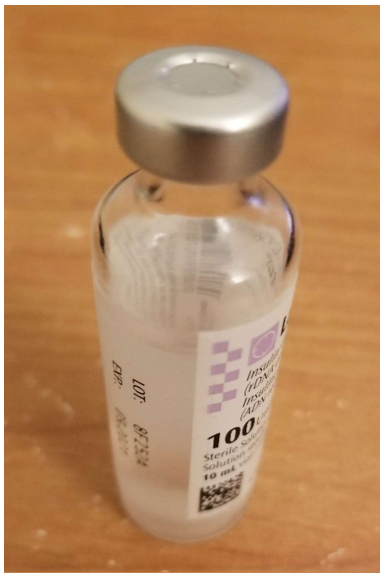
Life Saving

Unitarian Universalist Church of Olinda
Rev. Rodrigo Emilio Solano-Quesnel
14 November, 2021



Insulin 100 © 2021 Rod E.S.Q.

A couple decades ago, I had a summer job as a counsellor for a series of diabetic summer camps. I was one of only three or four staff members that did not have type 1 diabetes – even the other counsellors used daily insulin to live, as did all the campers. That experience offered me my first real understanding of just how different the lives of people with diabetes could be from my life.

By and large, people affected by diabetes can manage lives that are quite comparable to those lived by the rest of us… but there's always something – a whole set of considerations in the background, that still dictate, or affect, many aspects of their lives. These can range from the merely irksome or annoying, to the inconvenient, and occasionally life threatening.

Of course, many things have changed over the last hundred years. Type 1 diabetes is no longer the death sentence it used to be. The processes perfected by the team at the University of Toronto, including Frederick Banting, Charles Best, JJR Macleod, and James Collip, paved the way for the wholesale production of insulin, so that it may be made more accessible to those who need it (and to be clear, it's not those who merely want it – it's always those who *need* it).

Banting and Macleod shared the Nobel Prize in medicine – the credit for an effort like this could never go to one person. Banting felt that Best also deserved recognition and shared his portion of the prize with him; Macleod did likewise, sharing with Collip. And… there is still controversy on whether all the right people were properly credited. In

an interconnected web, success is a product of shared efforts, and giving proper credit is an impossible task – and still a task that we pursue.

One Canadian Heritage Minute condenses the dramatic developments of the twelve days that cemented insulin's success, from the first trial on 14-year-old Leonard Thompson – a trial that failed, giving Thompson an allergic reaction, due to impurities in the first trial batch – to the frantic effort for a pure enough dose, which eventually succeeded in treating Thompson.

But we know that this story doesn't start at the beginning of those twelve days. Another Heritage Minute shows a slightly longer timeline, including the trials on diabetic dogs, which eventually succeeded in treating the dogs. But the story is longer than that. Banting, Macleod, Best, and Collip, all had to do months and years of earlier preparation and discovery, following a mix of hard facts and intuition. But there's more to it than that.

This was only possible because they had foundations that were laid down by several others before them – too many to name, though they include several German and U.S. scientists, with efforts going decades earlier, who made the initial connection between the pancreas and diabetes. And the *real* origin story of continuous discovery could go on. In an interconnected web, giving the proper credit to all the right people is an impossible task – and still we seek to offer the recognition we can.

So, we can celebrate the widespread availability of insulin beginning about a century ago, thanks to these medical advances – but there's more to it than that. Despite 100 years of availability and an original patent held by the University of Toronto intended to keep its prices low, insulin is still not as accessible as it should be for all who need it. Many people with diabetes cannot get the insurance coverage they need, making its necessary use costly over time.

That can be a challenge for many Canadians… and it's even more so in the United States, where the price of insulin is several times over what you'd find over the counter in our country. The reasons for this are perhaps too complicated to explain in detail here, but the gist is that it has less to do with the medical science, and more to do with certain regulatory practices and certain business practices that exploit aspects of patent law in insulin's newer production methods.

The reality that this situation gives witness to, is that medical progress depends not only on research and scientific endeavour, but also on the larger systems and institutions that take part in prioritizing funds, and in channelling the political will to set practices that prioritize serving public health.

Over the past two years, we have seen many parallels to this. I have spoken before about the miraculously speedy development of the mRNA vaccines for Covid-19. But there's more to it than that. While this was nothing short of remarkable, perhaps the greater miracle was that this newer technology *already* had decades of preliminary research to back it up, which itself had over two hundred years of progress in immunology, going back to Edward Jenner's first vaccine for smallpox… which *itself* relied on previous wisdom.

Some of this wisdom came from names that have been lost to history, though there are also names that simply aren't acknowledged often, as is the case with the African slave Onesimus, whose received wisdom was taken to help prevent smallpox outbreaks in New England before vaccination was available. In an interconnected web, giving proper credit may be an impossible task – and yet we strive to name those who we can, when we seek to express gratitude.

We also know that there's more to it than that. We have seen that the success of the vaccines depends not just in their efficacy – as established by studies – but also, on social and economic factors that

allow them to be equitably distributed, and on social institutions that promote trust, and counter disinformation.

Now, some of the medical progress we have seen can indeed stem from challenging some of the established norms and assumptions of the medical establishment. And when I say "challenging" I don't mean "discrediting" or "frivolously attacking" established wisdom – what I mean in this context, is that, when enough facts and research back up a shift in thinking, it is time to boldly champion new wisdom.

That is the story of Hungarian physician Ignaz Semmelweis. The very first sermon I wrote in lockdown featured him. You've never heard me speak that sermon, because it was exclusively sent out to your inboxes, electronic and physical, before we got around to the online broadcasts. Semmelweis is known as the pioneer of antiseptic procedures – which is a system of high-level hygiene practices to prevent medical infections.

He suggested *handwashing* with a special solution as a way of preventing infections in maternity wards, and his method was so dramatically effective, that it cut deaths from childbed fever in one ward from 18% to 1%. But there was more to it than that. Despite the empirical evidence, the establishment rejected this new wisdom, and it took… too long for his procedures to become established practice. Nowadays these hygiene practices are the universal norm and they save lives every day.

Handwashing became one of the three pillars of protection that we had available to us against Covid-19, before vaccines became available, and over the past two years, we have been reminded to honour his memory, with a lifesaving ritual (handwashing!), several times a day.

Versions of this story bring us back to the health science of diabetes. The first person to share the Nobel Prize with Frederick Banting – JJR Macleod – had been initially sceptical of Banting's research. He questioned Banting's level of experience and credentials. Still, the

research showed enough promise that Macleod offered him space, an assistant (Charles Best), and eventually increased funding and connections with the medical establishment. Although the partnership had begun somewhat begrudgingly, it became a lifesaving enterprise.

Even now, there are promising developments that are only slowly taking hold in the treatment of the other kind of diabetes – type 2. Recent research, primarily in the United Kingdom has shown ways in which people at risk of type 2 diabetes, or even recently diagnosed, may be able to prevent it, or even reverse it, within a certain time window. I won't go into the details of it here, because it's not my place or expertise to offer something that might look like medical advice, but I understand that the data backs up these new developments so that the reluctance to accept this newly-emerging wisdom is slowly waning.

My friends, the interdependent web of existence heads deep into the past, and leads us boldly into the future. Not only did the century-old insulin-development team from the University of Toronto draw deep wisdom from the foundations of this web, they also laid down new foundations for the future of the web, sometimes in unexpected ways. The development of medical insulin came in just in time to save the life of Dr. George Minot, who eventually developed a treatment for pernicious anemia, and also got a Nobel Prize. Had medical insulin not arrived when it did, the treatment of pernicious anemia would have likely taken much longer.

My friends, the interdependent web of existence begets life from life. We are part of that web, we have been part of that web, and we will be part of that web.

So may it be,
In Solidarity and faith,

Amen

Suggested Hymns:

Opening Hymn #86 Blessed Spirit of My Life

Words & music: Shelley Jackson Denham, 1950- ,

PRAYER

Hymn #123 Spirit of Life

Words & music: Carolyn McDade, 1935
~)-| harmony by Grace Lewis-McLaren, 1939- ,
SPIRIT OF LIFE

Closing Hymn #139 Wonders Still the World Shall Witness

~)-| Words: Jacob Trapp, 1899-1992,
Music: *Oude en Nieuwe Hollantse Boerenlities en Contradanseu*, c. 1710
IN BABILONE