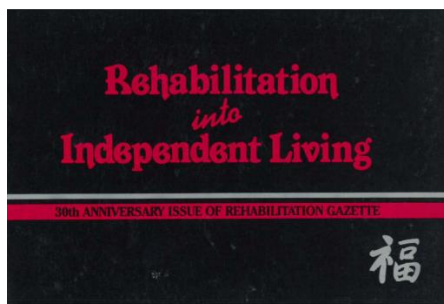


Title - Innovation Motivated by Biodiversity

By Invisible Illness Inc.

Leslie Miller, Founder and Director; Angelica Munyao; UX Design Consultant

- **Historical Treatment and Perception of Disability and Chronic Illness:**
- Despite fluctuations in extremes, people with disabilities have been at best tolerated and at worst killed for their differences throughout history. For context on why advocacy and education is essential to biodiversity, look to the extent you choose into these sources
- **WARNING:** Disturbing & potentially triggering language & information about the historical abuses faced by disabled individuals. A valuable, but harrowing timeline of the treatment and perception of people with disabilities or chronic illness can be found on the South Adirondacks Independent Living website: <https://sailhelps.org/a-brief-timeline-of-the-history-of-disabilities-the-shameful-treatment-of-people-with-disabilities/>
- Disabled Advocates fought for the creation of numerous organizations that exist under different names today but are still fighting for equal rights for the community, with a long way to go.
- Place: <http://www.polioplace.org/GINI>



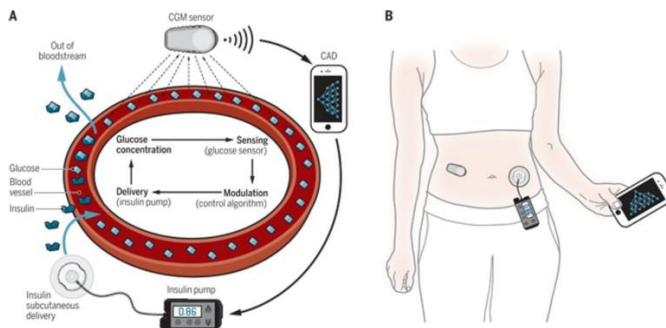
- **Figure 1: Rehabilitation Gazette-** International Journal of Independent Living by and for Persons with a Disability was a newsletter written almost entirely by disabled individuals, primarily Polio survivors using iron lungs, and was one of the first account of peer-to-peer advice written by disabled people on the supports they utilized to return to a quality of life they were content with. Over a dozen issues are available to read through Polio

- **Past and Current Innovations in Access Technology:**
- A few examples of technology currently being used every day inspired or created by Individuals with disabilities or chronic illnesses that have supported strides in autonomy as well as technological progress



- **Figure 2: Hanson's Writing Ball Keyboard-**

- The Principal at the Danish Royal Institute for the Deaf wanted to devise a way for his deaf students to type as fast as they could fingerspelled. This evolved into the first typewriter!



- **Figure 3: Pancreas simulating "closed loop" insulin delivery & glucose monitoring systems-**

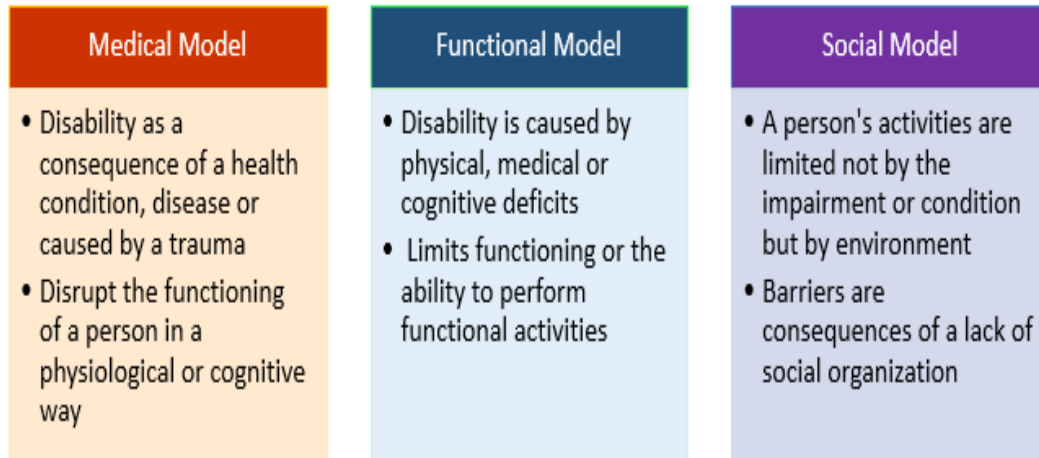
- Uses biosensors to continuously monitor blood sugar levels while communicating with a separately attached insulin pump, all connected through the user's smart phone. Developed and advocated for by the Diabetic Community by "hacking" existing glucose monitors and insulin pumps.



- **Figure 4: Cochlear Bluetooth-** Artificial hearing devices such as Cochlear Implants and Hearings aids can sync with other devices through Bluetooth like receiving calls or listening to music through direct connection.



- **Figure 5: Dictation Software-** Uses voice recognition and AI to enable voice to text and text to voice. Used by a range of individuals, those with physical impairments to writing, cognitive impairments to reading, or by doctors with both or neither impairment to dictate notes during patient visits
- **Current Treatment and Perception of Disability and Chronic Illness:**
- There has been significant progress in the fight for civil rights and equal access thanks to years of work by advocates. While it is more likely that individuals with disabilities will get into colleges or get hired at companies, retention rates are still problematic due to poor social understanding of the diversity of disability, lack of wider education on access technology or accommodations, and self-advocacy amounting to the time commitment of a part time job, without the pay.



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➤ **Figures 7:** The three different models of disability

➤ **Medical Model**

- Disability as a consequence of a health condition, disease, or trauma caused by disease
- Disrupt the functioning of a person in a physiological or cognitive way

➤ **Functional Model**

- Disability is caused by physical, medical, or cognitive deficits
- Limits functioning or the ability to perform functional activities

➤ **Social Model**

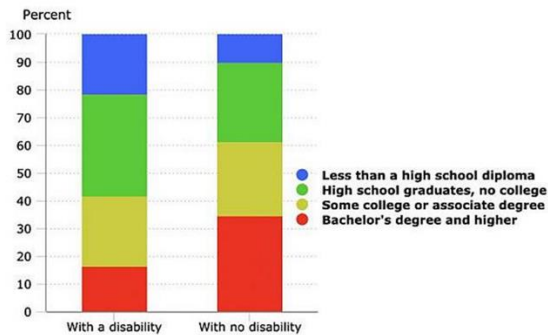
- A person's activities are not limited by the impairment or condition but by environment
- Barriers are consequences of social organization

➤ All models are not comprehensive but looking at them together gives a good idea of the biases and understandings we are looking to shift.

➤ The social determinants of health and the social model of disability frame biodiversity as a natural aspect of life and introduce the idea of society being partially to blame for exacerbating or in some cases creating disability where there is only difference. This creates room for

external improvement, whereas the medical model exclusively focuses on internal, to a fault.

Educational attainment of people age 25 and older with and without disabilities, 2014 annual averages



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➤ **Figure 8:** A graph on education of individuals with and without disability

➤ **Outlook for Treatment and Perception of Disability and Chronic Illness:**

➤ There are social and cultural markers that indicate that rights and access for people with disability and chronic illness could go either way depending on acceptance and allyship from people without disability or chronic illness. A few positive signs

➤ The push for disability as diversity and the general shift towards biodiversity as a necessary and beautiful aspect of life

➤ Precision health and the shift towards designers consulting actual people living with the problems they are trying to solve instead of assuming their perspective and experience is universal

➤ Not only is there a president with an invisible disability, but there is a disability rights organization in every state.

➤ Many colleges have Disability Service Offices now or are building them

➤ Innovation of existing technologies to benefit disabled and chronically ill individuals

➤ However, there are some concerning indicators as well. To name a few:

- Disabled and Chronically ill individuals still face numerous legal barriers to getting married and starting families and are deemed unfit parents due solely to the existence of disability or chronic illness
- Price-gouging of life-preserving or life-saving medications and devices has resulted in death in numerous cases with minimal legislative solutions (more on website)
- Disregard by many of the chronically ill, disabled, & the elderly during the COVID19 Pandemic



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➤ **Figure 9:** Nurse oversees VR assisted Therapy

➤ **Invisible Illness Inc.'s Plan for Empowering the Current and Next Generation of Biodiverse Innovators:**

- Once raising the required funds for filing, we plan on applying for 501c3 Nonprofit status to begin our work of creating a platform to develop the self-advocacy skills and community connections essential to thrive living independently.
- Drawing from experience and expertise, our team plans to partner with numerous support organizations to incorporate accessible design and inclusive language into existing infrastructure through curriculum, event, and product consultation to start including more biodiverse perspectives
- Cultivating a comprehensive resource hub that both supports access to resources and employs disabled and chronically ill experts in their respective fields, while providing channels for feedback on the solutions or resources that matter most to fight for
- For information on more Invisible Illness Inc. goals, active projects, and programs we will be piloting after reaching nonprofit status, please visit www.invisibleillnessinc.com

- For open positions or to partner with us on a project , reach out to invisible.illness.inc@gmail.com

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