Bridging the Divide: Non-communicable and Infectious Diseases in a Changing Global Health Landscape

Why this matters now

For too long, global health has treated infectious diseases, non-communicable diseases (NCDs) and mental health as separate challenges. Outdated assumptions have left critical blind spots in prevention, research, and policy. There has been a misunderstanding that infectious diseases can be “cured” and once cured, individuals move on without any problems.

However, new scientific insights are revealing that infections have long term chronic consequences such as cancer, heart disease, and lung disease. Historically, connections between pathogens and diseases were discovered one pair at a time. The advent of big data, recent establishment of large-scale national biobanks and the general shift to electronic health records is enabling the concurrent analysis of multiple pathogen-disease pairs and the emergence of a growing number of links between infectious diseases and NCDs.

Infectious and chronic health conditions are deeply intertwined and present under-recognized risks:

- Individuals often live with both conditions at the same time.
- Many infections leave **lasting damage** long after the acute illness subsides—contributing to cancer, heart disease, lung disease, and mental health conditions.
- Globally, an estimated **13% of cancers are caused by infections.** The incidence is even higher in Africa, where at least one quarter of cancers are caused by infectious agents such as human papilloma virus (HPV), hepatitis B, and hepatitis C.
- **Premature cancer mortality** due to cervical cancer caused by HPV ranks among women’s highest in the world, usually first or second. Over 80% of those premature cancer deaths occur among women living in low-income countries.
- Infectious diseases such as HIV play an important role in the **development of or acceleration of heart disease**. They increase risk by directly damaging heart tissue, triggering a harmful immune response, and worsening existing cardiovascular conditions.
- Conditions like **Long COVID and diabetes-TB interactions** highlight how infection and chronic disease fuel each other.
- The **leading congenital birth defect**, associated with multiple, life-long chronic disabilities is caused by rubella infection in pregnancy.

Addressing mental health is key to preventing and managing infection-related sequelae and NCDs—especially when conditions like depression heighten vulnerability to infections. Mental illness disproportionately impacts marginalized and underserved populations. Despite its staggering burden and exacerbation of other diseases, mental health is often underfunded or ignored in policy frameworks. In low-income countries, mental health receives only 1–2% of health budgets.

The Challenge: Fragmented Systems

Global health strategies are still built around a two-track model: infectious diseases on one side, non-communicable diseases on the other. Existing silos between infectious and non-communicable disease contribute to fragmented policies and **lost opportunities for comprehensive prevention and care**. This is

particularly problematic in low- and middle-income countries, where the diagnostic, treatment, and health system capacities are frequently overstretched and vulnerable to the compound effects of coexisting burdens.

This fragmentation has consequences:

- **Missed prevention opportunities**: Infection control is rarely framed as NCD prevention, even though vaccines against HPV and hepatitis B directly prevent cancers.
- **Duplicated resources**: Programs for HIV, TB, cancer, cardiovascular disease, and mental health often run in parallel, competing for staff, labs, and budgets.
- **Patient burden**: Individuals living with multiple conditions must navigate different clinics, medicines, and follow-up schedules—making care harder to access and adhere to.
- **Inhibited understanding of disease**: Stark epidemiological separation continues to shape how research is conducted, funds are allocated, and policies are developed. The persistent separation obscures the reality that individuals often suffer from both types of illness simultaneously and that their interrelations impact health outcomes.
- **Policy inertia**: Because funding and research are siloed, innovations in one field (e.g., viral vaccines) are not leveraged to improve health outcomes in another. Breaking down these silos is crucial for more effective and equitable policy-making.

Why Integration is a Game-Changer

Collaborative care models yield better outcomes for physical and mental health alike, and are scalable across low- and middle-income settings.

An integrated approach would:

- **Strengthen prevention**: Treating infection control as NCD prevention opens the door to cost-effective, scalable interventions.
- **Improve efficiency and cost-effectiveness**: Shared diagnostic platforms, workforce training, and care pathways reduce duplication and stretch scarce resources further.
- **Advance equity**: Integrated services make it easier for vulnerable populations to receive holistic care in one setting—crucial in low-resource countries where both burdens are highest.
- **Future-proof systems**: Integrated surveillance and research can spot new infection-linked risks earlier, from Long COVID to emerging cancer pathogens.

The Opportunity

We now have the tools to act decisively:

- **Vaccines against HPV and hepatitis B** can prevent cervical and liver cancers—saving millions of lives and reducing inequities where the disease burden is highest among the world's poor.
- **Economies of scale**: The technologies used to create these vaccines are similar (recombinant platform technology) and have the potential to make prevention affordable, highly cost-effective and scalable.
- **Mental health integration** offers multiplier benefits, since depression and other conditions increase vulnerability and worsen outcomes for both infectious and chronic diseases.

A Call to Policymakers

The time to act is now. By bridging the artificial divide between infectious, chronic, and mental health conditions, we can: Save lives, reduce inequities in cancer, cardiovascular disease, and mental health outcomes, and build resilient health systems. It is time to shape the next generation of global health policy—one that acknowledges the full picture of disease and delivers on equity, prevention, and impact.