Chapter 18
Perinatal and Early Childhood Development: Education, Innovation, and Sustainable Development Goals

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ABSTRACT
This chapter looks at the systems approach in addressing the dilemma of investing in neonatal health in resource constraints environment. Is investing in neonatal care the key to attaining sustainable development goals? Is it just or even just to invest in Neonatal care in the midst of competing interests? It applies causal loop diagrams as part of systems dynamics approach in seeking to identify the intended and intended consequences of investing in Neonatal Health. A look into countries have done well in Neonatal health and their investment early childhood education is done in order to give insight into the relationship between the investments.

INTRODUCTION
Perinatal deaths continue being a challenge in the world and especially in developing countries where many interventions have been proposed (Michalow et al., 2015) (Rudan et al., 2010) (Jimenez Soto et al., 2012) with varying outcomes. The WHO and UNICEF in a bid to provide leadership in ending preventable perinatal deaths, improve child development as well as human capital, proposed the Newborn impact framework (Figure 1), (WHO & UNICEF, 2014) a reflection of similar consulted efforts to address the challenges.
The framework, although good, does not depict the multiple interconnectedness and feedback mechanisms between the different components and hence may not reflect the reality of both intended and unintended consequences of the proposed interventions.

The interdependence and interconnectedness of neonatal health with other systems requires investigation in the context of a wider whole system. The dynamic complexities of contemporary health care setting, the demographic shifts and well as the demand for sustainable development demands increasingly innovative solutions in a resource constrained environment.

Decision making on neonatal health needs to be based on a deep understanding of the whole system behavior and underlying structure. The need to see both the forest and the trees in the grand scheme of things is paramount. Incorporating multiple perspectives not only creates awareness of the intended and unintended consequences of neonatal investment but also demonstrates the need for a multi-sectoral approach through feedback loops and non-linear relationships. Neonatal health’s contribution to Sustainable Development Goals (SDG) can only happen in an environment characterized by good governance, transparency, accountability and the rule of law (IISD, 2019) (Hjorth & Bagheri, 2006) (Schmidt, Gostin, & Emanuel, 2015).

System Dynamics (SD), the origin of the current trend of ‘whole systems thinking’ may provide thinking skills that help to understand the multiple interconnections of complex systems (Wolstenholme, 2005).

This chapter applies SD approach to describe the connectedness between neonatal health and selected significant subsectors: education and training, innovation, income and Universal Health Coverage (UHC) in the context of SDG. The chapter seeks to answer the following questions: