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Personal Draft Problem

In Ethiopia, non-communicable diseases (NCDs)—such as diabetes mellitus, hypertension, and cancer—account for 42% of all deaths. To address the growing burden of NCDs and other healthcare challenges, the country introduced a major healthcare financing reform in 1998 to expand access to primary healthcare services. This reform introduced several key measures, such as allowing health facilities to retain and reinvest their revenue in service quality improvements.

Previously, all revenue was funneled into the central treasury and redistributed through the government budget. The new approach led to increased availability of essential medicines, improved diagnostic capabilities in health facilities, and overall enhancements in healthcare service delivery.

Despite these reforms, Ethiopia's healthcare system remains fragmented. High out-of-pocket expenditures continue to limit access to healthcare services, particularly for lower-income populations. To address these persistent challenges, Ethiopia is now implementing a second-generation healthcare financing reform aimed at improving financial protection and healthcare access. Key interventions in this reform include reducing out-of-pocket spending by negotiating with public and private health service providers, strengthening supply chain management in public health facilities to ensure essential drug availability, and enhancing capacity development for sustainable healthcare financing. Additionally, the reform seeks to strengthen public-private partnerships to optimize healthcare service delivery.

For this project, the goal is to develop a model that captures treatment uptake among patients with NCDs, focusing on three conditions: 1) cervical cancer, 2) hypertension, and 3) diabetes mellitus. However, this project may initially focus on one of the three NCDs. Treatment uptake is influenced by multiple factors, including healthcare system capacity, patient satisfaction, and insurance enrollment. The model will incorporate various policy levers and assess the impact of healthcare financing reform components on treatment uptake for NCD patients.

Commented [AA1]: Hannah, sorry for my delayed feedback. I have reviewed your draft, and it's an interesting topic you're going to work on. But I have some thoughts that I'll share.

First, you mention the issue of access and some government interventions to improve it. But you may want to explain how these changes have impacted (or contributed to) the 42% of total deaths. Also, is that 42% the 2025 data? Or is it for 1998? I think explaining how death rate has changed over time because of interventions would help a lot.

Commented [AA2]: In the 'previous approach,' didn't the health facilities have a chance to use the redistributed budget in their investments? Does this mean that in the "total" health sector, the investment rate was lower? See my next comment, which could be related to this.

Commented [AA3]: There are a lot of moving parts in your description, which might make it hard for a concrete SD modeling exercise. You might've already improved it in the revised version, but here's what I would do. I would focus on one or two tangible items like 'capacity' or 'access' that drives the main dynamics of the problem given everything else being constant. For example, suppose that out-of-pocket is very low, hypothetically. If there's no healthcare 'capacity' you would have more people dying from the NCDs. Now, I picked capacity, because it seems that most of these policy interventions try to address this or a byproduct of it. Then, you can think of a budget (available fund) that can be invested in capacity.

But I think there are certainly some trade-offs and challenges. For example, capacity development involves time delays. In addition, you may invest in expanding your health care facilities, but this would reduce your available fund that you could allocate to have a better supply chain for drugs. At the same time, if you invest more in your drug supply chain, you would have fewer health facilities, which will not generate enough money for future investments. I would consider elements like these so that some feedback mechanisms are also included in the problem definition implicitly.

Commented [AA4]: I agree. I would simply if it as much as possible. Also, I wouldn't include intangible measure like patient satisfaction in the first place. Again, I think this is an interesting topic, and you might've already done it, but it requires to be simpler by focusing on tangible measures and some explanation of what have changed over time with those issues (for example, capacity have increased sharply after the 1998 reform, but it stopped etc.)

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