

The Disease Burden of Hepatitis B in Republic of Uzbekistan: Strategies Providing Hope for the Future

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BACKGROUND

In July of 2017, in the Republic of Uzbekistan, the Cabinet of Ministers made a Decree to provide additional measures to prevent the spread of infectious diseases. This expansive decree specifically addresses the need to gradually increase the diagnosis of the hepatitis B virus (HBV).

OBJECTIVE

This study aims to quantify the current and future disease burden of HBV in the Republic of Uzbekistan, while exploring two scenarios to mitigate the costly later stages of the disease.

METHODS

A literature review was conducted and expert consensus regarding inputs was built at an in country meeting in September 2017.

The PRoGReSs model, a dynamic country-level transmission and disease burden model was used to estimate the impact of perinatal prophylaxes, treatment, aging and disease progression and mortality in the infected population.

A scenario was then developed with stepwise increases in screening and treatment in a manner that is compatible with the current health care system resources.

A second scenario was created to meet the Global Health Sector Strategy for Viral Hepatitis targets of 90% of the infected population being diagnosed and 80% of those diagnosed and eligible receiving treatment.¹

RESULTS

Base Case

- In 2015, it was estimated that 8.1% of the population was HBsAg+. This correlates to an estimated 2.5 million (UI: 1.3-3.7) infected individuals in 2016.
- Due to high levels of vaccination and an aging infected population, the prevalence in the future is expected to decline.
- In the absence of additional interventions, HBV-related morbidity and mortality are expected to increase (Figure 1).

Inc Tx

- It was estimate that the number of individuals annually diagnosed could stepwise increase to 80,000 individuals by 2025 and beyond, and that treatment could be stepwise expanded to almost 140,000 individuals by 2025 and beyond (Figure 2).
- This scenario would cause reductions in morbidity and mortality, saving 7,600 lives and averting 7,300 new cases of hepatocellular carcinoma (HCC).

WHO 2030

- Treatment and diagnosis were increased to meet the 2030 targets for diagnosis and treatment.
- This required diagnosing almost three times as many individuals annually by 2025 and treating almost seven times more individuals as compared to the "Inc Tx" scenario.
- This scenario would avert nearly 15,400 new cases of HCC and save almost 14,600 lives.

Figure 1. HBV Related Morbidity and Mortality in the Republic of Uzbekistan, 2016-2030

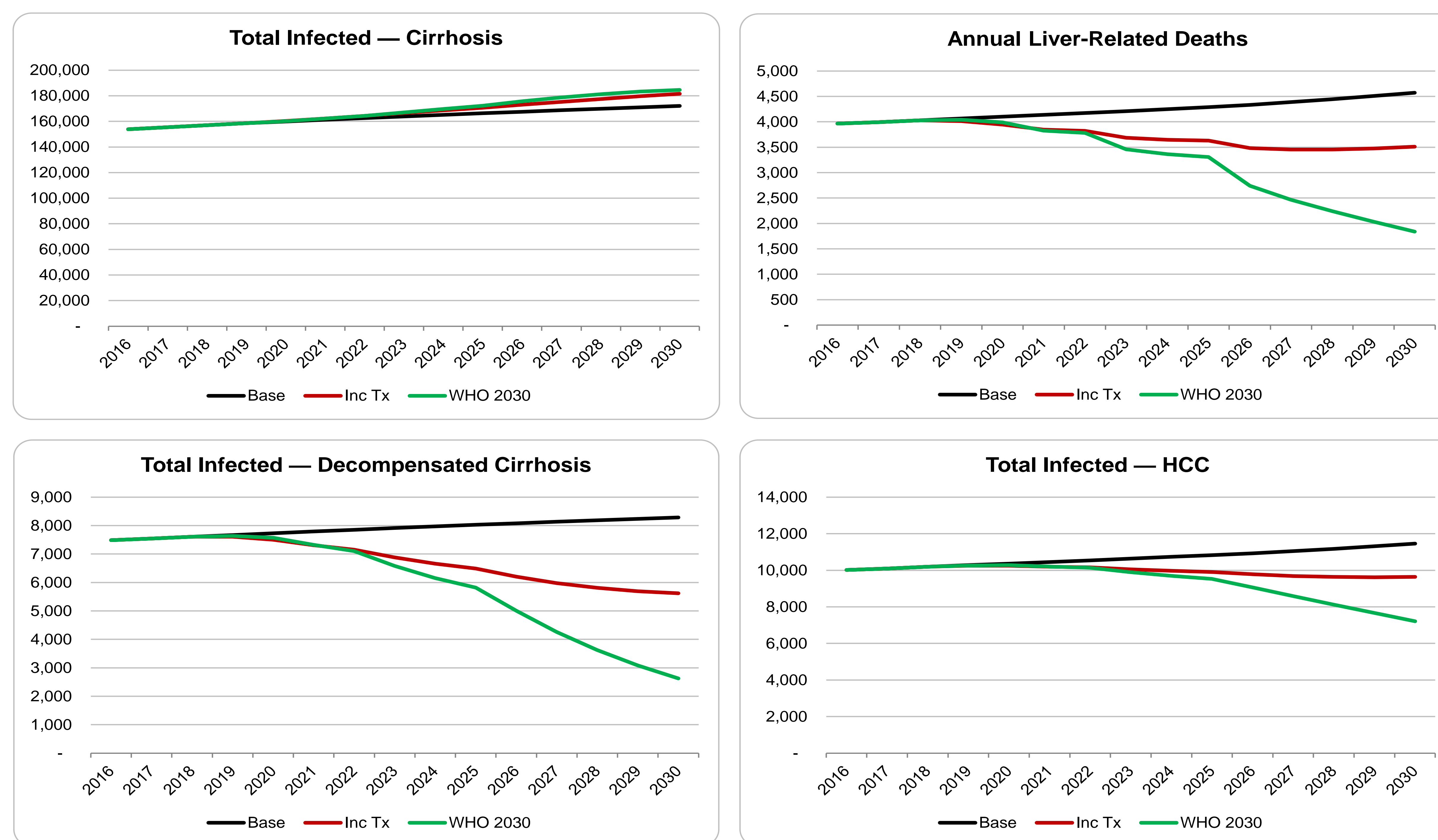
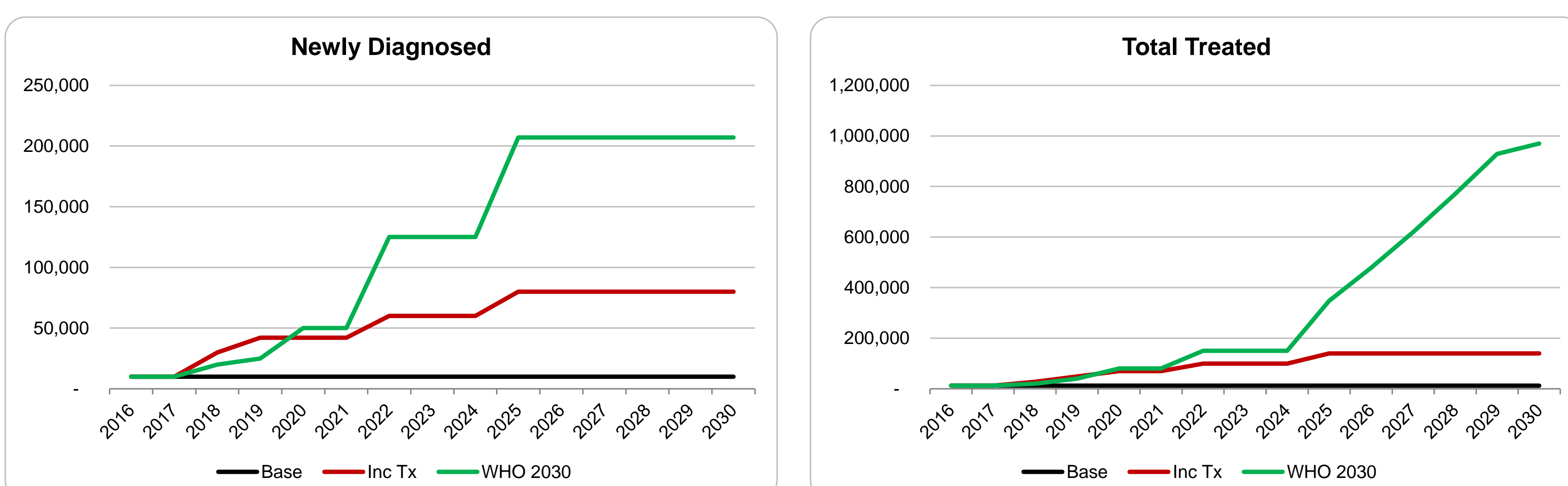


Figure 2. Newly Diagnosed and Total Treated per Year by Scenario, 2016-2030



REFERENCES

1. Global Health Sector Strategy on Viral Hepatitis 2016-2021. Geneva: World Hepatitis Organization; 2017

CONCLUSIONS

The Decree of the Cabinet Ministers came at a pivotal time and has the foresight to put measures in place to mitigate the disease burden of HBV in the Republic of Uzbekistan. With the current capabilities of the health care system, a large impact can be made and 7,600 lives can be saved.

The much more aggressive scenario provides evidence of what could be possible but is not currently feasible, as it would require large investments not only for the treatment and diagnosis, but also in the infrastructure to support such an aggressive program as well.

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