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BACKGROUND

The Republic of Indonesia is comprised of more than 17,000 islands, which are home to a total of 250 million people. In 2013, the Indonesian National Health Survey (Riskesdas) found an anti-HCV prevalence of 1.0%, with a prevalence among children and adolescents (1-14 years of age) of 0.6%.¹ Despite this high prevalence, in 2016, only a small proportion of patients were treated, and treatment was limited to interferon-based regimens.²

In order to support strategic planning for HCV elimination by 2030, treatment and diagnostic targets are needed.

OBJECTIVE

This study sought to quantify the burden of HCV and identify strategies to eliminate HCV from Indonesia.

METHODS

- The current and future disease progression of the HCV infected population were forecast using an Excel-based Markov model.
- The impact of intervention strategies, (including prevention, treatment and screening) on the projected disease burden was measured.
- A scenario was developed to meet the Global Health Sector Strategy targets of a 90% reduction in new cases, 90% diagnosed, and 65% reduction in liver related deaths by 2030.³

RESULTS

Base, treat 600 per year:

- The average age of the HCV infected population in Indonesia is 40-44 years.
- Over the next 13 years, all cause mortality, liver related deaths and treatment will result in a <5% reduction in HCV infections.
- The number of patients with end stage liver diseases and liver related deaths will increase by more than 55%, as the infected population ages (Figure 1).

Table 1. Scenario inputs, 2015-2030

	Past efforts		Future efforts required for elimination			
	2015	2016	2017	2019	2021	2023
Treated	230	600	15,000	60,000	80,000	95,000
Newly diagnosed	12,100	18,000	30,000	72,000	80,000	95,000
Fibrosis stage	≥ F0	≥ F2	≥ F1	≥ F0	≥ F0	≥ F0
New infections	24,100	19,300	14,500	10,100	5,000	2,300
Treated age	15-64	15-64	15-64	15-69	15-69	15-74
SVR	77%	87%	95%	95%	95%	95%

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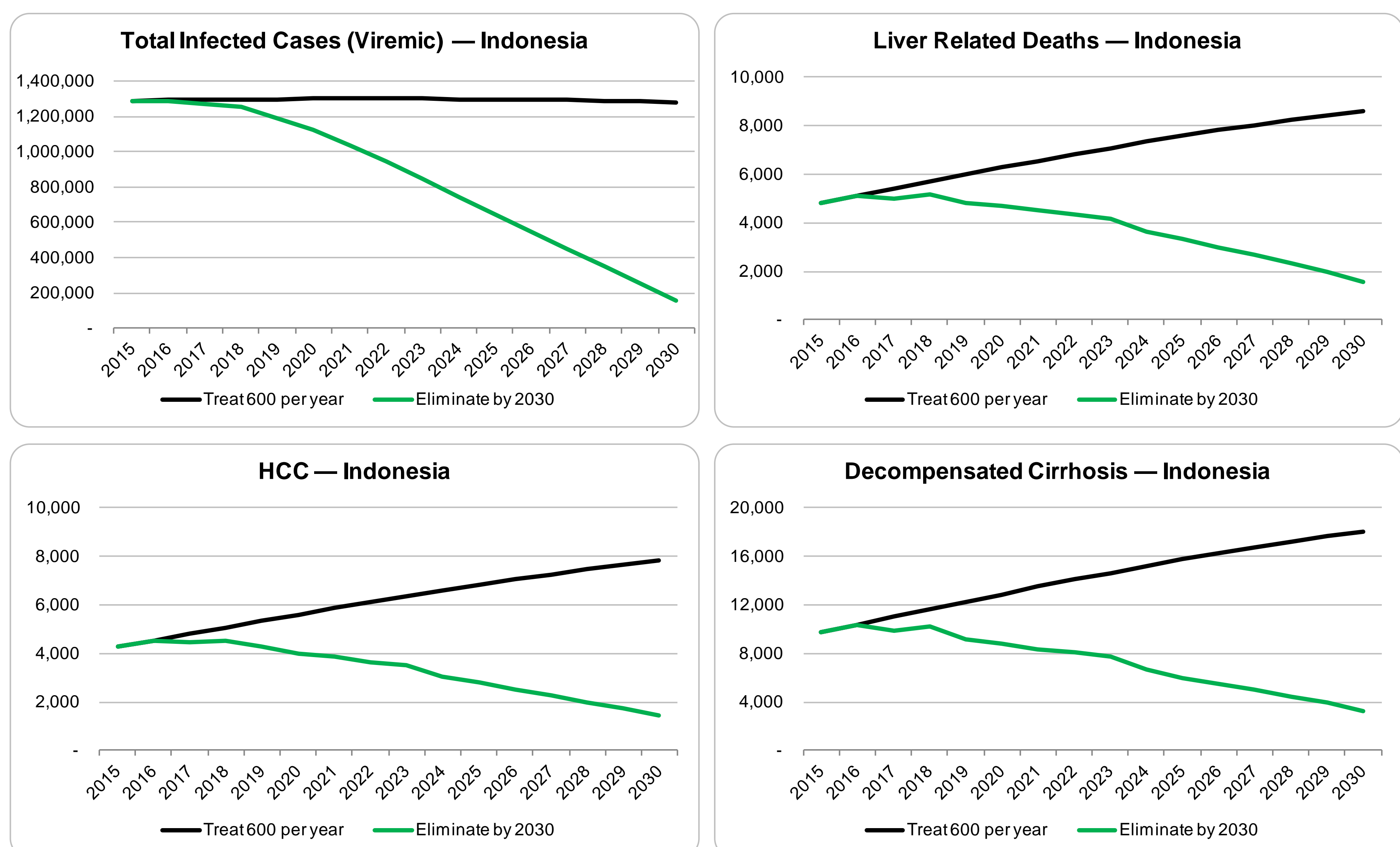
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RESULTS, CONTINUED

Elimination by 2030:

- Achieving the global health sector strategy targets for the elimination of HCV requires a comprehensive approach including increased prevention, diagnosis and treatment, as shown in Table 1.
- In the short term (before 2020) enhancing screening and linkage to care will be especially important, in order to ensure there will be enough patients to treat.
- After 2020, a test and treat paradigm will be necessary. The resulting impact of these measures on disease burden is shown in Figure 1.
- To reach a 90% diagnosis target, a total of 1.09 million cases of HCV will need to be diagnosed between now and 2030.
- Over the same time frame, 1.07 million patients will need to be initiated on high SVR (≥95%) therapies in order to meet the mortality targets.

Figure 1. HCV Related Morbidity and Mortality in Indonesia, 2016-2030



CONCLUSIONS

Indonesia's large population and many islands present unique challenges for viral hepatitis elimination. Further complicating these elimination efforts is the relatively small number of hepatologists (approximately 165) available to care for the >20 million HBV and HCV patients.

Despite these limitations, the Indonesian government has expressed a commitment to addressing viral hepatitis. In 2012, a Hepatitis Control Program was officially designated within the Ministry of Health, and in 2015, this was secured by the Ministerial Decree on the National Control of Viral Hepatitis.⁴ Beginning in 2017, Government assistance programs provided testing and treatment with direct-acting antiviral therapies for 6,000 patients.

This analysis supports strategic planning by outlining the number of patients to be diagnosed and treated, both annually and cumulatively, in order to achieve elimination.

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