

## EGYPT

**SITUATION** Egypt has the highest prevalence of hepatitis C (HCV) in the world. Between the 1950's and 1980's, the government waged an aggressive control campaign to eradicate a blood parasite, resulting in approximately 36 million injections - often administered with unsterile needles - and causing the infection of millions of Egyptians. Since HCV takes typically takes [20-30 years](#) to advance to cirrhosis, many of those infected as children decades ago are just now facing most severe stages of the disease. This caused a tremendous disease burden which was compounded by expensive, older therapies that weren't accessible to large portions of the population. A diagnosis of liver cancer or cirrhosis of the liver was often fatal in Egypt.

In 2013, seven percent of the population was chronically infected with HCV. The National Viral Hepatitis Committee intended to invest in treatment starting in 2008, but by 2011 only 3 percent of the infected population was treated and less than 2 percent had been cured. Prior to the Center for Disease Analysis's (CDAF) involvement, the total health and economic burden hadn't been fully quantified or explained.

**OUR WORK** CDAF, along with its Polaris Observatory team, conducted an economic analysis that accounted for both direct costs (healthcare, screening, diagnostic and antiviral therapy costs) and indirect costs (costs based on disability-adjusted life years or DALYs), which showed that it would cost Egypt US\$90 billion over a 15-year period if the government kept the status quo. But in the past several years, treatment costs have begun to decline, which allowed us to develop new scenarios.

CDAF worked with Professor Imam Waked from the National Liver Institute in Egypt to develop an economic analysis and strategies to eliminate HCV. Our new plan of action began in 2014 with a goal of treating 300,000 patients annually, with cost subsidies for four years. After seeing successes, the plan continued each year. In 2016, 577,000 patients were treated and the plan expanded to include patients at all stages of disease, even those without any HCV-related consequences yet.



**LOOKING AHEAD** Our modeling work showed that meaningful reduction efforts are feasible if the right steps are taken. Removing cost barriers and increasing access to treatment has a positive public health effect and indirect benefits to the economy. Curing more people leads to a more productive society and a generation that can work longer.

**NEXT STEPS AND TAKEAWAYS** The next step is to start screening the younger population. With the median age of Egyptians at 24 years, it's necessary to increase treatment in the next generation. In order to treat, you must diagnose. In Egypt, almost everyone is affected by viral hepatitis in some way - whether it's their own diagnosis or a family member's. Our work in Egypt demonstrated the importance of providing access to treatment at all levels of the population and more specifically our model identified the need for awareness and more screening in the country ([link](#)), as well as increased efforts to reduce disease transmission and new infections.

**“I had the pleasure to collaborate with a research group from the CDA and the Polaris Observatory on several occasions over the past 5 years, and our collaboration has had a tremendous impact on hepatitis C management in Egypt. Their work so far has had a great impact on hepatitis C disease all over the world (and particularly so in Egypt), and will probably continue to positively impact global health.”**

***Imam Waked, MD, FAASLD, Professor of Medicine, National Liver Institute Menoufiya University, Egypt***