



engage

Engineering Accessible Global Equipment

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Summary

Engage develops medical technology for developing countries with a shortage of resources, initially through the product SafeShot to reduce the spread of blood borne diseases.

Problem

More than 16 billion injections are administered yearly in developing countries, and *seven billion* of these injections are given with contaminated equipment¹. This equipment is often used, and then rinsed in water before reuse with the next patient. According to the World Health Organization, in 2012 this resulted in approximately 21 million Hepatitis B, 2 million Hepatitis C, and 210,000 HIV infections¹. Annually, unsafe injections result in 1.3 million early deaths, a loss of 26 million years of life, and \$535 million in direct medical costs¹.

Solution

SafeShot, a Class I FDA medical device, is a tamper resistant cap that attaches to multi-dose vials. Needles are sterilized each time they pass through the cap to reduce the spread of blood borne diseases. Initial laboratory testing shows ethanol sterilizes a needle contaminated with E. coli in less than one second.

Target Market

Engage will target non-governmental organizations (NGOs) purchasing or distributing injectable medication in developing countries. This includes Project HOPE, The Gates Foundation, and UNICEF. In 2014, Project HOPE donated more than 100,000 doses of vaccines to developing countries². This year alone, the Gates Foundation has donated \$1.5 billion to the Gavi Alliance for vaccine distribution³. Lastly, UNICEF purchases 40% of all vaccines distributed in developing countries⁴.

Market Analysis

SafeShot is in the IBISWorld medical instrument and supply manufacturing market. This market generates annual revenue of \$105 billion and annual profit of \$11 billion. Approximately 16 billion injections are administered every year in developing countries. If all are given with ten dose vials, there are 1.6 billion multi-dose vials in developing countries alone that require this product. Each SafeShot cap will sell for an estimated \$1.00, allowing Engage to obtain up to 10% of this market.

Competitors

Competitors include companies manufacturing smart syringes such as Helm Medical GmbH and SafeGard Medical. Smart Syringes can only be used once before permanently closing on themselves. Another competitor, Sterimatic, sells a detachable product similar to SafeShot that prevents bacterial infections in large farm animals.

SafeShot Advantage

Engage offers the only solution that accounts for both limited supplies and a difference in cultural behavior. Once medical supplies, like smart syringes, are exhausted, clinics in developing countries are forced to reuse equipment, which is a typical behavior in these countries⁵. Also SafeShot, unlike Sterimatic's product, is non-removable and protects from both blood borne and bacterial diseases.

Revenue Model

After FDA approval, estimated in 2019, the device will be ready for market within six months. For the first year, projected as 2020, the target is to attach caps to 1% of the 1.6 billion vials sent to developing countries, generating \$16 million in revenue. Future distribution targets are 2% the second year, 5% the third year, then increasing exponentially to reach 100% by the tenth year.