

# EMERGENT BioSolutions Inc.: A Lodestone Amongst Pebbles—Addressing Public Health Through Vaccines

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## WHO IS EMERGENT

Established in 1998, Emergent BioSolutions built its 20-year reputation on enhancing and protecting the lives of the community through the delivery of solutions for public health threats. Established from a foundation in manufacturing, Emergent has evolved into a globally recognized leader in specialty vaccine and therapeutic technology and development. Emergent has been providing the U.S. Government (USG) with a high quality and reliable supply chain for medical countermeasure solutions.

A testament to Emergent's ability to deliver public health threat solutions was evident through its partnership in 2012 with the Biomedical Advanced Research and Development Authority (BARDA), whereby Emergent entered into a public-private partnership to establish the Center for Innovation in Advanced Development and Manufacturing (CIADM). The CIADM facilitates advanced development of chemical, biological, radiological, and nuclear (CBRN) medical countermeasures for public health threats and ensures domestic manufacturing surge capacity to address the USG's preparedness priorities and needs.

In 2018, Emergent BioSolutions placed itself on center stage in the opioid crisis through its purchase of ADAPT PHARMA. This investment brought NARCAN® (Naloxone HCL) Nasal Spray, furthering Emergent's sustained commitment to public health.

That same year Emergent BioSolutions broadened its scope of business into travel health with the acquisition of PaxVax Inc. This further strengthened Emergent's position within infectious diseases and placed Emergent at the forefront of protecting the health of travelers as they visit areas of endemic disease. Among the acquired products are 2 oral vaccines to help in the prevention of travel-related bacterial infections: Vaxchora® (Cholera vaccine, Live, Oral) for the prevention of cholera and Vivotif® (Typhoid Vaccine Live Oral Ty21a) for the prevention of typhoid fever.

## BIODEFENSE SOLUTIONS

### Medical Countermeasures

Emergent partnered with the USG to supply the nation's only approved anthrax vaccine, BioThrax® (Anthrax Vaccine Adsorbed). Emergent has gradually grown from a one site, one product company to become a leader in providing medical countermeasures to the USG and other international partners. With the purchase of Cangene Corporation in 2014, a number of hyperimmune products were added to Emergent's portfolio to combat anthrax (Anthraxil® (Anthrax Immune Globulin Intravenous (human)), botulism (BAT® [Botulism Antitoxin Heptavalent]) and vaccinia vaccine side effects (CNJ-016® [Vaccinia Immune Globulin Intravenous]). In 2017, Emergent added ACAM2000® Smallpox (Vaccinia) Vaccine, and raxibacumab (anthrax monoclonal antibody) to

## CUTTING EDGE TECHNOLOGY FOR PUBLIC HEALTH PREPAREDNESS

- 1800 Employees
- 10 Marketed Products
- 19 Global Locations
- 15+ Pipeline Products



grow and strengthen its poxvirus and anthrax portfolios. Emergent continues to partner with the USG and others to address public health threats to build its own robust pipeline against a variety of potential biodefense agents including the hemorrhagic fever viruses such as Lassa, Ebola and Marburg.

## POLYCLONAL ANTIBODIES

### Hyperimmune Platform

Hyperimmunes work through passive immunity to provide immediate protection to people, including vulnerable populations.

Emergent has experience with developing and licensing hyperimmune products. It has two well-established hyperimmune platforms (human and equine) that support several FDA-licensed products targeted to specific indications.

Notably, both of Emergent's hyperimmune platforms are being leveraged to respond to the



COVID-19 pandemic caused by the SARS-CoV-2 virus.

## TRAVEL HEALTH AND TROPICAL MEDICINE

### Infectious Diseases

The number of people traveling internationally continues to increase each year. Travelers may be at risk for contracting infectious diseases. Travelers who become ill experience disruptions to their trip and may suffer serious complications or lasting side effects. Emergent BioSolutions aspires to give travelers peace of mind by producing vaccines to protect against the threats of emerging and existing infectious diseases as they consider their travel health prior to traveling.

Emergent BioSolutions holds the license to the two FDA approved oral vaccines Vaxchora® and Vivotif®, to help prevent cholera and typhoid fever, respectively. In Europe, Vaxchora® is centrally approved by the European Commission while Vivotif® is approved by 18 national health authorities. Additionally, Emergent has a strong pipeline of candidate vaccines, including chikungunya virus-like particle (CHIKV VLP) and Shigella-ETEC vaccines.

Emergent BioSolutions continues to leverage its expertise in vaccine development, hyperimmune platform and diverse manufacturing and technologic capabilities to accomplish its overarching corporate strategic goal to protect and enhance one billion lives by 2030.

