

# Researchers join forces to cure deadly childhood disease

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The Center for World Health and Medicine at Saint Louis University and the Institute for OneWorld Health have established a joint research agreement to develop new drugs to combat diarrhea, which is the second leading cause of death worldwide in children under age 5.

Each year more than two million [children](#) in developing countries die from diarrheal diseases, which are caused by a wide range of bacterial, parasitic and viral pathogens. These organisms can be particularly virulent in the developing world, which is plagued by poor sanitation, unclean water, malnutrition and a lack of knowledge about how to prevent the illnesses.

Diarrhea is frequently a symptom of another disease, such as cholera and [rotavirus](#), and turns deadly in children who rapidly lose [body fluids](#), become severely dehydrated and go into shock.

"When children in St. Louis, Mo., develop severe diarrhea and become lethargic, their parents take them to the emergency room, where they are given IV fluids," said Peter Ruminski, executive director of the Center for World Health and Medicine.

"Places like rural Sub-Saharan Africa or Haiti lack adequate sanitation and access to clean water and don't have the same infrastructure that we have. Families there are not as readily able to hop in their vehicles, drive to the hospital and get hooked up to an IV to replenish vital body fluids. So if we can come up with a therapy to reduce fluid loss and get children

through the acute attack phase of their diarrheal illness, we'll have an immediate effect on the number of children who die. Our goal is to save lives."

The collaboration between the Center for World Health and Medicine and the Institute for OneWorld Health (iOWH) aims to develop safe and effective anti-secretory drugs, which inhibit the loss of fluid in the intestine regardless of the root cause of the problem. These drugs are intended to be used as an adjunct to oral rehydration therapy.

"The Institute for OneWorld Health is committed to finding treatments for cholera and other diarrheal diseases that claim the lives of so many infants and children around the world," said Richard Chin, M.D., iOWH CEO. "This partnership will bring us closer to saving millions of children who would otherwise die from treatable diseases."

Under the agreement, the Center for World Health and Medicine will provide expertise in medicinal chemistry and pharmacology to identify potential anti-secretory drug candidates for future development.

Jon Jacobsen, Ph.D., director of chemistry at SLU's Center for World Health and Medicine, is leading the effort along with Brian Bond, Ph.D., the Center's director of pharmacology, and will closely collaborate with the medicinal chemistry group at the University of Missouri-St. Louis, led by John Walker, Ph.D.

Provided by Saint Louis University

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