**Global Challenges/Chemistry Solutions**

**Promoting Public Health: Six in 10 people worldwide lack access to flush toilets or other adequate sanitation**  
  
Combating disease . . .  promoting public health … providing clean water and safe food . . . developing new sources of energy . . . confronting climate change. Hello, from the American Chemical Society — the ACS. Our more than 163,000 members make up the world’s largest scientific society. This is “Global Challenges/Chemistry Solutions: New Solutions 2013.” Global Challenges 2013 updates the ACS’ award-winning podcast series.  
  
It may be the 21st century, with all its technological marvels, but 6 out of every 10 people on Earth still do not have access to flush toilets or other adequate sanitation, according to a new study. Such “improved sanitation” protects the user and the surrounding community from harmful health effects. The research, published in ACS’ journal Environmental Science & Technology, finds that the number of people without access to improved sanitation is almost double the previous estimate.

Here’s Jamie Bartram, Ph.D., who is with the University of North Carolina at Chapel Hill and is the corresponding author:

*“The current definition of ‘improved sanitation’ focuses on separating humans from human excreta, but it does not include treating that sewage or other measures to prevent it from contaminating rivers, lakes and oceans. Using that definition, just last week the United Nations released updated estimates concluding that 4.5 billion people had access to improved sanitation and 2.4 billion did not.”*

The new estimates used what the authors regarded as a more realistic definition from the

standpoint of global health, since untreated sewage is a major cause of disease.*“We refined the definition of “improved sanitation” by discounting sewage systems that lacked access to sewage treatment. We concluded that about 60 percent of the world’s population does not have access to improved sanitation, up from the previous estimate of 38 percent.”*

**Smart Chemists/Innovative Thinking**

Smart chemists. Innovative thinking. That’s the key to solving global challenges of the 21st century. Please check out more of our full-length podcasts on wide-ranging issues facing chemistry and science, such as promoting public health, developing new fuels and confronting climate change, at [www.acs.org/GlobalChallenges](http://www.acs.org/GlobalChallenges).

Today’s podcast was written by Michael Bernstein. I’m Katie Cottingham at the American Chemical Society in Washington.