**Global Challenges/Chemistry Solutions
Supplying Safe Drinking Water: New analysis of drinking water-related gastrointestinal illness**

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 164,000 members make up the world’s largest scientific society. This is “Global Challenges/Chemistry Solutions: New Solutions 2012.” Global Challenges 2012 updates the ACS’ award-winning podcast series.

Today’s episode describes a study finding that the distribution system piping in U.S. public water systems that rely on non-disinfected well water or “ground water” may be a largely unrecognized cause of up to 1.1 million annual cases of acute gastrointestinal illness (AGI). That illness involves nausea, vomiting and diarrhea.

The study is the topic of a report in the journal, Environmental Science & Technology.

Frank J. Loge and colleagues explain that more than 100 million people in the United States rely on water piped into homes, schools and businesses from public water systems that get their water from wells, rather than lakes, rivers and other above-ground sources. Much of that water either is not disinfected at all or is not adequately disinfected to kill disease-causing viruses.

 *“In our new analysis of the risk of AGI from these well-based water supply systems, we found that contamination of distribution system piping may be responsible for 470,000 to 1.1 million cases of AGI every year. In addition, the incidence of AGI from public water systems is likely to rise in coming years.”*

So far, insufficient financial investments have been made to improve water infrastructure, and small systems are particularly at risk for lack of funds and personnel, according to the researchers.

*“As most of the national water distribution infrastructure is reaching the end of its design life in the coming decades, the frequency and health impacts of distribution system deficiencies will likely worsen.”*

**Smart Chemists/Innovative Thinking**

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