



Rotary Club of Centennial Colorado



Centennial, Colorado

April 10, 2015



I was to be provided with the information on this month's Student of the Month. The information was never received and I did not take notes during John's presentation. We have a nice picture of the Student of the Month, though.

Area Assembly. The Area Assembly for our area is scheduled for either August 5 or 12. Centennial Rotary will be dark the week of the Area Assembly. As we get more definitive information on the Area Assembly, it will be published here.

Chat Groups. Notices for the next round of chat group meetings will be sent out this week. The first two individuals on the list have responsibility for organizing the Chat Group meetings.

History Note. 75 years ago the Rotary International convention was held in Denver. During the convention, Rotary International was involved in the dedication of Red Rocks Amphitheater

Visiting Rotarians. Alfred Ali visited from Atlanta and Brian Le Blanc was visiting from Conifer.

Visitors, Mike Tamauh and Lars Hansen.

There was not a winner of the blue marble.

Our guest speaker was Christopher Shulz from CDM Smith. He was a last minute stand in for our scheduled speaker. Thank you Chris. He spoke about Guatemalan and Alaskan water treatment. In Guatemala villages are able to get water but in the process of transporting or storing the water it can get contaminated. Approximately 660 million people do not have access to improved drinking water. Approximately 2-5 billion people do not have access to sanitation. About 1.5 million children under the age of 5 die each year from the lack of proper water and/or sanitation. CDM Smith as worked on a process that allows for in-home purification and storage of water for drinking. The process uses ceramic filters to purify the water. Initially, the filter was like a flower pot in a plastic container. This process provided good water but the purification rate was very slow. They have not developed a ceramic disk that fits in the bottom of a plastic container which drains into a lower plastic container. This new and improved design has increased the purification rate and improves the quality of the water. These filters remove between 99 and 99.99% of bacteria and 75% reduction in diarrhea causing organisms.

Remote areas of Alaska also have problems with good quality water. Similar technology is being used in remote Native Alaskan villages.

2015-2016 Club Officers

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John Berry
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Fritzler
Membership Growth & Enrich-
ment—Mark Gale
Rotary Foundation—John McCarty

UPCOMING EVENTS

APRIL 12—ALEXANDRA HALL,
CO DIVISION OF LABOR & STA-
TISTICS
KOHL'S
MAY 13—BOARD MEETING
MAY 14—BRANCOS TRAINING
CENTER SOCIAL, 10 AM
MAY 17—CLASSIFICATION
TALKS: JESSICA REAGAN, HAN-
NAH PAVLIC, OLIVIA VANSELL
MAY 24—RICK SCHMIDT,
PRES/CEO TIPPING POINT
SOLUTIONS
MAY 26—NEW MEMBER ORI-
ENTATION, JOHN MCCARTY'S
OFFICE, 7—8:30 PM
MAY 31—CLASSIFICATION
TALKS: KENDRA MEEKER, EL-
EANOR KAMKE, ERIC NIELSEN
JUNE 7—RANDY PYE, VISION-
ING

A few weeks ago I was asked to get information on the change in the polio vaccine that is going to be used in the polio eradication effort. Following is the information I found on the Polio Eradication web site.

In the final push to end polio, global health planners are embarking on an unthinkable ambitious and potentially risky move. They're switching 155 countries—a good portion of the world—from one polio vaccine to another.

An Afghan health worker administers polio vaccine drops to a child in Kabul. Afghanistan and Pakistan are the only countries with polio cases this year.

This will require moving millions of doses of a new vaccine into place over the course of two weeks in late April, while sequestering the remaining stocks of the old one.

And that's only one of the many maneuvers necessary to truly end polio, which in the 1980s caused more than 350,000 cases of paralysis a year. So far in 2016, there have been only nine cases in two countries: Afghanistan and Pakistan.

The vaccine switch is part of the final strategy to put a noose around the few remaining cases, by improving the match between the viruses that remain in the wild and the vaccine that suppresses them. If it goes as planned, it will improve children's immunity to wild-type polio while removing their vulnerability to a variant of the disease that can be accidentally caused by the vaccine itself.

It looks like the goal is in sight. But polio has slipped from control before.

"This is the largest, the fastest, and [a] unique event that is taking place," Dr. Michel Zaffran, the director of polio eradication at the World Health Organization, said in a phone call with reporters Thursday morning. "This is an unprecedented event that has never been done before in the world."

After almost 30 years of trying, the move has the potential to finally stop any new cases of polio from occurring. But planners acknowledge that the move carries some risk: It could accidentally ignite an outbreak of the type of polio caused by the vaccine.

"We are anticipating there will be at least one event we will have to respond to," said Dr. Steven Cochi, who serves as a senior liaison between the eradication campaign and the Centers for Disease Control and Prevention.

Shots or Drops?

To understand the complexity of this, it helps to remember a little history. The start of the effort to control polio, back in the 1950s, was a competition between two scientists: Jonas Salk, who developed an injectible vaccine using killed virus, and Albert Sabin, who formulated a vaccine taken by mouth that relies on living but weakened polio.

Salk's vaccine ended up ruling in the industrialized world. But Sabin's became the foundation of the international eradication campaign, not just because it can be administered even by people with no medical training, but because, as the virus gets into the gut and attaches there, it produces copies that pass out of the body in feces and create immunity in anyone else who picks it up.

That strength turned out to be a weakness, because as the live virus reproduces, it can mutate from its weakened form into a virulent disease-causing type, and cause polio in any of those nearby who would otherwise have been protected when the vaccine virus was shed. Last year, when there were only 74 cases of polio in the world, 27, more than a third, were caused by what is called "vaccine-derived" virus.

Polio virus comes in three "types," or strains—known for simplicity as types 1, 2 and 3—that are different enough from each other that they all must be included in the vaccine. Type 2 is the most efficient at attaching to the gut, and partly because of that, it became the first strain to be eradicated; it has not been seen in the wild since 1999. But for the same reason, it is the strain most likely to cause vaccine-derived cases. So the new vaccine being rolled out on Sunday deletes the Type 2 weakened virus.

Why Change All at Once?

That substitution will only work if everyone in the world who is using oral polio vaccine, or OPV, switches at the same time; if one country continued to use the three-type vaccine, it could put others at risk. So beginning this weekend, thousands of volunteers and monitors will fan out, across the developing world and also in industrialized societies such as the Russian Federation

which are still using OPV, to make sure the new vaccine is delivered on schedule and, crucially, kept cold as it goes.

To reduce the vulnerability inherent in the switch, as many countries as possible were supposed to give children one shot of the injectable vaccine, known as IPV, to make sure their immunity was as high as possible. But planners acknowledged Thursday that there is a shortage of IPV, and not all children may have received the protective dose.

Most people stop shedding the vaccine virus in two to four weeks; that, Cochi said, is considered the window of vulnerability post-switch in which an outbreak might spark. There are also rare cases in which people with immune-system disorders hang onto the virus and shed it for years; since they are not made sick by it, they are very hard to spot. (To find them, some countries screen sewage for the presence of polio.)

Will This Cause an Outbreak?

Hypothetically, a long-term shedder carrying mutated type 2 polio virus could ignite an outbreak at any time. But Zaffran said, with unusual frankness, that in the countries that would be most vulnerable, immune-deficient children often do not live long; and in the countries where good medical care sustains their lives, immunization rates are already high enough to make the possibility of an outbreak null.

Nevertheless, Cochi said that to keep any potential outbreaks from spreading, stockpiles of the old oral vaccine will be kept on hand in each country, and million of doses of a new, Type 2-only vaccine are ready for emergency deployment if needed.

Planners hope the giant vaccine switch is the beginning of the endgame of eradication. It is late—they thought they would get to the goal 16 years ago—and each delay has been costly. The next steps will also be expensive and complex: first rolling out IPV across the world, and then scouring laboratories for any forgotten frozen samples that might harbor the polio virus.

But in the end, if they are successful, polio will become the second human disease eradicated from the world.