



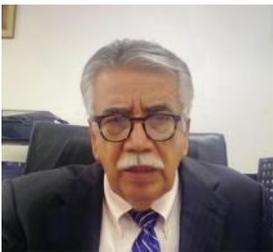
# the CLARIFIER

## CLAREMONT ROTARY NEWSLETTER

SERVICE ABOVE SELF

Claremont Rotary Year 92 | Week 7 | August 14, 2020

### Program: Mexico's "Surgeon General" Jose Ignacio Santos



Dr. Santos led with thanks to President Buff, former Secretary to the Board of KGI, on which he served, and to guest Ron Vera, his very good friend and president of the Pomona Club, who was very instrumental in his invitation to serve on the Board of KGI in the first place. Buff presented his remarkable [credentials](#). Dr. Santos was asked to review prospects for the development of a COVID vaccine and the prospects for fair distribution.

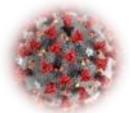
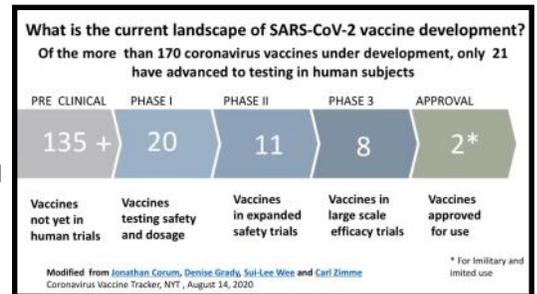
Why is it important to have a COVID vaccine? Viruses replicate easily in world. While the world health community knew of the high potential for spread of the virus in December 2019, the pandemic was declared on March 10. The novel corona virus has no preventatives or treatments (it's novel!) and it will require a combination of products and interventions to bring the pandemic to an end. It is presumed that a safe and effective vaccine would be able to protect individuals by developing immunity and could help interrupt the pandemic.

Dr. Santos showed August 13 comparisons of COVID case numbers and death data for California and Mexico to illustrate the differences in how this pandemic is manifesting so differently in different societies. While Mexico has three times California's population, it has ten times more deaths, and

Local and regional COVID 19 landscape	
<b>California. Population: 39.54 million</b>	- 603,396 confirmed cases - 11,022 deaths
<b>Los Angeles County. Population: 10,039,107</b>	- 216,313 confirmed cases - 5,172 deaths
<b>Claremont. Population: 34, 946 (2010 census)</b>	-293 Confirmed Cases - 8 deaths
<b>Mexico. Population: 129,092,051</b>	- 505,751 confirmed cases and - 55,293 deaths

this is attributable to co-morbidities that are well known: diabetes, obesity, hypertension. This is a major challenge for Mexico.

According to the non-partisan [Miliken Institute](#), 254 treatment protocols are being evaluated and 106 and 72 candidate vaccines have been registered to date. There are diverse technology platforms that are being used for the virus, including traditional inactivated or attenuated vaccines. Several are based on a "Trojan Horse" concept in which you incorporate the genetic material of the virus that you want to have antibodies developed against. Research is showing that attacking the spikes of the virus is the most effective method of dismantling it. Researchers have captured the presence of antibodies, but their purpose is to find whether any of these vaccines or treatments will actually protect patients from the virus.



Research is showing that attacking the spikes of the virus is the most effective method of dismantling it. Researchers have captured the presence of antibodies, but their purpose is to find whether any of these vaccines or treatments will actually protect patients from the virus.

**Clinical Trials:** There are three phases for clinical trials. In the third (last) phase, the vaccine is initially tested on a small number (10-30) of healthy individuals, generally young adults, who are given the vaccine to see if it has adverse local or systemic effects. And before it gets expanded into a larger and larger number of individuals, safety and efficacy are evaluated.

*Continued on page 5*

#### Watch It!

[Here is the link to the meeting recording](#) for August 14th featuring the "Surgeon General" of Mexico about COVID and potential vaccines.  
Password: %nV+9THq

#### Next Zoom Meeting

[Zoom link to Meeting on Friday 8/21](#), which will feature Rebecca Ustrell, founder of Curious Publishing

#### Inside This Issue

**Program Pp 1, 5-7**  
**Announcements, Guests, Breakouts P 2**  
**Sergeants Fine Time, Inspiration P 3**  
**Ideas from Around the World P 4**  
**Events, Birthdays, Pig. Bits P 8**

## ROTARY, THE MEETING

Before the meeting, early birds were greeted by an online production of 17,572 singers from 129 countries came together to perform Eric Whitacre's "Sing Gently". (Eric is an artist in residence at the LA Master Chorale) The credits took twice as long as the piece. It premiered July 19 2020. [Watch and listen here.](#) Whitacre and his team brought together the HUMAN race from 129 countries to make beautiful music, regardless of religion, sexual preference, skin color, nationality. , and it is one of the best things I have heard in my life.



### AND THEN WE ATTEMPTED A SONG TO MAKE US SMILE

As **President Buff** opened the meeting, she called on four solo volunteers for Smile, **Don Gould**, **Chris Hayes**, **Randy Prout** and **Bobby Hyde** each took a line in the song. We almost have it!



### BREAK OUT ROOMS

With the recognition that there's no free lunch, and in this case, no lunch at all, Buff sent us off to work *and* have fun in the breakout sessions. Foundation chair **John Tulac** give us marching orders to consider ideas for a District Grant. In early October, we can apply for \$4991 to spend this year from the District Grant, and for \$1000 from the (matching) Lefler Grant to be used to benefit children. We will bring your ideas together and determine our priorities to give life to the proposals.

**FOR BREAKING IDEAS, see story continued on page 4**

### WELCOME GUESTS AND VISITING ROTARIANS

**Bill Gershon**, so faithful attending of late that he may need to join!



**Ron Vera**, a long time friend of our speaker and President of Pomona Rotary.



Rotarian **Biffy Dankwerts** is here from Claremont, South Africa. Biffy is a friend of Chuck Cable and was host to the late Doug McGoon when he visited. Biffy talked about being in an e-Club, the Rotary eClub of Greater Cape Town. She said that it has advantages and disadvantages. It's difficult to do fundraising, because you're so far apart. And it's nice to have physical contact with people. But the amount of virtual traveling she has done around the world is amazing.



### In Memory of Ron Murphy

We lost member **Ron Murphy** this week. He had been ill for quite a while. Ron joined our Club as a travel agent in 1989 and stayed with us for 10 years until he chased his family up to Oregon, where he joined another Club but was a frequent visitor to Claremont Rotary. He came back to us in 2016, and was an active and cheerful presence.



Honorary member **Butch Henderson** remarked that Ron Murphy stood tall - tall in stature, tall in character, tall in gentleness, and tall in "service above self." That was Ron Murphy.

**Susie Ilsley** said, "Every time I was greeter, especially when I was brand new to the club, Ron always came up to me with a hug and he just made me feel so welcomed into the club. We had a we had a pretty good rapport and he was a good guy.

He was indeed. At this time, when we lose someone dear, it's difficult to gather together to remember a life well lived. Ron's wife and family were here for the week and will let us know when plans are made.

## ANNOUNCEMENTS

**August 28, District Governor Greg Jones** makes his official visit to our club.

Programs coming up are listed on the last page of the clarifier. We'll be dark September 4 for Labor Day.

The directory will be out next week, once we figure out how to get them delivered to you will have them so that you can stay in touch with your Rotary friends and remember our officers and committee structure..

**Jerry Tambe** was given information about a young lady who is coming out to do a 12 week rotation at Casa Colina. She's from Creighton University and is on a occupational therapy rotation to become a doctor. She needs a spare room or a granny house, has a little money for rent and is willing to do house chores. She'll be arriving around the middle of September and staying until the middle of December. If anybody has any information, please call Jerry or send an [email](#).

*Meeting continued on page 3*

## Fine Time with Sergeant Susie Ilsley

**Karen Sapio**, was sitting next to a very good looking young man last week and he wasn't introduced. Karen exclaimed that was her husband Anthony Becker and when we were introducing she was waving her hand to attract attention, but it didn't work so well on zoom. Pay a fine for not speaking up!



**Frank Hungerford**, was fined for two reasons. First of all, you haven't been fined for quite a while. And second, for all your coming and going throughout this whole meeting. Are you going to land or not?



Frank admitted they were still working through the technicalities of his iPad, but thought they now had it (he said, moving through the screen). Jeanne helped, but Frank said she doesn't want to have anybody see her because she's letting her hair go natural. Frank, pay up for being fidgety and now for disclosing Jeanne's secret! And because we all have COVID hair, you need to pay the fine for Jeanne for not just wearing a hat.

**Anna Torres**, last week we noticed that you are at work and you've got patients at off times, and as a result, you are coming and going and as you moved, at one point we got a view of your mid-section. And then you were off the screen and then you came back and I thought, you should pay the pig for that one.



And in another camera variation, Susie caught **Betty Sheldon** looking down so many times – maybe for 90% of the meeting. (Her hair looked great!) Betty admitted that she was taking copious notes like she did as a kid, to remember all this wonderful stuff. Betty should join the Clarifier staff – and pay the pig half a fine.



**Randy Prout** was asked to tell us about his three week vacation with his family. Randy said we don't have enough time for him to tell us everything — they visited in 11 states 11 national parks to see national monuments and traveled 5002 miles—just went over 5000 as they entered back into Claremont. “There were seven of us in a van, staying in motels and hotels all along the way. We went up through Arizona, Colorado, Nebraska in South Dakota and over to Wyoming, and Montana and down through Utah and then back in Nevada and into California and we had a blast.” That's a \$10 fine!



Sounds like Randy has come almost the farthest of anybody on zoom today except there's another Claremont in South Africa (9,942 miles one way) and **Biffy Dankwerts** hails from

## Inspiration for the Day

[The Speech That Shocked Birmingham the Day After the Church Bombing](#)

by Andrew Cohen



Excerpt, submitted by John Tulac

The bombing of the 16th Street Baptist Church was the most terrible act of one of the most terribly divisive periods in American history, and it's not too much of a leap to suggest that all that came after it—including the Civil Rights Act of 1964 and the Voting Rights Act of 1965—would not have come as quickly as it did without the martyrdom of those little girls.

On Monday, September 16, 1963, a young Alabama lawyer named Charles Morgan Jr., a white man with a young family, a Southerner by heart and heritage, stood up at a lunch meeting of the Birmingham Young Men's Business Club, at the heart of the city's white Establishment, and delivered a speech about race and prejudice that bent the arc of the moral universe just a little bit more toward justice. It was a speech that changed Morgan's life—and 50 years later its power and eloquence are worth revisiting. Just hours after the church bombing, Morgan spoke these words:

*Four little girls were killed in Birmingham yesterday. A mad, remorseful worried community asks, "Who did it? Who threw that bomb? Was it a Negro or a white?" The answer should be, "We all did it." Every last one of us is condemned for that crime and the bombing before it and a decade ago. We all did it.*

Morgan had written the speech that morning, he would recount years later after he and his family were forced to flee Birmingham because of the vicious reaction his words had generated from his fellow Alabamans. He had jotted down his remarks, he said, "from anger and despair, from frustration and empathy. And from years of hopes, hopes that were shattered and crumbled with the steps of that Negro Baptist Church." He had had enough of the silent acquiescence of good people who saw wrong but didn't try to right it.

[the article continues and contains the entire speech; Mr. Morgan went on to have a successful career as a civil rights lawyer, but he has been largely forgotten today; many people think that Martin Luther King is the one who gave the speech or wrote those chilling words]

As Edmund Burke said, “The only thing necessary for evil to triumph is for good men [and women] to do nothing.”

**BREAKING IDEAS**, continued from page 2

Some ideas that came out of the 7 groups:

**Don Gould** suggested that to leverage the amount of money the Club raises, we can make it a challenge. For example, for every \$100 a Rotarian donates, the club will donate another \$100 to Inland Valley Hope Partners or alternatively let inland Valley use it as a challenge grant to its own contributors

**Sylvia Whitlock** noted that her group talked about getting tablets for the kids at the Piyali School in India, but not just for those students, but students here. We need to assess needs and identify those whom we can help. Online learning is becoming a new way of life for them that has happened suddenly. **Francis Limbe** has a proposal for providing laptops to students in the Bari refugee community right here in California. There are a lot of school districts, including ours that provide laptops and modems and what-not for kids. So we need to figure out what's being done and how we can help with that.



**Anita Hughes, Bernadette Kendall and Bill Burrows** discussed this, stressing conferring with the school district and others to discuss how to help students who do not have the correct supplies or whose parent-teachers need support, and how we might help with children and families who need help to put food on the table. We could adopt a school to make it more focused. And not only are We looking at elementary or younger children. We need to also think about the high schoolers and secondary students.



The District Grant and Lefler Grant proposals need to be made by early October. And so we need to pull these things together pretty quickly. We've got about a month ago. **Chair Tulac** concluded that anyone can help with this. Each of our committees is looking at doing different things relating to our projects. The District grant proposal will benefit from crossover. Its on a short timeline. It would be good to present a proposal to the Board on



This will need to be quick, but thorough work, to present a proposal to the board for approval on September 21.

**Tom Shelley's** group wondered whether the Blaisdell and Jocelyn center kitchens project is complete, or are they still looking for money. That may be a spot we could address through a grant. Cameron indicated that we gave them \$1,000 last year to start it off, but it's probably still early in the process

**Ideas from Around the World** by Sylvia Whitlock

One of the unexpected results of this pandemic is that our Zoom connections in Rotary take us to places we have never imagined, and we learn what our members are doing in far off places. One such experience this past week took me to India with Jim Lewis, a post polio survivor from Moorpark. Jim's club has worked closely with them and I was just in awe of the reports of the projects with which they had worked:

- Global Grants to provide calipers, wheelchairs and tricycles for polio survivors
- Artificial limb Replacement Clinic
- Surgeries and routine examinations camp
- Vocational Education for artificial limb recipients
- Social Services for families with post polio survivors and help with the use of equipment
- Eye care, dental care
- Physiotherapy
- Children with Cerebral Palsy needs
- New ORANGE vision program to meet the needs of the visually impaired - a million dollar program

These are just a few of the programs that result from community needs assessment and focused intent.

**Sergeant**, continued from page 3.

from there. And of course, **Jose Santos** came from Mexico City (1790 miles one way). 5000 Miles (round trip) is very impressive, though.

**Bernadette Kendall** was fined for using her own furniture and props for staging homes for sale — like the one Lyn Childress just bought. That's a lot of moving! Bernadette confessed to having a little bit of surplus furniture. She has one special lamp that goes with herto every staging. It's her signature piece and the house always sells! That's worth at least \$5!



**Don Gould** has not been fined for quite a while. Susie asked him to summarize his recent Courier article? Don said the article was about bitcoin and crypto currency and its posted online for reading (think we couldn't understand?) But he proposed that he wanted to be fined for: his daughter is going off to Georgetown Law school this week. Classes don't start til October at the earliest. FINE!



**John Howland**, last week Susie noticed that he got up and when he left the room, his chair kind of swirled around a little bit, and it swung around when he came back, twice! It was quite entertaining. John noted that he would be happy to and next time he gets up, he'll remember that he entertains Susie. \$1 Fine!



## ***Santos, continued from p. 1***

ed with 1-2000 patients. And a test is done to see whether antibodies are produced against the virus and then the once that phase is completed, phase three can start -- this where most viable vaccine candidates are right now. The American, Chinese and United Kingdom vaccines will require tens of thousands of individuals being tested. Because at the end of the day, what is needed is it to see whether the vaccine actually protects. It is one thing to document the presence of antibodies. It's another to document whether the vaccine actually offers protection against the virus when it is presented!

Normally, vaccine development time is 5-10 years. In the case of AIDS virus, we still don't have a vaccine after more than 30 years. Moreover, there isn't an immediate capacity to develop and quickly manufacture the nearly 8 billion doses required to protect everyone on the planet. The most accepted method for developing and evaluating vaccine safety and efficacy is to vaccinate tens of thousands of individuals and follow them to see who becomes ill, knowing full well that a small number will become infected. That takes time. Development of the viral strain for the vaccine to vaccinate volunteers also takes time, at least 2-3 months.

Five principles are important in vaccine development, including transparency, careful selection of products to address public health, flexible procedures and approaches to improve access, collaboration with stakeholders, and ethical values.

**Principles to ensure equitable access to health products and vaccines in the context of COVID-19**

**Five principles...**

-  **Transparency** is ensured to improve **efficiency and accountability**
-  Health products are carefully selected and allocated to **address the public health need**
-  **Flexible regulatory and procurement approaches** are incorporated to improve access
-  **Collaboration** with relevant global and national stakeholders is enhanced to **accelerate and scale-up the response**
-  **Ethical values** are used to inform allocation strategies

### ***Ethics of Challenge Trials***

"Challenge Trials," an accelerated testing method, are being considered for the novel corona virus since time is of the essence. Challenge trials sidestep the problem of the time it takes for three phase trials, allowing efficacy to be established within weeks, using 100 or so volunteers to receive the vaccine. The volunteers are then subsequently challenged with the live virus and quarantined until it is clear that the vaccine has worked. It carries high risks for test subject patients since there is no cure or reliably effective treatment, so ethical questions are front and center. Moreover, since the challenge cohorts typically don't include many people of col-

or and a representation of world ethnicities, nor can they include pregnant women and children, a vaccine may not be effective for them.

For a challenge trial, a safe dose of the virus would need to be established, enough to cause illness, but not severe illness, which could be a very fine line as we learn about lasting side effects. To date, a safe dose of the virus has not been established and there is no failsafe treatments if things go wrong. Challenge trials have been used in malaria, typhoid and flu, but treatments are available for these diseases if a volunteer becomes severely ill.

**Is it ethical to infect healthy individuals with a known risk of producing a disease for which there is no cure?** (Cohen J. *Science* 2020; 368(6486) The consent forms for these trials are robust!

WHO does not currently allow for vaccines to be distributed without phased clinical trials, but recognizing the challenge trials can accelerate production, WHO has redone a set of criteria for scientific and ethical assessments of the challenge trials for COVID vaccines, trying to tighten safety for the potential subjects.

1. Challenge studies must have strong **scientific justification**
2. **Assessment of risks and potential benefits** that the potential benefits of challenge studies outweigh risks
3. **Consultation and engagement:** research programs should be informed by consultation and engagement with the public as well as relevant experts and policy makers
4. **Coordination:** research programs should involve close coordination between researchers, funders, policy makers and regulators re selection criteria.
5. **Site selection** should be situated where the research can be conducted to the highest scientific, clinical and ethical standards.
6. **Participant selection:** researchers should ensure that participant selection criteria limit and minimize risk
7. **Expert review:** Challenge studies should be reviewed by a specialized independent committee.
8. **Informed consent:** challenge studies must involve rigorous informed consent.

**Equitable Distribution.** Once a vaccine is available, distribution should be guided by ethical principles of utility and equity. The principle of utility requires allocation of resources to maximize health benefits and minimize disease and economic burdens. The principle

*Continued on next page*

## ***Santos, continued from p. 5***

of equity, on the other hand, requires attention to the fair distribution of benefits and burdens. In some cases, an equal distribution of benefits and burdens.

Ideally, the vaccine will need to have equitable global access. There are several historical examples. The oldest disease that we actually successfully eradicated in 1980 is smallpox, one wealthy countries were not really interested in because it wasn't affecting them...until it did. The Soviet Union was a major proponent of liberalizing the vaccine and giving it free to countries. The last case of smallpox was registered in 1977. Another important case of equity is the first polio vaccine, an injectable vaccine still being used across the world. Sabin donated his formula to the World Health Organization, in other words, there was no patent. Not here either—yet, so many countries are able to develop a vaccine.

Mexico has been an active participant in the World Health Assembly, the decision making body of the World Health Organization that declared the pandemic March 10. On March 26, Mexico proposed the intervention of United Nations to ensure that all countries have an equal access to medicines vaccines and medical equipment to avoid the economic speculation and inappropriate profit.

On April 20, basically three and a half weeks later, the resolution by Mexico was endorsed by the 179 member countries (including the US) and was adopted by consensus: International cooperation to ensure global access to medicine and vaccines. On May 20, the United Nations World Health Assembly representing all countries in the and involving health ministers passed a resolution unanimously calling for vaccines against COVID to be available free of charge as a public good.

**When a vaccine is available, who should receive it?** There will be a limited supply, so we should anticipate questions about how to prioritize distribution. The front runner developers are Moderna in the United States and the Oxford AstraZeneca, which are in the third phase of evaluation; the third phase should probably be complete at the end of November. Each of them is evaluating several tens of thousands of individuals. Then, and only then will we know if the vaccine is effective.

Limited availability may require prioritizing among different groups. One consideration that we've we have put forth is to prioritize adults in the essential workforce. Healthcare workers, first responders healthcare workers, law enforcement, public works (like garbage collectors), public safety, public transportation to protect us from ourselves. There is an urgent need for transparent and ethical guidelines for distributing the vaccine. Now before making difficult decisions about its allocation.

We need to think of a strong international coordination and cooperation to impact developers, regulators, policymakers, funders, public health bodies, universities, non-profits and governments to assure manufacturing in sufficient quantities to address the global need. The private industrial complex is doing most of the work on the vaccines were talking about. But we see China and Europe and other players, very important players, like India that were not there before now.

Yesterday (8-13-20), Mexico's Foreign Minister and Argentina's President reached an agreement to produce the Oxford AstraZeneca promising vaccine for Latin America. The countries will make 150 million to 250 million initial doses of the vaccine. This is co funded by a billionaire Carlos Slim foundation is helping finance the plan.

Now this is something you're all familiar with: the four way test: Is it the truth. Is it fair to all concerned, will it build goodwill and better friendship, will be beneficial to all concerned. The application to the ethical questions that arise concerning the vaccine are evident. Rotary has a long story of vaccine work, with polio plus and the global Initiative to eliminate polio since 1985. Rotary is closely monitoring updates and recommendations from the World Health Organization and the US Centers for Disease Control and Prevention (CDC) to ensure the safest and most appropriate actions are taken. Rotary International is using its vast infrastructure for identifying the polio virus and deliver vaccination campaigns. Santos understands that the polio eradication program is pitching in to protect the vulnerable from COVID 19, especially for the polio-endemic countries. Rotary's program is drawing on years of experience fighting outbreaks to support governments as they respond to the new virus.

In conclusion, effective and efficient control of COVID 19 will require vaccines therapeutics and diagnostics to be made available to all who need them regardless of which country they are in and their ability to pay. Access to these vaccines may be limited by short supply. So global allocation is necessary to mitigate the health impact and to promote social and economic activity. The World Health Assembly highlighted the needs to deliver on its aspiration. This needs to be done urgently and with transparency. A pandemic vaccine needs strong governance behind it. And I don't need to tell you that in keeping with your philosophy and past and ongoing commitments, Rotary International will continue to be an important stakeholder.

## Santos, continued from p. 6

### Questions?

**Dr. Jerry Goldman** asked about an article in Science this week about monoclonal antibodies, a kind of bridge between vaccine and therapy. Maybe this could help while we're waiting for a vaccine. **Dr. Santos** talked about monoclonal antibodies as being on the radar screen for research on COVID. While his answer was mostly over our heads, it is clear that there is promising work being done on all fronts.

**Buff Wright** One of the important points as we learn about COVID prevention and treatment is that we're just learning about this particular virus. Is the fact that Russia has proceeded with something that is virtually untested unusual for Russia? **Dr. Santos:** No! We're hoping that this vaccine actually works. We're hoping it produces antibodies. Mr Putin bragged that his daughter has received the vaccine. But the proof is in the putting. Was she also challenges with the virus? At the end, the only question is whether the vaccine actually protects. The Russians haven't been transparent like the Chinese, Americans and Europeans about the efficacy of the vaccines. By transparent, I mean they publish the results in reputable medical journals.

**Buff Wright:** Does the US pulling out of WHO impact how vaccines might be distributed to the US? **Dr. Santos:** No, the President Donald Trump has been very explicit. The US has invested in various vaccines, including Chinese vaccines. For the Oxford-AstraZeneca vaccine and Johnson & Johnson, who put up the money for vaccine development, the United States has said the vaccines are going to be for us first. But there are other options. The Pan American Health Organization, which is a branch of World Health Organization, was founded about 45 years before the World Health Organization. It was called the Pan American Sanitary Bureau and it was it was created when the Panama Canal was being built to deal with yellow fever. That is part of the World Health Organization and is still attached to the US. And I mentioned that, because the Pan American Health Organization has a revolving fund it was established in 1978. Basically what it does is to buy wholesale, dealing with manufacturers, and predicated on forecasting by the countries in the region that are interested in buying the vaccine. For example, they'd ask Glaxo Smith Kline or Merck, for 25 million doses at the lowest price they can give, with the promise that they won't offer a lower price to another.

Gavi, which is a very important player in vaccine world, has a concept of tiered pricing--basically you can buy the vaccine according to your country's GDP. Well, that's not fair because first, the GDP in the world is now in the wastebasket. Many small developing countries that are very poor and lower middle income countries get caught in the sandwich. The Pan American Rotating fund is a very good option for the

Americas; other regions are very interested in development similar funds in the region. The rotating fund charges a country 4.5% of the purchase and develops a local fund to help countries in the region that do not have money or do not have money at the time to buy the vaccines. Classically it includes Haiti, Dominican Republic, Nicaragua and Bolivia. So actually has been very, very helpful to the region for that purpose.

**Sylvia Whitlock:** Is there someone who rates or evaluates the efficacy of these vaccines? **Dr. Santos:** Yes, the Food and Drug Administration (FDA) in the US, the European Medicines Agency (EMA) for the European Union. Australia has similar FDA. This is very important question. Most vaccines and treatments have to go through very rigorous scrutiny, which has admittedly not happened with the Russian vaccine. Yet, the Russians have long history of making good vaccines. They were very instrumental in the eradication of smallpox. The biggest player right now in vaccines is India. The Serum Institute of India produces 98% of the measles vaccine and they're going to be producing a lot of the Oxford AstraZeneca vaccine. They have First Class technology. Almost universally, there are safety precautions for formulation, labeling and administration of vaccines, so one can be relatively certain they aren't contaminated.

**Ron Vera** thanked his friend Dr. Santos for taking this time, because he's quite busy with other meetings.

**President Buff** thanked Dr. Santos in particular for doing a bit of homework on Rotary's role in vaccines. Of course polio has been a big effort, but she appreciated bringing in the Four-Way Test. I was thinking about the Four-Way Test as you were talking about the fairness in vaccine distribution. When you start thinking about it very deeply, if only the rich or rich countries can afford the vaccines, the distribution has failed the test. Vaccines own an unlimited number of tickets to fly or float or ride anywhere in the world. She thanked the group for their rapt attention and Dr. Santos for joining us and for all he is doing for world health.



