Building a Resilient Health System: Costa Rica's 80 Year Experiment

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Katharine Bliss: This is Pandemic Planet, the podcast where we talk about the urgent health security threats facing the world, the geopolitical and societal challenges they present and how the United States can best lead health security efforts abroad while protecting Americans at home. Pandemic Planet is the podcast series of the CSIS commission on strengthening America's health security. While our sister podcast series, Coronavirus Crisis Update, focuses on what's happening in America, here on pandemic planet we'll look at the global and geopolitical effects of health security preps. Welcome to Pandemic Planet.

Good morning. I'm Katherine Bliss, a senior fellow with the CSIS global health policy center. And it's my pleasure to welcome you to this public event on the role of primary healthcare in sustaining the delivery of health services in the context of the COVID 19 pandemic. The global health policy center has organized a series of conversations on primary healthcare within the pandemic, around the theme of building resilience. We hosted the first of these back in May with the discussion about the relationship of primary healthcare to help security, during which

In a second conversation in June, we explored the impacts of COVID 19 on the delivery of immunizations and maternal and child health services. One important theme in that discussion was that while it's become very clear that a strong health system is essential for delivering COVID 19 vaccines, the delivery of vaccines also offers an opportunity to link people to other needed medical tests or preventive measures. Today in a further exploration of this theme of resilience, we'll take a close look at one country's experience with maintaining and even strengthening primary healthcare services during the pandemic. The country of Costa Rica and Central America borders Nicaragua and Panama with Atlantic and Pacific coastlines, has a population of slightly over 5 million people.

And it has an annual gross domestic product per capita of around $12,670. Importantly, the citizens of Costa Rica enjoy an average life expectancy of over 80 years, putting their expected lifespans on par with Canada and the European Union, and well above that of the United States, which is just 77, but it wasn't always this way. In 1960 life expectancy was about 60 years and in 1970, the infant mortality rate was 60 per 1000 live births, but it was during that decade of the 1970s, that the government began to recognize that the country's considerable health disparities, saw a need to improve health conditions in rural areas in particular and committed to building institutions and more importantly, staffing health services at the community level. Over the last several decades, infant and maternal mortality have decreased, vaccine coverage rates have been exceptionally high. And during the first year and a half of COVID 19, Costa Rica experienced fewer cases and lower fatality rates than many other countries in the Latin America and Caribbean region.

So to help explain how Costa Rica has built resilience in extending access to primary healthcare, I'm very pleased to welcome Doctor Roman Macaya Hayes, Executive President of Costa Rica's Social Security Fund also commonly known as La Caja. Doctor Macaya Hayes is a biochemist by training and has worked in the areas of drug discovery and healthcare management. And he also served for four years as Costa Rica's ambassador to the United States, starting in 2014. He's been in his current role overseeing La Caja's efforts to extend primary healthcare services since 2018, arriving just in time, you might say for the COVID 19 pandemic. He's

weather, the pandemic, a little easier than some of the surrounding countries and what he sees on the horizon for an institution celebrating its 80th birthday and increasingly focused on the health needs of an aging population. One expected to live as long as the Caja itself. So Roman Macaya, welcome.

Dr. Román Macaya: Thank you very much, Katherine. It's a pleasure to be on this CSIS webinar and talking about this very important issue and topic, which is primary healthcare.

Ms. Bliss: I want to start by asking you to tell us about the Caja's history. I know it was founded back in the 1940s. You're celebrating your 80th birthday in a couple of months, but it was really founded around the same time that other social security programs were being launched in Mexico and the United States and really around the world. But as you know, here in the United States, at least, we don't necessarily think of social security and healthcare together. Insurance, yes. Maybe, but not the provision of healthcare. So I wanted to ask you to please describe the Caja's origin and purpose, and just has the Caja always played a role in the delivery of health services in Costa Rica?

Dr. Macaya: Well, the Caja, as you mentioned, is about to turn 80 on November 1st. So that's as long as the Caja has existed. The Genesis of the Gaja is an interesting story. Back in the early 1940s. Obviously the world was in a very tumultuous period. World War II was raging and the were very turbulent throughout the world. And Costa Rica was not the exception. And what created the Caja was a three way negotiated agreement between the governing party that was in office at the time, the president was Dr. Rafael Angel Calderon Guardia in the opposition was the communist party. And then this negotiated agreement was brokered and negotiated as well by the Catholic church. So if you can think of that negotiation taking place today, it's pretty spectacular. The Catholic church, the communist party and the ruling government at the time. So this happened in 1941 and out of this three way agreement came, what we call our social guarantees.

It's essentially a broad safety net for our citizens that has three pillars. One is the labor code. So it created our labor code that defines the 40 hour work week vacation pay, severance pay and so forth, minimum wage. It created the University

needs of Costa Rica's workers. And that was its mission at the beginning. So today we think of the Caja as providing healthcare for all. So it's under an umbrella of universal coverage, but that wasn't always the case.

It started out with a focus of covering the healthcare needs of workers and then through a number of steps throughout all these decades, it's been that coverage has been increased. So it was expanded to then cover workers' families and then the unemployed and then the poor and then legal immigrants and then undocumented immigrants, especially if they're pregnant women or children are automatically covered, they don't have to have any papers or anything. And then more recently couples of the same sex. So it's been a stepwise increase in coverage to arrive at where we are today. So it's an interesting political story, but it's been a long journey to get to where we are today.

Ms. Bliss: So I want to look at the 1970s. So I understand La Caja had been around for some 30 years, but even in the '60s and '70s with some of these incremental changes, health indicators were still not that great. There was a fairly high level of infant mortality and life expectancy, 60, 65 years. But then in the 1970s, that Caja merged some services with those offered by the ministry of health and really kind of underwent a reform and prioritized primary healthcare. And just wanted to ask you to explain the circumstances that really led to that change in the '70s and beyond.

Dr. Macaya: Yes. Well really in this journey of the evolving and expanding mission of the Caja. And as you mentioned earlier, the Caja is a provider of healthcare, but it also provides pensions. So in that regard, it's more similar to the US social security, but in our context, social security includes healthcare. And in that evolution, the Caja addressed the most pressing health issues of that time. So as the decades progressed, we went from very early infectious diseases to now that we're talking about the '70s, the big issue there was maternal infant care. And so there was a big drive to have all births, ideally take place within hospitals, within a healthcare setting to drive down maternal mortality and infant mortality. But there was a lot going on. There was a big program on anti-parasitic therapies, an implementation and expansion of our vaccination program to prevent diseases.

We couldn't build hospitals everywhere in the country. So we were focused on, on the primary healthcare issues that could be solved with primary healthcare. There was also, as you mentioned, this reform that took place and the hospitals that were administered by the ministry of health were transferred to the Caja. So it used to be that there were different hospital owners that covered different populations. So the ministry of health tended to cover the poor, the Caja tended to cover the workers, but when it's all consolidated now under one umbrella, the Caja basically provides healthcare for all. It means that even though people are covered by different mechanisms, so they can be a salaried employee, they can be an independent worker that can be covered by the state because our model is its universal coverage, but it's also universal contribution.

So everyone has to contribute into the system, but it doesn't matter how you enter the system. Once you're in, you're covered and you receive the same level of care and same treatment as anyone in the system. So everyone ends up in the same bucket. And then there was a big push to improve sanitary conditions, promotion of latrines throughout the country. And there was a very famous doctor, Dr. Ortiz who started a program called hospital without walls. And that was really a push into community healthcare. How do we drive better healthcare at the community level through better practices, education and primary health care.

Ms. Bliss: It sounds like a real cornerstone of this effort, particularly, kind of coming out of that period of the 1970s was situating that care right there at the community level, whether in a rural village or a more remote community or even within the urban context. Can you say a little bit more about how the services are structured and the role of health workers in particular and engaging directly with the populations they serve and just what is gained by getting to know people in their communities and homes and how does that facilitate the provision of services as envisioned through this program?

Dr. Macaya: The way that Caja has structured is we have our primary healthcare system, which is at this point, we have 1,057 what we call EBAIS. They are basically primary healthcare teams. These teams have a general practitioner, a nurse and what we call an ATAP, which is a primary healthcare technical assistant. And then we've got, at the hospital level, we have 29 hospitals throughout the country. And

this clinic. But these advice teams, especially the ATAP are the outreach into the community. So the ATAP is a person who literally is walking in the community, knocking on doors and has a lot of information on the population that each one of these teams cover.

So each team is supposed to cover a population of about 4,500 of our citizens. And we have an electronic record system that is implemented throughout our healthcare system. In any establishment, you can open someone's health record and these ATAPs will approach our residents with a tablet. And they have what is called a family file on this tablet that has the location of the residence, where they live. And when I mention where they live, we know exactly where they live, because they're georeferenced. They even have a picture of the house. We have about 60% of all houses in Costa Rica are georeferenced in this application. And the information that's included in this file is who lives in the house, what diseases are prevalent there or present. What are the socioeconomic conditions of the house, the materials, what's the floor man of the roofing. Do they cook in a wood stove or a electric or gas stove and are the vaccinations up to date in that family?

So we'll know what kids are in the household and if they vaccines are up to date and if they're not, these ATAPs will bring vaccines and vaccinate them at home. So it's an outreach that's very effective. People in the community know their ATAP they're usually very well respected. They're a member of the community and they are a real cornerstone of our healthcare system. They're not a doctor, but the community trusts the information, the education that they provide and the care that they bring to their home, if that person or family can't reach one of our clinics.

Ms. Bliss: So this is interesting. I mean, on the one hand you've got... It sounds kind of like almost an old fashioned approach. You've got someone who goes door to door, knows people in the community and is from the community and really has a trusting relationship with the families themselves. But at the same time, this information is captured electronically. It's available. If somebody goes into a clinic outside of their home region, or winds up traveling and can be referenced anywhere across the country. What is the role? If you could say a little bit more about with respect to these electronic records and digital technology and how are

Dr. Macaya: Right. So we know where people live, so we know where to go vaccinate people. We can identify clusters of cases or diseases that might pop up. And more recently in the context of this COVID pandemic, we can keep track of our vaccinations throughout the country and where we're falling behind or where we're up to date on our drive to vaccinate everyone, because one of the modules in this application and you can download it on your cell phone. And it's the most downloaded health application in Costa Rica over 5 million downloads of our 3 million downloads in a population of 5 million of our applications that's tied to our electronic record system. And there's a module that's basically focused on just vaccination records. So we can go and assess that someone in the family is still not vaccinated, but was within the age group that we're currently vaccinating.

So there's just a lot of information to guide the outreach of the advice team. And of course not everything takes place in the household. I mean, people and their families come to the clinic, but there are people that are disabled or the elderly and the ATAP knows these people personally. So they know that person by name usually. And that really builds trust in the system towards our healthcare system and the care that we need to provide. Because one thing I didn't mention at the beginning is in Costa Rica, article 23 of our constitution states that everyone has a right to life. And our Supreme court has interpreted that as everyone has a right to health, and if you have a right to health, then you have a right to healthcare at the constitutional level.

So if we're not doing our job and covering someone and it might be someone that's in a very remote village, an indigenous territory where you can only reach by helicopter, the Supreme court will force us to provide care no matter how costly it is to provide care in that location. So our outreach into the system is part of that umbrella that guarantees a constitutional right. And the Caja is named literally in our constitution as the entity that guarantees that constitutional right to health.

Ms. Bliss: You've touched on the pandemic experience, which of course is on everyone's mind at this point. But I wanted to shift to that a little bit. Costa Rica has weathered COVID 19 better than many countries in the region. I think 518,000 cases and just 6,000 a hundred deaths, something like that as of this morning, but

extent to which this emphasis on community based care helped prepare the country for COVID 19. And if you would say a little bit more about the role that community health workers are playing in the rollout and distribution of vaccines, particularly to communities that may be hesitant about the vaccine or concerned about the fact that they may be new, or just to adult populations that are not always the population kind of first of mind, when it comes to thinking about national immunization programs.

Dr. Macaya: Certainly the pandemic is top of mind on everyone's mind. And our primary healthcare system has been critical in our response to the pandemic. Very early on our advice teams and especially the ATAP that figure that's the community sort of embedded into the community has been critical in contact tracing. So whenever someone was diagnosed, the ATAP would help workers from the ministry of health to go and track down the person's contacts and isolate them as well. So from early on, the contact tracing was very important. The education on what measures people should use to protect themselves against infection from the SARS-CoV-2 Virus and then all the chronic patients, the people with hypertension, with diabetes and so forth that routinely require refills on their prescriptions. Early on, we started delivering prescriptions at home and this was really an all of country effort where institutions public and private would offer cars and with drivers to distribute medications to people at home so that they did not have to leave their home and come to a healthcare facility and put themselves at risk for an infection of COVID.

And this was very appreciated by the community. The ATAP had a role in that we know where people live. So once again, with that georeferencing of households and our electronic records also has what medications these people need that was put to good use. And now with the vaccination effort, we're in full vaccine mode now. Finally, we started vaccinating very early on in December 24th of last December. And we had made commitments with Pfizer and AstraZeneca early on way before these vaccines were approved for emergency use. But the delivery of vaccines has been slow and sort of paced out throughout the year, but we're getting larger deliveries now. So vaccination is ramping up.

some disability or they're very elderly and it's better to just go vaccinate them at home. So that's been one of the tools in our vaccination effort. Right now about 64% of our population has at least one dose. And so it's increasing fairly quickly now. Some weeks we advanced at about 1% per day. So we're increasing with our coverage of vaccines.

Ms. Bliss: So during the pandemic, have you seen a lot of politicization of the vaccines and some of the other preventive measures like social distancing and mask wearing and we've certainly seen a great deal of that here in the United States and also just the role of social media and the spread of misinformation or rumors about vaccines. Are you seeing that in Costa Rica and do the ATAPs have a role to play just in kind of talking to people about their own vaccination experience?

Dr. Macaya: Yes. Unfortunately we aren't seeing that, and that's a surprise because we had never seen that prior to this vaccine. And so every vaccine that's been launched within our national vaccination program usually has very high acceptance to the degree where we quickly reach vaccination rates that are usually above 95% of the target population. But now we're finding it harder, we're reaching diminishing returns. And a lot of this is attributable to social media and all the misinformation that is being spread through these outlets that we're trying to counteract also with social media, but the ATAPs and our primary care system has a role. So right now we have vaccination sites that are fairly empty and that is very surprising because that's never been the case.

Now, I'll just give you one example. In the middle of 2019 around July, we launched the HPV vaccine, the human papilloma virus vaccinating 10 year old girls at school. And by December, we had reached 98% in their first dose. So very high acceptance of a vaccine that sometimes is seen as somewhat controversial. And that was typical of all vaccines we've launched. But in this case, we're at 64 or 65% with one dose and finding diminishing returns to increase that at the rate we need to increase it because of the Delta variants. So unfortunately we have not been immune to misinformation in social media.

Ms. Bliss: Thinking back to 2019, just before the pandemic life expectancy in Costa Rica was a little over 80 years, certainly higher than the United States and maybe

pandemic, but as you see people living longer, how much of an emphasis is the health system finding it needs to place on preventing and treating noncommunicable diseases like cardiovascular disease and cancers. And is this focus on maybe more needs of an aging and elderly population. Is there a general consensus within the country that this is how the population wants to spend its resources? Is there any debate about any of this as you see this progress?

Dr. Macaya: Well, there's no debate or political divide on strengthening the primary healthcare system. I mean, that is as strong of a consensus as you can reach in Costa Rica. So everyone wants a primary healthcare team in their community. And if that community grows in population, people will want it reinforced with the second primary healthcare team. So that part fortunately, there's high political consensus on the importance and need for primary healthcare. We do have a quickly aging population. We are in a new ballpark. Our life expectancy at birth is high. It's not the highest in the world, but it's certainly high. It's above 80 years of age. But as we grow older, we end up in new averages and this is the same in every country of the world where you keep pushing out the expected future life expectancy. By the time people reach 90 in Costa Rica, we have among the highest life expectancies in the world.

So a 90 year old woman will live about the same as a 90 year old woman in Japan, but a 90 year old man in Costa Rica will outlive a 90 year old Japanese man on average. And that brings us to pretty much the highest life expectancy in that age cohort. So it's a very unique type of aging that we have in Costa Rica. And we don't know why men tend to live longer in Costa Rica. They don't outlive women, but we get closer in our older age, but this has tremendous implications in the sustainability of our healthcare system. We can't address all of the chronic illnesses that accumulate in the elderly.

You mentioned them cardiovascular cancer and so forth at the tertiary level. So we need to potentiate our primary healthcare system, use our digital technologies to be able to intervene earlier and more cost effectively. Just last night, the board of directors approved our new budget for 2022 and it's $8.5 billion budget, which is about 13% of our GDP. Now that's not all healthcare. A little over a third of that, probably about 37% is pensions. And the rest about 63% is healthcare, but that is

especially with all these chronic patients.

Ms. Bliss: So the COVID 19 pandemic has really underscored around the world, the importance of community based care in responding to disease outbreaks, detecting outbreaks, responding and also sustaining routine services while at the same time preparing for future health emergencies. The example of Costa Rica's health system has really shown that the delivery of care at the community level can really create those relationships of trust and build those services, even in the context of a major sort of challenge or crisis. But Costa Rica is a pretty small country population wise, a bit over 5 million people. And I just wanted to ask you, you see the experience of the country in building a primary healthcare system and improving health outcomes. Can that be replicated at a larger scale? And as you collaborate with other countries in the region and really internationally, what countries are, are seeking advice from Costa Rica in terms of your experience and where do you see the model kind of being most relevant for either Pfizer structure of the population?

Dr. Macaya: Well, I think every country has a healthcare system that evolves towards the priorities of the population. And whether that priority is equity or efficiency or quality coverage. I mean, if you talked about the ideal attributes of a healthcare system, we could list them out and everyone say, but yeah, that'd be great to have, but some of them tug in different directions. And it comes down to the priorities and the culture of the country is to defining when two priorities clash, which might be equity and efficiency. How do you prioritize one over the other? So I don't think any system can be simply replicated 100% in another country and then there's other cultural issues. I mean, for example, for one of our ATAPs to come to a house where we know the GPS coordinate of that house, we know who lives there, what their ages are, what diseases they have and comes to educate them and vaccinate them, that might be seen as intrusive in the United States.

But here it's more acceptable. So issues of privacy versus utility of information, they're all important but they're important in different degrees in different countries. So I think we've collaborated in exchanging information, not just sharing our experiences, but also learning from the experiences of other countries with a

adapt to our system. And we might have to tweak it a little bit and they find the same thing when we're sharing our experiences.

And it could be anything from addressing the current pandemic where we have an urgent need to increase our learning of how to deal with this pandemic and how to most efficiently basically address it, but also longer term problems like the aging population and covering chronic diseases. So I would say we're talking constantly to a lot of countries, not necessarily as saying, this is the model for you, but we're also learning from them as well. And all of these engagements are always very highly useful and getting new ideas on how to tweak something, to get a little more value out of the system.

Ms. Bliss: So you've been in this role for three and a half years or so, the Caja itself is turning 80. You have a new budget. It sounds like that was just approved last night. So and it's been a crazy year and a half, two years, almost two years now with the pandemic. But I wanted to ask you to kind of look ahead. As you anticipate life beyond the pandemic, what are the lessons from this period that you think will be influential in shaping the next phase of the Caja's work where do you see things evolving in the medium to longer term?

Dr. Macaya: Well, I would say that we have a lot of homework to catch up on after the pandemic or at least when cases start to drop to a level where we can increase our capacity in other areas, especially in dealing with chronic patients. So the lessons that we learn from in this pandemic is that we need to build resilience into our system and I'd say, into the whole country and this is probably true in any country where we need to find ways that in the middle of a pandemic, our economy can continue to function and we can continue to have business continuity capabilities within a pandemic.

Ms. Bliss: Dr. Roman Macaya Hahes, Executive President of the Costa Rican Social Security Fund, La Caja, thank you so much for taking the time to talk with me today about the history of primary healthcare in Costa Rica, how prioritizing services at the community level has helped Costa Rica, whether the pandemic and effectively deliver COVID 19 vaccines and what you see as opportunities for the Caja

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202.775.3242

aschwartz@csis.org

Paige Montfort

Media Relations Manager, External Relations

202.775.3173

pmontfort@csis.org

See Media Page for more interview, contact, and citation details.

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