PHI Dialogue4Health Web Forum

Integrating Chronic Care in the Health System: Challenges and Opportunities Along the Road to Universal Health Coverage
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>> Laura Burr: Welcome to today's Dialogue4Health web forum: Integrating Chronic Care in the Health System: Challenges and Opportunities Along the Road to Universal Health Coverage.
We thank the partner and sponsor for this event, Abt Associates and the Medtronic Foundation. My name us Laura Burr and I'm running today's web forum with my colleague, Tanya Hammond.
And now I am very happy to introduce today's moderator, Kate Greene.
She currently leads Abt Associates' portfolio of health workforce programs in the West Africa, Latin America, and Caribbean region and has authored several publications and presentations on workforce issues. She strengthens health results across India, Latin America, and Africa. And prior to her work at Abt she served in advocacy at Partners In Health.
Welcome to Dialogue4Health, Kate.
>> Kate Greene: Thank you for the introduction, Laura. I'm pleased to have the opportunity to moderate this webinar on Integrating Chronic Disease in the Health System. To begin, let's consider the global context for this topic. Countries around the world have committed to universal health coverage or UHC by 2020.
UHC means that individuals and communities receive the health services they need without financial hardship.
Some of you may know UHC is the focus of the world health assembly wrapping up today. There will be a U.N. high level meeting owe UHC in September to continue the momentum.
Importantly for our discussion today, achieving UHC means that health systems must respond to all disease states, including chronic disease. But there has been a chronic and historic under investment in many low and million dollars he will income countries and disparities in outcomes and access exist everywhere. We need effective models of care and approaches to integrate them into health systems.
When we think about integration than an health systems one framework we can use is the World Health Organization building blocks framework. And you can see it on the slide here.
Many of you will be familiar with the six health systems building blocks from the World Health Organization shown on the slide.
Today our speakers will discuss how to integrate chronic care into the health system, with a focus on four of the building blocks shown in blue. Service delivery, workforce, information systems, and financing.
First, Jessica Daly of the Medtronic Foundation will give an overview of the global HealthRise system and the approach for cardiovascular disease and diabetes.
Then Lara Vieira, a public health nurse from Brazil, will dive deeper into the Brazil HealthRise system and the impact on strengthening the frontline health worker.
Sujata Bijou will talk about experience about the Better Hearts, Better Cities in Senegal with a focus on integration systems.

Finally, Caroline Ly from USAID will present a framework on financing NCDs in low and middle income countries.
Now I would like to pass the presentation over to Jessica Daly. She is the director for global health at the Medtronic Foundation, where she leads strategic investments and data-driven sustainable care models to improve chronic and acute care delivery among underserved populations globally.
Before joining the Medtronic Foundation she was a senior leader for public/private partnerships at PEPFAR and the Centers for Disease Control and Prevention where she worked to strengthen HIV/AIDS results global health outcomes.
Jessica, over to you.
>> Jessica Daly: Thanks very much, Kate. This is Jessica. Can you hear me okay? Just checking.
>> Kate Greene: Yes.
>> Jessica Daly: Great. It seems like we had a little bit of delay on the slides. So I just want to make sure that everyone is seeing now The HealthRise Story slide so we know the slides are appropriately timed with us.
Kate can you verify this is also what you are seeing, the Medtronic Foundation?
>> Kate Greene: Yes.
>> Jessica Daly: Wonderful. Thank you very much for that, Kate. It is my great pleasure to be speaking with you all today to share the story of our work in improving chronic care through health systems for underserved populations on behalf of the Medtronic Foundation.
I have just come from the world health assembly. I know that there is great hunger to be developing and sharing models that can work in the context of UHC. So that is our intention today.
So essentially I am hoping to go through three segments of The HealthRise Story with you all today. The first is to share context on why the HealthRise program came about. The second is to share the model, the interventions and some of the results.
Then to say a word about what this means and the implications for our future. You are looking there at a community health worker who was a central part of our program in India and has the great spirit of serving underserved population driving everything she does. We will take her story with us today.
So to share the first of the global contexts, why HealthRise? Kate really touched on this a lot in the opening comments. Essentially when we started out to develop this program in 2014, we were facing a very large burden of disease driven by non-communicable diseases. Two-thirds of the world's population actually die of NCDs. 40 million annual deaths. We still are seeing a great rise, linear rise in premature deaths caused by NCDs in low and middle income countries. Very high burden.
The other challenge, of course, that has huge economic consequences. So catastrophic health expenditure occurs in over 60 percent of some patient populations with NCDs, which was a key finding in a Lancet task force. Being uninsured really increased the risk of that catastrophic health expenditure. Underserved populations are bearing a greater economic burden. And health systems are gearing up to keep pace with what seems to be a growing burden.
This is the context in which we as Medtronic Foundation looked with our partners to say what can we do to contribute to the knowledge base of models that would work to both expand access to the services people need from some of the highest burdened conditions and also to ensure financial protection of underserved populations.
We developed something called the HealthRise program. And I'm happy to share that with you here today.
So the goal of HealthRise was to contribute to a 25 percent reduction in premature mortality associated with NCDs by 2025, which is a global goal that now aligns with the Sustainable Development Goal of 30 percent reduction by 2030. We focused on hypertension and diabetes because hypertension is a prevalent condition. If we can get it under control we can save a lot of downstream consequences associated with heart disease. Diabetes is co-morbid and foundation in conjunction with hypertension.

We did screening and early detection of these conditions as well as management and control of both diabetes and hypertension largely through three approaches: advance empowering patients, strengthening front line health workers and advancing policy and advocacy. We are doing this across four countries. We also did this in three phases. Here you see the lifecycle. We first studied the barriers to care and we prioritized those barriers with local stakeholders and public private partnerships that we developed in each of the settings where HealthRise is active. Together with our partners we implemented solutions between 2016 and 2018.
And developed nine different care models and tested those. And then conducted an evaluation late last year which we are now disseminating this year. This webinar is part of that dissemination.
This was done through a collection of really critical partners, many of whom are on the line today. I want to be sure they are appropriately acknowledged. We had three partners at the global level. You can see Medtronic Foundation, MAP and IHME and local partners and additional management partners in HealthRise Africa and Brazil.
I won't spend a long time talking about what each of those partners did, but this is a complex slide to show that we had really nine very active models locally tailored to the particular demographics of underserved pop layings and their community. And the local health systems. Again, those interventions were adapted to what was deemed the greatest priority from the needs assessment and local stakeholders. And what we really thought could be sustainably secured if it were successful.
Each of the programs had their own evaluation design and their own targets relative to their context. And the end line evaluation, we tried to account for the diversity but also try to aggregate lessons across. We looked at patient case control or dose response relationships to the interventions. We looked at health systems, changes through health records and community-based surveys and used qualitative policies to assess whether or not there had been changes in processes which lead to improved implementation, things like protocols, guidelines and standard operating procedures.
So what did we find? The next section is about the HealthRise results.
If you remember our first objective was to improve screening and diagnosis. Hypertension and diabetes and what we found was that we were very effective across programs in screening a large number of people, particularly in India and South Africa where we had the largest gap, according to the needs assessment, of people who knew their condition. And so we screened over 59,000 people for hypertension and 56,000 for diabetes and found that we had about 6,441 individuals who were above the threshold, meaning they screened positive for hypertension. And 2563 for diabetes. This is again across all sites but with a predominant contribution from India and South Africa.
Those who are newly diagnosed for hypertension we saw about 1,464 for hypertension and 295 for diabetes.
So we are very pleased to have these patients enrolled in a continuum of care and supported through the program. But it was challenging for the program to get to this number of newly diagnosed, and a large effort to be able to identify them. Something we can talk about in the discussion.
For objective 2 in management and control, we saw significant changes necessity Brazil and the U.S. I'll mention Brazil first here and the U.S. in the next slide. Where Brazil, for example, in Victoria De Conquista we saw a decline in the measurement of blood sugar and 1 percent is clinically significant to be able to avoid the complications that we were looking to avoid. That is a great finding that represented a 25 percent decrease on average for patients enrolled in the Brazil program.
For hypertension that same site saw four millimeter mercury decline for systolic blood pressure which was a wonderful finding as well. 10 percent decline on average. That was statistically significant.
Ten millimeters mercury would be significant. We would love to see more, but we were very pleased to see that significant reduction. That was dose response relationship.
In India and South Africa where we had more trouble following patients longitudinally we did cross-sectional surveys with HealthRise as the comparison group and a comparison group represented by the

letter C. We weren't able to detect a significant change between the HealthRise sites and the control sites in these two settings which could partially be explained by the fact that these programs had much less time to implement their interventions and see an effect can given that they were focused for the first part of their programs on objective 1.
In the U.S., where we had three different sites -- Hennepin County, Ramsey County, and Rice County -- we were able to see the significant changes from baseline to end line. Overall patients trended to greater progress and reducing measures for hypertension and diabetes in the control groups relative to sites, you see variation by sites. We are looking in blue the HealthRise sites relative to yell yellow, the comparison. If you start with the graphs in A, program participation you see was statistically significantly reduced for systolic blood pressure in Ramsey where we had a 14-millimeter and Rice you see four.
The proportion, I'm sorry it's cut off, the proportion of patients able to achieve control or meet targets, Hennepin, there was a specifically significant increase. Twenty-four percentage point rise in the proportion of patients controlling their condition relative to baseline, which was very important for Hennepin. And all Counties saw that same trends. For diabetes patients we saw important results. Reduction in .7 percent decrease in A1C for Hennepin County. Ramsey, 1.4 A1C decrease and patients again showing statistically significant increases or proportion of patients overall rose in Hennepin County by 14 percent and Ramsey, 19.
We had important findings in the U.S. and great results here. It may be different in the U.S. cared to other sites, we had a smaller patient population, about 300 patients. The health system was largely equipped with the supplies which were needed which we didn't see everywhere else. They also had the longest time intervention window, close to three years to implement.
So moving forward, other findings. We found across all HealthRise programs that community health workers are critical to all of our findings. They were able to promote awareness and be a key linkage to care, referring patients into care and keeping them retained. Also customizing care to the particular patients and navigating barriers across all sites.
And then we saw some important promising practices emerging from each of the countries. So care coordination in the U.S. as well as locating care outside of clinics, like in a grocery store, was very important. In India the patient support groups were critical to adherence and linkage and retention in care as well as lifestyle modifications.
Electronic health cards which we didn't have time to talk about today but was an attempt to create an information system for longitudinal tracking of patients which is a major gap in care there.
In India we saw -- sorry, South Africa, we saw clinical nurse mentorship program come forward which is something we will stay interested in going forward. In Brazil we saw a number of important contributions from decision supports for healthcare workers as well as A1C point of care testing that made care more efficient and local association of patients that continue to support each other.
Importantly in Brazil, we had a public private partnership with the ministry of health. They have agreed to take on the whole HealthRise program. They are evolving it into advanced analytics for community health workers to make sure that patients are identified and retained in care. The whole HealthRise model has been sustained through the Ministry of Health, which was an important success.
Moving to the future, we learned a lot from this program. Too much to really be able to distill in all of our slides today. I think very key is that frontline health worker have tremendous capacity for follow-up and navigating social determinants and customizing care for health management in the systems, very pivotal. Self care is critical as well. We found that community health workers were key to supporting care and also at the household level.
Despite the number of individuals screened we saw low yield in confirmed cases. We see inefficiencies in populations which we believe are worthy of further discussion an investigation.

Investing in user friendly integrated health information systems is important everywhere, one of the biggest drivers to be able to understand the improvements in health we were seeing as well as sustaining programs through highly engaged multistakeholder collaborations.
We will take as Medtronic Foundation all of this forward to our future, optimizing care at the health workforce as the point of care to ensure that we have quality services for underserved populations and continue to align our values and learnings to partners in the field to assure that we are hearing from the grounds up. And that we are always listening from communities who are ultimately benefiting from this as our key point of entry.
With that I will pause, conclude and say thank you very much. I look forward to the discussion.
>> Kate Greene: Thank you so much, Jess, for that overview of the HealthRise program and the results, and where the Medtronic Foundation is going forward with the lessons learned.
I am just making sure that I have control of the slides here.
And hoping that everyone can now see the photo of Lara Vieira?
(There is no response.)
>> Kate Greene: All right! I'm now pleased to present Lara Vieira. She is going to speak more about the program in HealthRise Brazil. She is a nurse with a Master's degree in biotechnology from the State University of Santana. She worked at the Victoria de Conquista Health Department and has been working in primary healthcare for five years.
Lara, we are looking forward to hearing more about HealthRise Brazil and the workforce interventions. Over to you.
>> Lara Raisa Cheles Vieira: Thank you, Kate. Good afternoon. I'm Lara. And I am here representing the frontline health workers from Victoria de Conquista and going to talk about our experience with the HealthRise project.
The slides are not going forward.
(Pause.)
>> Lara Raisa Cheles Vieira: Okay. First of all, it is important that we realize that our country is a really big country of continental dimensions. It brings many challenges to our health system. And since we have an over crowded and under fund the health system in our underserved areas, patients would often have difficulty gaining access to the care they need. The cascade of care tends to be fragmented and superficial, based on functional consultations and making it difficult to achieve endurance to -- adherens to therapeutic plans and expected control of disease.
The profile of the chronic diseases along the difficult work since it depends on the change of habits of life. And the activities develop in the health services, it requires an expanded view considering the coexistence of biologic and social control determinants.
The Brazilian legislation limits the high end of professionals by municipalities, which prevents us from having the necessary number of professionals in order to expand the coverage of the family health program which again leads to an over crowded health system.
Another challenge is to guarantee the support of specialized care for early diagnosis. And the prevention of complications. Also our facilities structure is inefficient due to little investments made in the infrastructure and equipment, and to the limited resources that are available in municipalities.
The HealthRise Brazil experience brought us many innovations. With the project, all of the frontline health workers were changed in order to improve access to hypertension and diabetics. We improved the guidelines and protocols which allowed the health workers to be more confident in their daily practice and added up to a more effective health system in our cities.
We were able to reorganize the primary health facilities, improved the investments on medical equipment, such as electronic records provided by the health and the point of care HbA1C which improved adjustments. Another advance was the implemented use of residential blood pressure monitoring, which improved the diagnosis of white coat syndrome. And it is important to emphasize that the project is

strategic private public partnership that allows investment in infrastructure and personnel which was indispensable to data collection and analysis. And the knowledge gathered made possible the reorganization of the work process in our facilities and the implementation of public policies.
Now after we reorganized the work process, now the nurses and physicians assigned at least one shift on their typical week specifically for hypertension and diabetic patients.
Another investment was the outdoor gyms which provides a place for healthy living to the community and improvement in life habits and disease control.
About the sustainability. The projects were implemented in the public health system, in partnership with the state health departments. And we plan to scale to other cities. Now we expand the 34 individuals who have hypertension and diabetes to a new project with the university and with the federal Ministry of Health and Albert Einstein Hospital which will bring us investments for more two years on monitoring and evaluation. And guaranteeing additional innovations.
We also encourage the participation of individuals and their families and communities, including the foundation of new local partner patient association that has actively participated in the process.
Like I said, the minister has plans to expand this project to other cities.
In conclusion, for many years there was no sense of identity with the health system. Most of patients would not consider our public health system as an effective one. I believe that the program changed this relationship for the better. We managed to rebuild the trust between us and the patients.
Now we have patients that come to our health facilities not only for the diabetic and hypertension treatments but also to enjoy the outdoor gyms, to the support groups and interprofessional activities with the family health support team.
Now the community health workers are more confident in connecting the families with non-communicable diseases with health facilities and are skilled to be more effective. The frontline health workers are now motivated by concrete improvements in hypertension and diabetes and the wellbeing of the population and our biggest surprise with the project was the way that the health workers responded to the program. They were really welcoming and open to the changes we proposed. Once we passed the initial resistance. They felt valued and more confident in their practice.
Successfully we achieved strengthened chronic care at primary level with better prepared healthcare workers and improved access to specialized exams such as EKG and others.
Thank you. I look forward to the discussion at the end.
>> Kate Greene: Thank you very much, Lara. It is great to hear some more detail on how the HealthRise Brazil program strengthened the front line of healthcare workers and also improved patient outcomes and trust between the community and the health system.
Now I would like to go to our second poll question. I am checking to make sure that it is showing up for everyone to see.
(Pause.)
>> Kate Greene: Is the poll question number 2 appearing on everyone's slides?
>> Laura Burr: Yes, it is.
>> Kate Greene: Great, okay. So we would like to ask our audience: Are you working on a project or intervention that involves NCDs? Non-communicable diseases?
On the right side of your screen please check the boxes that apply: A, diabetes. B, cardiovascular disease. C, other non-communicable diseases, or D, none.
Again, we are asking that you please make your selection on the right side. Check one or more boxes. And press submit.
We are now going to be closing the poll. While we are closing the poll I would like to let everyone know on the line that soon the HealthRise final program report will be available where you can find more details about the HealthRise program and results and also actionable recommendations for improving access to hypertension and diabetes care through a systems-based approach.

So now our poll results are coming in. We have 48 percent reporting that they are working on a diabetes project or intervention. 49 percent -- oh, I see it is adding up to more than 100 percent. 49 percent cardiovascular disease -- because there was more than one selection. 21 percent working on another non-communicable disease. And then 22 percent none.
So at this time I would now like to move forward and introduce Sujata Bijou. She currently works as a senior measurement and learning technical advisor at IntraHealth International supporting projects in west Africa.
She has been working closely with the Better Hearts, Better Cities in Dakar, Senegal, on data collection, analysis, and using data for quality improvement. Sujata?
>> Sujata Bijou: Thank you for that introduction, Kate. Good afternoon and thank you to Abt Associates and partners for inviting IntraHealth to participate on this webinar. My name is Sujata Bijou as Kate said. I'm a senior measurement and learning technical advisor at IntraHealth and I'm happy to present on behalf of the Better Hearts, Better Cities in Senegal.
IntraHealth International's mission is to improve the performance of health workers and strengthen the systems in which they work by ensuring that health workers are trained, supported, and ready to do the job.
With support from the Novartis Foundation and in partnership with the Ministry of Health in Senegal, IntraHealth International, PATH and American Heart Association support a multi-sectoral initiative focused on tackling hypertension. Better Hearts, Better Cities began in June 2017 and will go through December of this year.
To give a little bit of context for this initiative, a STEPS survey in 2015 found that 29.8 percent of Senegalese were hypertensive and the majority of those did not know their status. STEPS is the WHO STEPwise approach to surveillance which is a noncommunicable disease risk factors survey that uses a questionnaire and both physical and biochemical measurements. This map shows the four health districts in Dakar that the program covers. Better Hearts, Better Cities initially began in Dakar West and then expanded to Dakar North and Dakar Center and then to Dakar South, now working in all four districts.
Within the context of Better Hearts, Better Cities, IntraHealth's role is primarily to improve the ability of healthcare workers to screen, diagnose, refer, and manage hypertension among the Dakar city population and promote healthy behaviors to prevent hypertension within the community?
IntraHealth began by conducting a situational analysis at district level to assess the current state of hypertensive care. We worked with partners including the ministry of health to revise and validate an algorithm to manage hypertension, conducted cascade trainings of providers, and helped to fill identified equipment gaps to provide hypertension screening and diagnosis.
Since the project's inception in July 2017, over 628 health workers were trained across all four districts, including district team members, doctors, nurses, and midwives, regular supportive supervision provides an opportunity to assess adherence to guidelines, the quality of the care, and the level of collaboration between health workers and community actors.
Once the sufficient capacity had been built among health workers to screen, diagnose, and treat hypertension at the facility level we supported the health districts to collaborate with ten community-based organizations in the district, for a total of 30, to engage in community awareness including health talks, home visits and social mobilization focused on hypertension awareness and prescreenings as well as screening.
Now I would like to tell you the story about one of the community health workers, Ngone'. Ngoné has been working as a community health worker in Dakar for over 22 years. Every day she conducts home visits and shares health information, provides consultations, and connects people to specialized health care when they need it. Ngoné stops at about five homes, some with 20 plus people per day. Before being trained by Better Hearts, Better Cities, when clients had vertigo or other common symptoms, Ngoné didn't

know hypertension could be the cause and told them to take over-the-counter medicines to address it. While Ngoné knew about the effects of a poor diet, Ngoné didn't know how to counteract them.
Before Better Hearts, Better Cities, community health workers were not authorized to take their patients' blood pressure, nor did they have blood pressure cuffs available. However, the Senegalese Ministry of Health committed to having community health workers task-share significantly increasing access to care within the community.
Now Ngoné systematically screens all her clients and if their blood pressure is up to 140 over 90, she writes them a referral to the local health facility. Any higher than that, she will accompany them there herself. On an average day she will refer three to four people to the health center.
One critical component of the Better Hearts, Better Cities initiative is to ensure that high quality data can be routinely collected, analyzed and used to improve the quality provided along the cascade of care. Prior to the Better Hearts, Better Cities initiative, it was challenging to monitor and track the cascade of care for hypertensive patients. Hypertension care before was siloed within several referral centers and blood pressure was not systematically taken as part of primary healthcare delivery. The focus was solely on the number of people diagnosed rather than the cascade from screening to controlled blood pressure and did not provide the opportunity to proactively address cases before they became urgent and support patients in their ability to maintain blood pressure under control.
So to address some of these challenges, IntraHealth worked were partners to define key indicators across the cascade of care and design relevant tools for use across all health centers in the district.
IntraHealth works with partners to make sure that key indicators are reported, visualized along the cascade of care and analyzed to improve the quality of care.
Over time as Better Hearts, Better Cities scaled up to new districts, the number of people screened increased as you can see in this figure. Task shifting to community health workers where they were now allowed to take blood pressure readings was the major step in increasing screening. However, with the low yield of only 3,400 people diagnosed out of all of those screened, the project since had discussions around how to target screenings. However, this is difficult with hypertension.
In this figure you can see the cumulative number of people diagnosed under treatment and control by each quarter of the prong. As you can see the linkage to treatment for cases diagnosed is high at over 70 percent overall. In order to ensure that hypertension patients were linked to treatment and don't miss their appointments, patient files were organized in cabinets according to risk level and by the month of their next point so that if they don't show up, community health workers can follow up with these patients at home.
Now there is the initiative focusing on the need to work on the number of patients controlled by increasing follow-up by community health workers for missed points and to remain on treatment.
Over course of the past two years IntraHealth has learned a lot and distilled some of the key take-aways including the importance to target more men in primary activities by visiting mosques, public squares, and other areas to find men. Past sharing from providers to community health workers, the screening was feasible and expanded our reach. Routine frequency and quality of supportive supervise, we improved the quality of care and linkage of patients to care.
And we also saw that better targeting of screening strategics improved the diagnosis rate and we saw that it was important to have a strong collaboration between facility and community health workers and to follow up patients. Then we saw also that just having the providers taking blood pressure routinely has improved the quality of care for other illnesses and we saw that leveraging multi-sectorality for health promotion and advocacy among local authorities will further sustain interventions.
I would like to thank you and will be open to any questions you may have.
>> Kate Greene: Thank you so much, Sujata. It was great to hear about the Better Hearts, Better Cities program in Senegal and how you are using routine data and the strengthening of information systems to better support patients across the cascade of care.

At this point I would like to turn to our final presenter, Caroline Ly, a health economist in the US Agency for International Development Office of Health Systems. She has over a decade of experience working on health economics, financing, and systems issues in Africa, the Middle East and southeast Asia. Her focus is on researching the socioeconomic impact of national health financing reforms, particularly on poor and vulnerable populations.
Caroline, over to you.
>> Caroline Ly: Great, thank you, Kate. Let me just try to transition to the next slide I will be presenting on the framework for financing NCDs in low-income countries and lower middle-income country. I would like to acknowledge my collaborator, Arin Dutta. We have started looking at low-income countries and lower middle-income country. These will lead to finance systems that will address health needs inclusive of non-communicable diseases. A focus creates an opportunity for policymakers and technical agencies to think strategically about financing for NCDs and opens the conversation to innovations which could drive efficiency and better outcomes. As a group, NCDs raise issues that distinguish them sufficiently from other health areas. There is a need for a framework to inform country-specific roadmaps for NCD financing across the specific components of the national NCD response, especially for integration into broader health financing reforms.
This presentation will address the growing importance of developing strategies for addressing NCDs and present a generalized framework for how various payers can and should contribute to NCD response.
The first, we broke down the national NCD response into four areas. First there is primordial prevention in which NCD prevention begins with population wide or community level promotion of healthy lifestyles including diet, exercise and reducing smoking and alcohol consumption.
Next, primary/secondary prevention. The next step in prevention is diagnosing people with one or many risks for NCDs and managing their health status.
For primordial prevention this might mean encouraging people with unhealthy habits. Secondary would be prescribing prescriptions to and monitoring patients with high blood pressure. Next, ambulatory specialized care or specific types of chronic care where outpatient services would be necessary to are many people living with NCDs. This can include managing individuals with chronic care needs such as renal dialysis. Last, in-patient or surgical services which include surgery and therapeutic care which are necessary for a variety of NCDs needs. These also include hospitalization before and after surgery and for palliative care.
So the ability of the various payers in any given health system address these areas of the NCD response. It depends on the health maturity which we categorize as high, emergent or low. High financing maturity is characterized by having existing budgetary room to increase public spending on health. Low dependency on external funding and coverage by prepayment schemes for moderate to high share of the population. Emergent financial maturity is characterized by high fiscal space for health, only moderate reliance on donor funding, and expanding prepayment coverage. Lastly, low maturity has low fiscal space for health, high dependency on external funding and minimal coverage for prepayment schemes.
Each health system will become posted of various funding services or payers, including the government budget, government supported health service. Large sector public sectors, private insurance, and household out-of-pocket spending. It is important to look at.
Budgetary framework, we identify the ability of each payer to cover each area of the NCD response at every level of the health maturity.
Budget feasibility is the likelihood that funds for the area of the NCD response can be mobilized. High budgetary feasibility does not mean that the payer will definitely assign resources, just that the feasibility exists pending political or management impact.
Then financing needs is driven by the particulars of the type of intervention. The likelihood of market failure in financing and the epidemiology of NCDs and the country income levels.

So here is the NCD financing framework for lower middle-income country. The health financing maturity level is in one, area of NCD response is. And there is feasibility and financing needs indicated. The blue indicates possible financing gap. Because budget feasibility is low but significant need exists. The grays indicate that a financing gap is unlikely. Darker shades of gray indicate higher priority areas of response for a given payer. The tech cell indicates the area to be covered. Constraint for the public sector will require some targeting. Bottom quintiles or uninsured poor, for example, rather than the entire population.
In the case of some of the other payers, the more obvious groups are listed for clarity.
Next we look at an example from Indonesia which may be characterized as having emergent to high health financing capability. Indonesia has high healthcare coverage for about 82 percent of the population, high government expensing but persistent out-of-pocket payments. The health insurance system covers generous benefits for employees including for prevention and promotion. It has been financed post factor. NCD screening occurs at the primary and second dairy healthcare levels and financed by the health insurance systems as well as the supply side or district level sources.
So the purpose of this framework is to disaggregate financing by different types of need and levels of care and highlight where the will major needs are for countries, as well as how to enable countries to strategize their financing approaches. We don't want to create a fragmented approach for addressing NCDs. Properly addressing NCDs will require improved coordination of care across different types of healthcare providers and across all healthcare touchpoints. As part of the key takeaways for lower middle-income country, first it is critical and feasible for public and private insurance schemes to cover their members for primary or secondary prevention and specialized care as financing maturity increases. Once these countries retire maturity levels even prevention of risk factors could be funded from such sources using the principles of health maintenance organizations with incentive for preventive care.
Second, in the current landscape for financing NCD responses, lower maturity health systems will face critical gaps across population groups. These gaps will exist even when we impose the requiring imposed by the budgeting constraint for the public sector. Next we need to prioritize hard to reach and uninsured households. They will not be able to finance the care they need beyond being able to invest in healthier habits, which may mean getting more exercise and improved nutrition.
Fourth, we need a moderate role for large multi-formal sectors to finance healthcare for their workers, which is more feasible in higher income and maturity levels. There is a high need for explicit investment by government and large public sector sectors in primordial prevention.
The framework we propose is the first step that follows the urgency to act. We expect a lot more detail can be added in country-specific fiscal strategies which also engage with innovations to fill financing gaps that include but may extend beyond those discussed here. The focus here is on increasing supply and engaging the private sector. But other approaches must be taken too. This slide presents a non-exhaustive list of examples of possible partnerships that exist across lower middle income countries, but there is need to consolidate on what lessons need to be learned and how they are exchanged. Encouraging private sector supply, the land structure, facilities and urban areas where there is a middle class. Sufficient additional controls and stipulations, these can also create subsidized care for the poor.
Second, reducing the cost of care for the uninsured poor. Governments can encourage some form of subsidy or other incentives, including vouchers to reach the poor. They can encourage cross-subsidization. For example, assuming specialized care providers can price-discriminate, they can charge higher-income patients more for inpatient hospitalization or commodities allowing them to reduce prices charged to the poor on a sliding scale of financial need.
Increasing the availability of subsidized specialized care in rural areas. While these units may charge user fees, the fees can be negotiated to be lower than market because of government subsidizing infrastructure and facilities overhead.

Fourth, reducing the cost of key NCD care inputs, partnerships are especially full in the absence of other market forces that create economies of scale. Large purchases can better negotiate the wholesale price of key medicines and diagnostic consumables even in the absence of higher insurance coverage. Lastly, reducing the cost of tax-based funding for NCD care at public facilities.
This emphasizes improving efficiencies such as agreements or guaranteed oversight for tests which require different payers in the public sector to coordinate. So these just are a preliminary list of ways to responds and to integrate into NCDs into health financing reforms to ensure that countries are properly planning for their NCD burden given their specific context and also leveraging the potential of various health reforms.
That wraps up my presentation. Thank you.
>> Kate Greene: Thank you very much, Caroline. It is great to see a framework for how to evaluate where to start for countries when they are looking at their health financing reforms and how they can finance NCD care.
I would like to remind the audience that they can type in questions into the Q&A box to the right of the screen.
I would like to kick it off for a question for just Lara and Sujata. Each of you mentioned the importance of community health workers in your chronic care programs. And the World Health Organization passed a resolution in support of community health workers last week if he world health assembly.
Could each of you please take a moment and talk about the types of systems-based improvements that are needed to better support community health workers?
And Jess, I'll turn it to you first.
>> Jessica Daly: -- happening now to ensure community health workers are --
>> Kate Greene: Sorry, Jess, we only heard part of your response. Do you mind starting over?
>> Jessica Daly: Sorry about that, thank you. I think I may have been double muted.
So I was saying thank you for that question. That is an important question and connecting us with a broader global movement happening now to ensure community health workers are broadly supported and able to respond to households in the sort of intersection between health and wellbeing and clinical care. And I think a couple of the things that we saw for sure I can mention off the top of my head here but there are many others. The first is the need for supportive supervision and really ensuring that clinic nurse supervisors and other types of providers are able to supervise care and to support ongoing provision through community health workers. But they also have through that supervision a connection back to a primary healthcare team. The kind of information that community health workers bring back to care is often just as important as clinical measures, patients struggling with access to healthcare needs and food security, those things that are primed to uncover and help triangulate.
So that connection point is really important. The other one I would just highlight here is access to information. So ensuring that community health workers have job aids that reinforce their training, that is accessible at the time they need it. And that they are also able to access patient information, household level information if that is more efficient which often times it could be and that they have a way to channel information back to a system through a health information system as well.
It highlights those two. But I turn it to Lara to share her perspective from Brazil.
>> Lara Raisa Cheles Vieira: Yes. I agree with Jess. I think constant training is the key because of their proximity with the patients, they have the advantage of speaking to them and have their trust. They must be well trained in order to notice the critical signs of the disease and guide the patients into our health system.
So I think they should be well trained in order to prepare the patient, in order to give orientations and make sure that they follow up all the treatment plans. I think that's it.
>> Kate Greene: Thanks, Lara. Sujata, do you have anything to add?

>> Sujata Bijou: I think Jessica and Lara pretty much covered the point that I would. The Better Hearts, Better Cities project we saw that community health workers can play a big role in prevention and awareness raising, but task shifting so they were able to take blood pressures. I agree with the training and supervising. On top of that I would add that they are well prepped. That whatever communication materials or information education materials, but also in our case the blood pressure cuffs.
And I would echo what Jessica said about integrating them into the data, integrating their work into the data system so that it can really be used for quality improvement and seeing where the leaks are between the community and the facility and having a strong collaboration.
>> Kate Greene: Great. Thank you. At this time I would like to remind our audience that they can submit questions through the Q&A feature to the right of their screen. Just submit your question in the box.
And I going to ask Caroline a question. The NCD framework you presented indicates that it is feasible for low and middle income countries to finance chronic prevention, screening and management at the primary healthcare level.
What should countries be considering in their health financing reforms to achieve this goal?
>> Caroline Ly: Thanks for that question, Kate. One thing I didn't talk much about is how countries organize their payment models to incentivize management and screening at the primary level. Some of the most -- we restructure the way providers are paid for care. Often to the detriment of prevention, screening and management. Often it has a curative care bias. Payments can be a powerful incentive to help providers behave. It has shown the time spend spent and the services delivered to patients. Certainly these components of care need to be integrated into the payment models. One such example are capitation payments which are essentially a fixed payment amount for each person paid to providers, but is paid to providers irregardless of whether an assigned patient actually uses the services.
This creates an incentive for providers to keep their patients, assigned patients healthy. And increase the use of preventive services.
So of course, the appropriate provider payment mechanism is tied to the health system maturity level, among other things, and needs to be reformed to consider how it creates incentives for or against the delivery of prevention, screening and management particularly at the primary care level.
>> Kate Greene: Thank you, Caroline. I would like to share with you a question from the audience. The question is: If one strategy could be to advocate towards the universal health coverage, what should countries and stakeholders be doing for advocacy for UHC? This seems to be the best option to strengthen primary care and prevention services.
So would any of our panelists like to speak about advocacy efforts? Jess, I know it was one of the elements of HealthRise, if you would like to speak about that.
>> Jessica Daly: Yes. I think we have others on the line that can also connect to this point, but one of the key things that we found in our program was the important organization of patients. Actually also frontline health workers themselves organizing to be able to advocate at local levels. And they are often times most in touch with what is needed in terms of supplies or financing or policy change than anyone coming externally. So I think in large measure we need to be sure we are still supporting the voices of those affected. We've worked really hard at Medtronic Foundation to elevate those voices and equip them with both the data but also the storytelling and the inspiration that are needed to change policies, but also hearts and minds.
So that would be a critical piece. I think agnostic of specific conditions, so long as the health systems are geared towards really addressing the burdens and the key conditions that those patients and frontline health workers themselves are seeing, which is the spirit of universal health coverage and services that are needed, without undue financial burden, I think it can be done at a systems level agnostic of conditions. I agree, I think with what is inherent in that question that that will naturally raise a lot of the systems that need to be place for management of the chronic conditions we talked about today.

>> Kate Greene: Thanks, Jess. I invite any authorized partners listening in to type a response in the Q&A box about how they are advocating for universal health coverage and strengthen primary care in their countries.
Another question that has come in from the audience is that the questionnaire is wondering if any of the speakers could comment on the challenging of accessing diagnostics, and whether tests are being done at the point of care or done in a clinical or diagnostic lab.
Sujata, do you want to take that one?
>> Sujata Bijou: Sure. For Better Hearts, Better Cities we focused on hypertension, but we have, like I said, a major part of our initiative was task shifting to the community health workers. In the communities they do have the blood pressure cuffs to do the initial screening.
Then they are referred to the health facility for their, to get their final diagnoses.
>> Kate Greene: Lara, could you speak about HealthRise Brazil? I think you mentioned the A1C testing there.
>> Lara Raisa Cheles Vieira: Yes, the A1C was really important in Brazil because it helped to fill a gap we had between the first consult with the physician and the return of this patient to the consult.
We took too much time between the suspect of the diagnosis to the diagnosis itself. So be able to do a test.
At the same time the consult changes everything and we were able to speed up the process and diagnose a lot of patients and make sure that they were able to start the treatment as fast as we could.
>> Kate Greene: Great. Thank you so much. Jess, would you like to comment on diagnostics?
>> Jessica Daly: I don't think I have much more to add other than to say that the point of care really is critical. And that the confirmation and pretty much HealthRise site happened in the facility. We saw an important role for the frontline health workers getting patients into the facilities and for the most part diagnostic capability existed in facilities.
Absolutely important at the point of care.
>> Kate Greene: Absolutely, thank you. We'll take one more question from the audience. The question is about how to motivate and incentivize the frontline health workers and if they are being paid for performance or how are they being paid.
Lara? Maybe you can speak first about how the community health workers are he motivated and paid in Brazil?
>> Lara Raisa Cheles Vieira: Well, in Brazil we use the strategy of providing them with the tablets in order to reduce the amount of paperwork they have to do. They used to fill up some papers with all the information they gathered in the patient's home during the visits. Now they can use the tablet that can fill all this information and it doesn't have to carry a lot of things during their daily activity.
And they are paid for the municipality. They work for the city. I think that's it.
>> Kate Greene: Great, thank you, Lara. Sujata, would you like to comment on how they are incentivized in Senegal?
>> Sujata Bijou: I would turn to our local partners for the details on that. I do know that we provide district grants for each of our four districts. Then through those district grants they work with the community-based organizations and our community health workers are associated with those community organizations and through their pay structures.
>> Kate Greene: Okay, great. Thank you so much.
And thank you to all our present presenters for talking about how to integrate chronic care and particularly through the building blocks of service delivery, workforce information systems and financing.
At this point where a couple minutes left I'm going to turn it back to Dialogue4Health. They will present some closing slides.
>> Laura Burr: Thank you, Kate. And thank you so much, Jessica, Lara, Sujata and Caroline for your presentations today. Many thanks to the Abt Associates and the Medtronic Foundation for sponsoring

today's event. Thank you to our audience. A recording of today's presentation and the slides will be available to you next week at Dialogue4Health.org along with the transcript of today's event.
You will also receive an email from us with a link to a brief survey that we hope you'll take. This survey includes instructions for getting a certificate of completion if you request one for this event.
Thank you so much for being with us and that concludes today's web forum. Have a great day!
(The presentation concluded at 1:15 p.m. EDT.)