Thought Leaders' Forum: Innovate Ideas that can transform healthcare
Day 2, February 5th 2016 – Raunaq Room, Session Coordinator: Dr. Shiban Ganju
Edited Version

Dr. VK Singh, Introduction to forum:

Dr. Shiban Ganju will coordinate this whole session. We will follow up the recommendations of this session and do whatever best can be done with them.
We have foreign guests, who have come all the way on their own. They are all very highly placed people, and they have given their time and I'm really grateful to them.

The aim of the forum: what we can learn from each other, developed and developing economies. This particular forum is for brain-storming. Everybody, who is part of this forum - their named will be recorded with the recommendations that would be made.

The ecosystem is changed and there is a thinking that we can do something. Let's try and keep putting pressure. Health is controlled by state governments. Why not progress like the states of Kerala, Gujrat and adopt it. Yesterday, the collector of Ahmedabad who was here told us that they have a fund. Give your idea, and they have a place where you can implement it.

After this session we have two more sessions. One, we will discuss a PPP model as an incubator, which IIT Delhi has created four months back. If you are selected with an idea, you can come to the incubator centre for one year, where they provide the infrastructure and a coordinator, to resolve any problems. After one year, if you have done well, a committee reviews your work to see if it can be commercialised, and give you a seed capital of 50 lakh rupees. You can also do it on your own without support of IIT. IIT Delhi takes 5% of equity in the company that you create with your idea. Prof Anil Wali, who is the managing director will talk in the session. .

Second session is with investors and some successful entrepreneurs. You are welcome to attend. The new buzzword is start up. In Vigyan Bhawan recently the government declared that fifty new bio-incubators to be created. Start-up fund of 4 crore Rupees shall be given.

So with this background I hand over to Dr Ganju

Session 1: How to educate healthcare human resource and enhance accessibility?
Keynote: Dr. Shiban Ganju
Session Moderator: Dr. Ronald Heslegrave, Chief of Research, William Osler Health System, Canada

Moderator: Thank you very much. Dr Ganju is the session chair, I will be moderating the first session and there are other moderators for the subsequent sessions. So let me turn it over to his introduction for the session and then we can move forward with the session itself. Thank you.

Dr. Ganju: There would be two parts to this presentation today. As Dr. V.K. Singh has asked me to coordinate this forum for the whole day we should conclude the day with some ideas for future. While we are going through various presentations during the day, we can mull over some questions and come up with some answers. The questions: should this group have once a year conference? If so, should, we have a roadmap? Should this group talk about macro matters

here as supposed to small apps? And then the big question, should India have a right to health? And if so, what are the ramifications, implications of the proposal.

Now, I will talk on mass-health literacy and social behaviour change. I work on social behaviour change through mass health literacy with an NGO, 'Save A Mother'.
On the screen you see a power point of healthcare landscape consisting of twenty five modules. Some of these modules provide incremental change to healthcare, and some are transformational. I pick three of them, which have transformational ability. One would be mass health literacy, second will be methods of financing health care and the third is the national interoperable health IT Network.

Healthcare is usually supply side driven: we supply, people, money, drugs, equipment to improve peoples' health. Little work has been done on the demand side of health care. A consumer needs money to pay for healthcare and knowledge to access it. How do we optimise demand by giving knowledge to consumer? Does the consumer have a responsibility and a stake in health care?

We have worked for the past eight years to understand how we could modify social behaviour through health literacy. The best model I see, of social behaviour change is that of religious organizations. For good or bad, they have done it.

Four common methods that religious organizations use: I) a promise of punishment and reward, ii) they keep their messages simple, iii) they repeat those messages and IV) there is no predetermined end point. Same past messages will be repeated one or two hundred years from now.

Can we apply these four modalities in health care? I think we can.

Our operating model consists of a project manager, trainers, mobilisers and voluntary activists. They are all local people and live in the community. We define a health problem, conduct a pilot for the solution, study the impact, validate the solution and replicate. We work from causation to community adoption of the solution. We develop simple messages to deliver to community. The community converts these messages to songs and slogans in their own language. We hope this method will make it sustainable.

Save A Mother (SAM), has worked in over eleven hundred villages up to now in UP, Karnataka and Telangana. The data for January to Dec 2015, in UP and Karnataka shows that mortality has decreased significantly: maternal mortality decreased by seventy to ninety percent and neonatal mortality by about fifty seven percent. The institutional deliveries were up to ninety eight percent and tetanus immunization increased up to eighty percent.

Save A Mother has done 2 pilots projects for TB control through active detection. SAM social persuasion program succeeds here also. TB detection rate increased three to ten times compared to passive detection.

Currently we run four programs on the same social persuasion platform: maternal mortality reduction, infant mortality reduction, population stabilization and TB control.

SAM program has to be scalable with speed. Our group has ability to do one new village every day. At that speed it will take over 1140 year to cover all villages in India. So it has to be scalable with speed; that's where the technology can come in.

If you want to make it a sustainable organization in the Indian setting, cost has to be low. We spend less than 25 cents capita per year.

Now we are open to questions.

Moderator: I would remind everyone of the original purpose of this from his opening remarks. We need to come up with a with a way forward progress plan, at the end of this day. Just for consideration I'm going to throw out a something that we might call 'The New Delhi statement on health care transformation'. Or something like that; we can change the title or change the content. But I just want to give you a place to start. We can have more time for discussion at the end.

Let me open it up to questions from the floor on this presentation.

Question: Thank you, it's interesting. You were talking about health literacy and behavioural modification. Now could you expand a little bit on the difference between a situation where you just want to increase knowledge about health care for people who are uneducated for example and need to modify health? I think it is a situation, just sort of inform people and they accept the new information and understand the behaviour against situations. You will give them a new information but they still don't want to change because something is there, and obstructing the new information. So the first case should be rather easy. And the second case must be much more different. You brought up this, really just techniques, I think they are most concerned with second option.

ANSWER: Before I get to this I want to define these terms. This definition is for my own benefit because I work in this. Information is data with context and information applied either for your own benefit or someone else, is knowledge.

The key here is how do you convert information to knowledge. In other words, everybody has the information say not to smoke, but how do I apply it to myself to stop smoking. So this conversion information to knowledge, under the definition I gave, is what I call behaviour modification. Everybody knows not to indulge in drunk driving, but still you had drunk drivers. How do I make a person give up smoking? He has got information. But he is not able to convert this information to applied knowledge. This is what we're trying to do with people: not just giving information, but enabling them to modify behaviour by applying information to their lives.

And the data shows, it is possible. But we still have to understand what the messaging should be.

Question: But more so the thinking about a situation like an example: in many of these maternity care programs, Indian government gives pills to pregnant lady to treat anaemia. So that's based on the knowledge that take these pills and you're going to be healthier right. But many people don't take this pills because they have a sort of counter knowledge that: don't take these pills because the government has put some poison in them. OK, so how do you deal with these kind of situations?

Answer: We repeat our messages till we convince them. For example, in Gadag district, in 2014 we had ten thousand public contact meetings. Ten thousand! We just don't give up. And I tell you a story, I was just in the villages before I came here. Iron-Folic acid tablets were not

available from the government supply and this lady said I want to buy them now. Because she's so convinced that this is so important for her she went out and bought them. You gain their trust, after sometime. Yet, it is not a hundred percent success; we still have deaths. We lost a young mother, who did not go to the hospital for delivery in spite of us telling her go to the hospital. She bled to death due to stuck placenta.

Comment: Yeah, I want to just comment on that. I'm really saying that that the awareness and health literacy, allows you to gage control over your whole behaviour. Whereas I think the behaviour modification starts to provide you with some of the tools, so you can take small steps and get reinforced for it. In order to allow you to take bigger steps, behaviour modification is one of those things that we've known for a long time that really just says, you want to change behaviour from A to B, you need to take five percent of 'A' change that, reinforce it and then move it ahead. So I've seen this as a bit of a continuum. That's just a comment for me.

Question: What are the initial problems you faced when you to the villages, whom did you approach it, village workers or *Aanganwari* worker? Second, I am fascinated by your cost per village. How did you manage?

Answer: My first visit to this area was in 2007, when somebody approached me and asked, 'can we do something for health care'. I looked at the data. Maternal mortality at that time in the area was five hundred forty. So we had a village meeting. I took a friend who knew some villagers. My problem was, I knew how to save mothers' lives but did not know how to convince them. I really didn't know. I looked at the literature. There was no practical guide. We just got started and leaned with experience on the ground. It took multiple iterations.

Now we have a standing operating procedure. It's like a business plan. It will give you the implementation steps from beginning to the end. We just replicated in Jaunpur, three or four months ago and another district, Nizamabad in Telangana.

QUESTION: I want to know how you go about implementing the training and developing skills to enhance healthcare man power and I would like to know, what are the challenges that you faced while achieving this?

Answer: In this area the first level are the health activists are called Arogya Sakhi. We give them one day training. We do perform post training test; if there's an increase in knowledge of thirty percent, we think that is good, If not, we put them through s second training. Then we do random, recheck after six months to make sure they retain that knowledge. For our second level of health activists, we select the better ones from the first level and promote them to Swasthya Sakhi. We get them two day residential training and one day refresher training almost every six months. Again they are tested after training; they have to score ninety percent.

Question: So we're talking about behaviour change here. I am Rajshree Pandey from the embassy of Denmark. My question was that behaviour changes is a long process. And it takes a lot of time to change someone's behaviour. And we're talking about people who are at the bottom of the pyramid. Which means, education, again you know is pretty low there. The program looks very interesting and I kind of like the 'sing the songs' and people will remember and pass on to the generation. But have we thought of some other ways of scaling this program. Because as you mentioned yourself that it will take some eleven hundred years change entire India; so have you thought of some of the models other than this, may be use IT or technology to scale up.

Answer: You are absolutely right. I wish there were technology, solution to the problem. What happens is the following: if you get a group of people together and teach them together, the behaviour changes much faster as compared to teaching one at a time. For a psychological point of view you might want to think that this group process as a social infection. So you infect one, and it spread to others.

Question: You talked about four important points for the maternal health and the one important point we spoke is the institutionalization of the deliveries, but this is also common data that earlier females are dying at the home but now they are dying in the hospital. So it's just you are taking Mother to the hospital, but that death rate has not decreased. So basically, it brings to the capabilities, capacities of the centre and the staff which is now delivering the child, at the hospital,

Moderator: I'm trying to keep us on time. Maybe we'll save a lot if we take the rest of the questions apart from this question. So that you can have your break and we're going to revisit a lot of these questions but can you respond to this? If we could just have a response to this question.

Answer: I like to see that data. Intuitively, I don't agree that death at home and death at the hospitals are equal. Death in the hospital has to be less than death at home. I like to see the paper that you're quoting. To me, a hospital is a place with inbuilt capacities, where people are trained to do a good job. In your data, the home delivery is equal to hospital delivery, then the hospital to be closed. Institution deliveries are extremely important as we have much better facilities now.

Moderator: I think we have an issue around. Let's see the evidence. And this is a very fruitful discussion we're having. I'd like to try to keep us on track. And so there's going to be the last question. Thank you. So please go ahead with your question.

Question: I am from Indian institute of Lucknow. I'm curious to know whatever procedure you are doing, how do you asses or monitor it. Finally is there any impact of all these?

Answer: Our first assessment was done by IIHMR. They validated, what we had done.

Another assessment was done by ‘Sigma’ group, for population stabilization program. They are coming back in May. And we will request anybody who wants to do it for free or cheap please come and do it. Assessment costs more money than the program itself; they are very expensive.

Question: I come from engineering background, as I am not a medical doctor. It’s a great work, it looks fascinating. From the numbers perspective you were showing, there are so many better meters. It’s a very subjective thing you know. How do you measure so many parameters?

Answer: We measure two things: one is process indicators and second is the impact. We use model of LOGFRAME used by USAID. We measure output, outcome and impact. We also measure process indicators. For example, if maternal mortality is decreasing, It goes that immunization rate must increase, institution delivery must increase, consumption of one hundred tablets must increase and ante=natal check-ups must increase. These are process indicators.

Moderator: I think we need to cut this off at this point. Certainly some of your data that you

presented were randomized controlled trials, so you start to control for a lot of variables that can't be done all of the time. So here's something that says it's significantly different do we truly understand what's causing that difference: probably not. But it may be a combination of things.

I think with that since we've gone on for fifteen minutes past our time. So I think we'll take a break at this point. Thank you all very simulative discussion.

Session 2: How do we finance healthcare? Keynote: Prof. Paul Lillrank, Finland

Session Moderator: Dr. Prem Nair

Moderator: Welcome to the post tea session. In interest of time, we will move right along for the session. The theme for this session is financing health care, which is the million dollar question. But there are a lot of things you can do with a small amount of financing. And we have today a thought leader on the subject - Professor Paul Lilrank from Finland. He would be talking to us on innovating cost optimization and quality improvement in health care.

Prof Paul: Thank you. Good to be here. Welcome everybody. We'll talk about innovation. And the areas where innovations in my view would be very much welcome in health care.

Let me first state my conclusion statement, I believe we want to change health care. We have two layers at disposal: the first is money and the second is information. These are the two things that make everybody else dance to their tune. So if you want meaningful innovation, it's then somehow someway, they have to affected. Now this is a long story and I'm not going to specific financial instruments here.

And I would like to focus on the area where I believe, innovations would be most welcome, and that is, ‘outcome based management in healthcare’.

The most important obstacle to get through is the revenue model that's the model see how doctors and nurses on hospitals get paid for. That's a key issue and we have to think about that.

But before that go into that, a few words about innovation. The standard model of innovation it's based on research universities doing in basic science and discovering some and turning them into mathematical formulas. Then it's assumed that applied science people pick it up and develop better sort of prototypes and things that lead to technologies that eventually are commercialized and pushed into the market. Just think, say, mobile telephony as an example.

Recent research in innovation has shown that this model, while, true in some instances, is not probably the most common way how innovations are happening. Take for example, a steam engine. First steam engine started to develop in the seventeenth century. These two gentlemen here come by. They were Illiterate; they're did not know how to read and write. But they were clever in their own way and they were thinking, if you put a little heat somewhere and then you get some power somewhere else and this can be used in pumping water up from a coal mine. But from a scientific perspective, it's quite bad, they did not know what they were doing in their experimenting on thinking.

Only lot later, the scientists get interested in these things and their task was to try to understand why the steam engine functions. And then finally, Lord Kelvin developed the first formulations in

thermodynamics. And once you had that, then there was a theory on how the steam engine works. I mean, you have both the practice and the theory. Then there are applied on all kind of sophisticated innovations that follow these principles.

Same thing happens in management research and I believe in management research. A prominent example here is that the Toyota production system, that emerged from the mid nineteen hundred fifties little by little, as the Japanese reacted to the problems that were important to them. I mean quality, cost and how to compete in export markets. And then, success followed them after the first crisis and they started to take market share in western markets. And everybody was wondering on what are these guys doing? And then group of scholars from MIT landed and they did research, and they were able to explain Toyota model and the Japanese success in standard, micro economic and industrial management terms. Before that book in nineteen ninety, ruling explanation was a cultural thing that the Japanese are good because Japanese culture has certain features like discipline and that makes them eminently suited for industrial mass production. But when Toyota system was formalized and described as micro-economic and industrial management model, the field was open to everybody to try to apply it. So any contractor in the world today uses lean production. And from that followed up lean management everywhere.

Innovation can happen which-ever way. So you can have some smart guys at the university discovering something new or you can have a worker at the factory floor stumbling over something else. But this important is piece that theory and practice work together.

And that the practice gets a description in scientific terms, so that it can be modelled on the higher level abstraction and then it can be transported to different situation in different context elsewhere. So that's the reason why I would suggest that all of you who are working the practical problem, do get in touch with your friendly neighbourhood university, particularly in India. I've been visiting IIT Kharagpur on several occasions. This is really an ivory tower where you have extreme concentration of brain power. So what I'm trying to do is to connect these people.

Health care operations management in big hospitals, I believe, is going to lead to very good results in due course. So that we could have the people of practice and the people out there to join hands and make innovations spread better by formalizing them with the working formula.

OK let's then move to health care. I think, the most important sort of key issues in health systems today is the question of outcomes. And there are few quotes from leading authority in the field. Michael Porter says, that I think everybody can agree, the purpose of the health system is health, not care. Patients don't care about care. Care is nuisance, it hurts. The medicine tastes bad, hospitals are not nice places. You do it only because you have to, if you want to get some help. Now this is obvious when stated. But if you look at the real practice in many health systems, it's not obvious at all. All the health policy planners are mostly concerned about producing care. Optimizing its cost is at the end of the day. The real value is created through the health outcomes that patient gets.

Now let me show you the model. I've been working on this for fifteen years. The last version came this morning around eight thirty. Of course you need to start from demand, but if you have demand then you have people who are willing to pay. So there will be some financial systems that collects money and use them to get resources, like hospitals, doctors, med schools and so on and so forth. Assume you are a patient, you need to approach this production system; there will be a gatekeeper, somebody to determine what needs to be done

to you. Then comes production, that means all the hospital's clinics, doctor's, offices, whatever they do something to the patient. What we get is this output, it is a service product.

Every output has same kind of characteristics as any service product. It takes a certain amount of minutes and hours to produce it, so we can calculate the resource consumption in terms of doctor time, nurse time, or whatever: so that so every output has a production cost. Or let's say most outputs are standard in the sense that they are described in medical textbooks. So you have a normative best practice that you can compare the actual output and from that you get the quality. So with outputs, you can then start to calculate various kind of numbers, relationships in production and technical efficiency, which you typically show as the capitalization utility rate. How many standard surgical procedures can they do per day of week or how many patients will a doctor see in one afternoon? If you know price or the cost of labour or everything else, you can calculate the unit cost for each piece of output.

Think of outputs: medical procedures and things that the system is doing to patients. We have these thing called outcomes, which is defined as what happens to the patient's medical condition. The problem here is that, at what point of time do you measure the outcome? Typically, the measurement point has been when you are discharged from a hospital. And if you start shifting this point in time how much better the measured outcome can be. Right when you leave the hospital or it can be one day later; it can be one week later or that it can be a year later. It is all up to how you decide to do it.

The problem in outcomes is that it is difficult to determine what exactly to measure in output and outcome. There are number of things that you can say contributed to the outcome. There is a thing called placebo, patient's behaviour, health behaviour compliance, adherence to the medication, socio economic conditions, and support from the family, religious belief and genetic profile. All these kind of things create a situation where the link going from output to outcome is not deterministic. There are a lot of risks and uncertainties involved here. And they're not because doctors are incompetent; simply because that's how the world is that they don't have control on everything.

I was not going to question why you cannot have a system where doctors would be paid based outcomes. No doctor or hospital in right mind will agree to revenue model where your income stream will be dependent on things that are beyond your control. So you operate on a patient and you tell the guy to go into rehab and take the medication but he refuses. And then he gets bad. And as a consequence you cannot get paid. This had been tried in the United States by paying surgeons depending on a survival rate and the obvious conclusion is that they will not operate on people who have a bad prognosis. That's a problem with these things related to outcome based revenue models.

So then it comes to metrics, we can measure the relation between resources, expenses and outcomes accomplished. That is outcome effectiveness; that is a health value. You have income streams and then you have money flowing out of the system and then the question here is, where do you draw the line? Now my photo framed the question, what to do about it? I believe that modern technology: the internet, mobile phones to send information can solve this problem. The situation would be better if we could have continuous monitoring of both the patient and the doctor. Then everything that happens could be registered and analysed. Using some big data algorithm that would take out a lot of uncertainties from outcome based revenue model. That would invade our privacy but that's a trade-off that needs to be taken. These kind of wonderful new technologies will come into play and there are many other ways that can be used to outcome based thinking.

I will give you a case study on this, from Finland, which has been established by an insurance company. In Finland, all employers need to insure their employees for work related accidents. The important thing is the number of days of absence because of a work related injury, because the insurance company has to pay the person during those days. Now the insurance company has contracts with a number of mostly public hospitals. And they were irritated from the fact that the patients were not treated fast enough. So more days the insurance company has to pay for and nothing happened as patients are just waiting in line. So that's why the company established its own hospital where they called the shots and told the management that they hired that they want to reduce the total cost per patient. They want to reduce the time of back to work.

So the doctors were told that by the management about indicators: time back to work adjusted for a case and patient satisfaction. And these are two things that they watch. And then they started two new things the care masters and work masters: known medical professionals, whose job it is to coordinate the patient flow through the system and particularly in talks with the employer. But it sort of clearly showed that they out-perform other hospitals in many indicators and also what this interesting to note is that they performed less procedures than others. If there are options not to operate but do some say physiotherapy or something, they took it. So the conclusions from the data is that yes this model works, it saves them money.

OK, so this concludes my presentation. Yes, revenue models are important and if you start developing revenue models, encourage service providers to focus on outcomes. Then that would be a big step in health care Thank you.

Moderator: Thank you for thought provoking presentation. We all know that finance is a major problem and there are many efficient ways of reducing, at least hospital based costs. There are numerous ways that can come up. For instance, if an insurance company has a capitated payment, we are amazed how quickly hospitals adapt and are able to manage within the constraints of the third party payer. And the major ways in which we have been able to cut cost: protocols, patients care pathways, evidence based stuff, early discharge techniques and home care. All of these can substantially reduce costs and also improve patients' compliance and their satisfaction levels.

So far so good that I believe time to take questions; since we are short of time, so perhaps two questions.

Christopher: Thank you, Chris Lloyd from the U.K. and the US. I've been applying lean in health care for about ten years and my training originally came from Toyota.

I think what Professor Paul showed, was absolutely correct. One of the principles that we were always taught is value proposition. And you saw in Paul's presentation, talking about the demands and the systems. But the thing that we are constantly now concentrating on, is demand. And where is demand in the system. It is the most difficult thing to do but if we can control the direction of travel of the demand, that has the single biggest impact. I think it's a combination of the efficiency within that production system; it's controlling what goes into in at different points of the continuum. That is certainly our experience coming from improving efficiency of ED, admission and discharge. But ultimately the greatest money is redesigning the health system.

Question: One of the major factors you talked about is patient satisfaction. Are we continuing to go down that road because it seems to be proven over and over again? Patient may be satisfied with poor care and unsatisfied with good care. And if we're looking at health outcomes, should we be looking at the patients something like an experience not defined or satisfaction the way we are still going, because it seems to be not as well defined.

Answer: Patients satisfaction is one independent measure of outcomes among many things in clinical quality. How accurate the diagnosis was, or how well the care plan was constructed, quality with the space and safety, how processes was performed in relation to standards. Satisfaction needs to be seen as a separate issue. It obviously depends on the others. You cannot say that every time the surgeon is successful a patient is satisfied. And that's why you need at least these three metrics to determine the qualities are there or not.

Dr. Ganju: What do you think of undoing the traditional provider payer split? It appears that there is a payer provider conflict all the time. What if provider became the insurer and takes both the financial risk and clinical risk. There will be no extra agency measuring the external outcome. For example if a hospital could become an insurance company, for the whole community, they would do clinic work at the hospital but will also do preventive population health, to decreases their cost.

Answer: It's a step in that direction. That direction has been explored in the United States with the health management organizations. That are exactly based on this idea that you have an insurance company, gets its revenues from insurance and then run the hospital as cost center. That in theory. Looks good but we know from the U.S. there are a number of problems. As far as I know, with one exception, that is Kaiser Permanente system in California and Colorado. Their success can be discussed but you know they are big enough so that they can offer whole variety of things, so that you don't have to go for service outside the domain. And then they probably a number of management issues that are difficult to sort. That's why it hasn't become universal.

Question: What I want to highlight is that we were talking patient satisfaction as stand alone. One hospital the patients feels better, another hospital patients feel bad. We're not talking about satisfaction now. We're talking about some kind of loyalty or more than that. We're talking about how a patient thinks the hospital is more valuable that gives better experience value. I've just done research, with one of my PhD students. There are many hospitals in Delhi. All have similar kind of infrastructure, similar kind of human resource, same kind of doctor, nurses, educational systems and same kind of expertise. But it make a difference when you are talking that a hospital brand is better, higher brand equity in terms of what is called intangible assets, that consumer based brand equity of a hospital. That make a difference to how patients experience in the hospital.

Answer: I understand you're a professor of marketing and you know all about this customer satisfaction. Experience depends on preferences on happenstances and what not. And the measurement is dependent on how well the person, articulates his / her feelings. It is sensitive to the point of time when you collect the data. And that is why one tries to ask question that, would you recommend to a friend? Because then the focus is not your feelings but what you would do if somebody asks you. What are the doctors told? They are told that they will be measured, based on the patient satisfaction. That's the important thing. Then doctors know these metrics that to go down to the minute detail orthopaedic surgery. Doctors have accepted that, the way they have reacted to these things looks good.

Question: How do we encourage patients to pay for prevention? Any experiences?

Answer: Pay for prevention? That's a good question. I don't know how you get people to pay for them to stop smoking. Nobody wants to pay for prevention but many people who are willing to pay for physical well-being, that's a prevention. I mean that opens up a number of new ideas about revenue models, for example, you can sell a subscription to a gym, add some services to it, and so on. In USA, the insurance companies gives some discount to the premiums if you enrol in some kind of classes or activities, like that.

I would suggest that keep your eyes open for all kind of new and interested innovative revenue models popping up here and there, because it is a symptom of sort of many people intuitively understanding these generic problems with outcomes that I've described here. We have the same situation like in the Toyota in nineteen fifties. Everybody understands that we need to do something. People want to do this and that in various directions and then eventually it also comes together in a new way of doing things and then you have the professionals landing on it and give you the description.

Dr. Ganju: Prevention could be incentivized. Patients don't pay for preventing a disease but, healthcare funding pools, at the end of the year give money back. Let the provider become the insurer for the whole population, from cradle to grave and incentivize people who behave to improve health of the population. Everybody makes money from the same pool: the doctors, the providers, including the patients. The only persons who won't make money in that pool are the insurance companies. And you'll save minimum of twenty five percent to thirty percent of health care fund which is wasted otherwise on administration.

Question: We all understood, take home point for me was like if you improve outcomes, you are reducing the cost. The outcome depends on the input & process. Are we pointing at improving the inputs and the process which means I'll be looking at incorporating lean and six sigma in healthcare?

Answer: The outputs need to be there. They need to be produced at low cost and in the right time. It is never too late to improve these things. Lean and six sigma are good, but that's not enough. If you are reducing the various resources involved the outcome, the clinical outcome also improves automatically. There have been some instances in the hospital where you have done the lean projects and outcomes have been better.

So yeah and then there is the need to understand that you should also include the time and trouble and pain and discomfort of the patient. So I mean ultimately the value of what we want to get is from the relationship between the resources spent and the outcomes achieved. So you can do a lot to increase the value by simply not taking out some of the values to the patient like say waiting time or travel time or stuff like that.

Question: The patient looks in two different ways. When he comes in he is a patient but he is a customer, when he leaves the hospital. He suddenly has an idea of the colour of the curtains, he has an idea about the way room has been designed or the floor would have been designed. But the doctor is not really able to work on those areas, he is not trained to do so, it is not his priority. How do you bridge this particular gap, where the last experience, when he's leaving colours his satisfaction and loyalty to the hospital, rather than the actual clinical outcomes. How do we bridge this gap?

Answer: You don't bridge it. Rather you separate them like this and that customer satisfaction is

one thing and then whatever makes you happy. Satisfaction measures the experience. And if he doesn't say what would be a good experience. It is all up to the patient; if the colour of the curtain makes you happy then you are happy, who am I to tell you what should make you happy.

I mean this is basic marketing. So keep these as important but separate this thing from the other things that the doctor should be first concerned with the clinical quality. That is their job; nobody else can do it. And then you have nurses, managers, hospital directors whose first concern should be patient safety and process quality and technical quality of doing things the right way. I mean these are different tasks.

And that's why my main argument here is, there no such thing as quality in health care. It splits into different tasks that use different technologies, different time frames different objectives and different methods.

Question: True, but the challenge comes where the doctor is the face, while patient interacts to the hospital system. The hospital system is run by the management, which if not done properly, dilutes the doctor's job and clinical quality. The patient may not come back, purely on its customer experience, and not on his clinical experience.

Answer: If you are the chief medical officer and you are the boss of the clinicians, then what to do. Do you give them pep talk on bedside manners? Right. That's what you do.

Question: We would all love to try that. But we all know how much it works!

Moderator: I think, we are out of time. And the rest of the questions can be taken offline. I thank you very much Paul. It was a very stimulating talk. Thank you very much.

Session: How to improve primary healthcare delivery? Should we leapfrog? Developing nation Wide health data and the IT infrastructure
Keynote: Dr Sanjeev Kumar, India
Session Moderator: Maj Gen Dr. A.K. Singh, India

Moderator Dr A k Singh: Gentlemen, my thesis has a very important slogan: think globally, act locally. We have heard all these people from abroad. We have heard them globally and now we want to have an action plan locally.

Now we have merged two sessions, which are important sessions as far as India is concerned on any developing nation is concerned. One is how to improve primary health care, should we leap frog? Second is developing nation-wide health data and the IT infrastructure.

I'll take on the second portion in the sense that, I just want to bring to your notice. India has done very well as far as IT infrastructure is concerned. We are into the Gram-panchayat level. The National optic fiber network, was started in two thousand and eleven. It is already functional in fifty thousand Gram-panchayat. Now as far as the infrastructure is concerned, believe it or not, video conferencing takes place every day between the chief minister of all our states and the district collectors every alternate days. The District collector in turn talks to his SDM very often on video conferencing. That is the level of IT infrastructure in India.

Somewhere along the line, health is way down in the list of activities of the government. Though the administrators had a video conferencing set up the health infrastructure does not have any help. The chief medical officer probably has to travel and then talk to his district offices.

So now we have Dr Sanjeev Kumar. He's in the thick of it, he is right in the middle of everything. He is the executive director of National Health Service Resource Center with the Ministry of Health. So he knows what exactly is happening on the ground. And his topic is very relevant. How do we leap frog into providing primary healthcare, to masses.

Dr Sanjeev Kumar: Thank you General Singh for kind words. This is thought leader sessions. I had prepared presentation to give overview, but I will behave like thought leader. You don't qualify to be a though leader if you don't look at big picture. When we look at it, the access to health includes three broad areas: access, quality and affordability. All three are interconnected, you can't have one without the other.

I was looking at the data from NHS 4, in Bihar. Ten years before, we had 27 % institutional deliveries, today there are 87% institutional deliveries, Almost 3 folds. As we have improved access, the quality also needs to be improved. Third would be the affordability. You have affordable healthcare, that's why you have medical tourism in India. They can't afford it there, they come to India. So we are the leaders in affordability. But or a common man, living in a village, is it affordable to him? Probably not. So we need to look at it in the local context.
So these 3 major pillars we need to look into.

I was very happy listening to Dr. Singh yesterday, scaling up the telemedicine. You have shortage of doctors, but you don't need doctors at every village or every facility. Through telemedicine, you can have a technology answer to all these 3 area. Access, quality and affordability.

I feel very uncomfortable when people say, prevention is motive of patients. You already made

me a patient and you are talking of prevention. We need to change our perspective. Most of the population is healthy. And how do you keep them healthy; that should be your primary concern. The whole health system is for health but not for the healthcare. In fact, we call it healthcare but we look at disease care. When somebody becomes sick, you are looking at disease care. You have to focus on those who are healthy and how can you keep them healthy.

There are technologies. Every 2-3 hrs, I look at my phone to look how many steps, I have done. I have set a target of 11000, which I barely meet once in a week; now I have reduced it to six thousand steps, thirty minutes of walking. And I look at it every day that to keep me healthy. Then you have devices, if you put your thumb on the mobile phone you know your blood pressure.

How many of us have access to these things? So a common person, you have technology in your pocket to keep yourself healthy.

He is the most important stake holder, you want to keep him healthy. Tell him how to keep healthy. Most of the population is healthy and already has desirable behaviour. Everybody doesn't smoke. So they're people who don't smoke. Good, very good, don't smoke and convince your brother who smokes. Then you have family. They have much more stake in keeping you and me healthy. Then the doctor sitting in remote PHC or a hospital, sitting somewhere who wants general Singh to be sick or Sanjeev kumar to be sick. These are the third. And then people around you in your community. When you fall sick or you have an emergency you go to them. They can take you to hospital. Then in the periphery comes the medical doctor, or in the villages so called 'Jhola-Chhap' doctors, RMP or whoever, you go to them. And then comes the health facility, then comes the hospital.

So you look at people who are heathy, you keep them healthy; those with a risk factor, keep them in the second group, and then who have any disease. I am a hypertensive for last 10 years, I have gone to cardiologist 3 times in last 10 years. And my general physician 10 times in 10 years. My healthcare is done at home. I take anti-hypertensive in the morning; if I don't' remember, my wife reminds me; my daughter decides what food I eat but not the doctor. How much salt food contains, which salty food I should take? As I like pickle, the pickle is made at home with less salt and oil. Even for non-communicable disease, you say we need a specialist, but ninety nine point nine per cent of it is managed at home, by you, by your family.

So change that perspective if you qualify to be a thought leader. You need to understand the big picture. And then you can be more effective.

I always say I am a restless man. If there is an innovation available with you, why is it only available to everyone? If it is cost effective and if it can be replicated, it can be used by everybody. I go around and see many people; they say; sir, I have a very cheap device. I say, give it to me, I will get it evaluated. So if you have a device, you should hurry up to scale it up and there is a process in place by a government of India on scaling up innovation. It is called national healthcare innovation portal. If you have a device, if you think it is effective, if it is affordable, it addresses the burden of disease then it can be scaled up in the public system.

This is a platform for collecting and disseminating good information. Forty one innovations in the month of July, when it was launched, have been uploaded. There are two committees who review it. One looks at programme innovation, and the other looks at product innovation: medical devices, IT etc. It goes through screening and is passed on to the committee which would have representatives from private sector, research organization and government. After

innovator uploads it at national healthcare portal, it goes to internal review to two committees, and then if it meets the minimum standard, if it is scalable and effective, it is put up again on the website. The government of India is committed to provide funding to scale it up. And then, the states can scale it up.

And as I said I get restless, there is a good innovation somewhere, why it is not available to everyone? We don't want to discourage anybody, anybody who feels he has an answer to solve those three broad area of health, can upload anything.

E-Aushidhi is one example. In Rajasthan and Karnataka you will find, in the public healthcare system, if a doctor is prescribing a medicine, it is on the net immediately. Anybody sitting in Jaipur knows which PHC is running out of the medicine at district level and block level. Managers can look at it and track what is happening and which one is depleting.

About twenty percent of PHCs in India don't have a doctor. And I don't know, if we will have them in future. This problem will continue. We have an innovation called 'anytime medicine'. It like a vending machine at airport where you get snacks. You put the money and press the button. Through mobile telephone, the doctor, where ever he or she is, gives his feedback like give medicine # 2 twice a day, medicine # 11 three times a day. This is being tried out in four or five states in a number of sub centres or PHCs in 100 health facilities.

I went to Tripura, one of my first trip after joining NHSRC. I went through many health facilities. I was curious as a patient was examined by an optometrist. After 10 minutes, he was given a prescription. I asked them, how could they? They said they are in touch with an eye professor in Agartala; all information is going to him and he has seen this case. And I was told that ninety five percent of the cases don't need physical contact with an ophthalmologist. This has been scaled up in the whole state, in Tripura. But it took 8 years, why not one or 2 years again and why not scale up in the whole country and that's where I get to restless. That some of these innovations need to be scaled up as fast as it can. Tele-radiology had been scaled up in two states Tripura and Karnataka. Wherever there is tele-radiologist, you get an opinion by this.

Government of India is moving rapidly in that direction in public finance. You have electronic transfer of funds, to the mother of who delivers, as cash incentive for delivering in a healthcare facility. Many states have scaled-up like in Bihar, Delhi, and Rajasthan.

We have a lot of opportunity, we heard from Gen AK Singh, 'Gram-Panchayat' have access to broadband and the speed that this 25 times faster than what I have at home in Delhi. Imagine how much you can do in health. As and when a village comes on board, this is what we are going to do. Every sub-centre will be connected, every PHC will be connected.

Government of India has taken to establishment of medical device manufacturing center. As of today 80% of the devices are imported. Cold chain maintenance in another interesting area. Sixty percent of the people vaccinated or children vaccinated anywhere in the world, get vaccines from India. Then you have a mother-child tracking centres, another exciting area. The target is to connect all 27 million pregnant mother, and after they delivered, they be given appropriate messages for that period of pregnancy and afterwards. If you didn't come for your ANC, you get a reminder through mobile phones.

So many things are happening but we need to do more. Thank you.

Moderator: I think it is a very informative, presentation and now house is open to limited

comments. I definitely wants comments, as thought leaders are here, as to how do we improve primary health care? How do we take care of technology which is already existing? How do you step into it?

I will tell you, what has happened in Rajasthan. The government of Rajasthan has entered into a P.P.P. model: people, private, and public participation. They have given 30 PHCs to WISH Foundation. And they are going to run it for the government of Rajasthan. The government has agreed to pay some amount of money. WISH foundations says no, we don't want it.

There's only one thing which is worrying me is, all these foundations come up with a lot of technology and technology means hardware and hardware has a life. Are we going to create a technology graveyard in the villages or PHC centres? Because we have a process where it is very difficult to write off anything. If you have a P.C. it requires 120 queries, before it can be written off. Now, if you create the technology graveyard today in PHC, which is already a pretty small kind of a set up. One room is filled with these things. How do you do this, because they are accountable?

The second thing is: who will motivate the people to be healthy. Doctors are very keen to change your lifestyle. When you ask him what does lifestyle mean? He has to go into detail of your lifestyle and then only tell you what are the changes you want to do, but he doesn't have the time. In our government set up, no one has the time to even talk to a patient. There's a study which says in 99 seconds the patient is interrupted by telling him, now tell me what is your problem? Now who will do that motivation?

One question: all of these committees are a big bureaucratic hurdles. In how much time an innovation would be cleared by your commitiee?

Answer: I can't give you a time. But, let me complete my answer. What do we do at NHSRC, we are a system. We are a society hundred percent funded by the government. When we need a meeting, we call people. Within one week meeting is held and decision is taken. We have, for example come up with standards and specification for 180 instruments and devices in one year. WHO in the whole existence has done only 70, so that gives you an idea, how fast we are.

Compared to what some of the global renowned agencies, I can vouch that bureaucracy is bypassed in my organization,

Question: I am Upasana Arora, I am director in Yashoda super speciality hospital. I adopted a school. I visited few villages and some schools. There were so many problems. Everybody is asking me for the health care because I am from health care. My question is, how you can help us to provide help from government side? I am doing what I can do; I am organizing camps etc. How you can help us, to give help to those people? I need technical help.

Dr AK Singh: May I answer this question. I belong to a village. Now the villages got an empowered committee headed by the name of a 'Sarpanch'. Tell him, I want this. He goes up, he goes up to Panchayat to raise the concern. You will get whatever help you require. But you have to get hold of these elected representatives, tell him this is the outcome that you want to measure? And if he comes and gives it. It will be done. You have to believe that we have an elected body, it's a democracy; until you force these guys, don't let them make money out of everything. And they'll give it believe it or not. My experience is go two times or three time, he will make you a monkey, will make you sit down. But, finally come and say, sir what do you want, tell me. If you go with 10 people, he will react. This is the power of democracy.

Dr Sanjeev Kumar: Very pertinent question. We are struggling, even with the government departments. People say we have done this innovation, but have you upload it? No! So one is lack of information, even if it was advertised in the national newspaper, we don't know how many saw it. This meeting is part of dissemination. Each one of you are my partner in disseminating this information. Appeal to people, if you have innovation, please upload it. On specification you have to meet the minimum standard of safety. There are many medical devices, I'm told in India have no reporting of adverse events. So the government is putting in place a system of vigilance on adverse event.

Question: I am Ashwani Goel, an armed forces medical services officer. I've been into medical informatics for a little while. I have a few comments for Dr. Sanjeev Kumar. You mention your three pillars: affordability accessibility and quality. Now for affordability, I attended a conference, a couple of days back, where one of the pioneers of the affordability in medical care in India, Dr. Devi Shetty was informing about his own efforts. And this micro financing, effort that has been there, it does wonders.

Yesterday somebody was speaking in one of the main sections in the auditorium. I think it was Dr. Bhaskar, who said that. PPP is not merely public and private. The most important aspect of it is people and you yourself said that the patient is the most important person of entire triad. So micro financing I think is one of the solutions for affordability.

As far as accessibility is concerned, we have a lot of pioneers who have been into telemedicine. The prime minister also has been emphasizing this technology, as far as extending the reach of healthcare in India is concerned. Getting the leap to care providers to the doorstep of the patient to bring the patient nearer to the providers. M-Health is a solution for accessibility problem.

Now as far as these PPP efforts of the government is concerned, so called VRCs, Village Resource Centers, at PSU level. As General Singh rightly pointed out, you see that entire pipe, huge pipe is of broadband. How much fraction of it is available to us, as far as health care is concerned? Health care, let us accept, has a very low priority so far, If not globally, at least in our country. So how much of a priority are you going to get on that huge pipe as far as pure health care activities a concerned. That needs to be given a very serious thought. And I think we need to raise our voice to prioritize.

The concern is for healthcare efforts in our country, which has been lacking so for. Now we come to the aspect of quality. Who is to assess quality? Who decides: NABH, or is it the doctors providing it? No, I think it is the patient, the receiver of those goods. And how do they recognize it? I think you have to empower your consumers. You have to make them aware through health education and awareness. You have to empower your care givers at the grassroots level: your ASHA, your ANM, your other paramedical workers, the village school teachers. They are an important aspect as far as health care is concerned. They can be a very important cog in the entire machinery. So these are a few ideas that I want to share with the assembly.

Dr Sanjeev Kumar: There was a wonderful effort, a trial going on in the health ministry, about a health slate (Swasthya Slate). Lot of the people were involved in it. I was also asked give a few comments, I gave my comments. It is a wonderful gadget and, it had the capability of solving lot of problems as far as generating your primary data is concerned that is what I would like to see. Health-slate was brought out by PHFI. They have separated it, and made a company. But it is

not suited because there's no after service. It needs debugging. And when I write to PHFI, or the company, they don't have an answer. And now they're showing in J&K, it is successful etc. So two things: wonderful innovation, but it has to really compete with other commercial products; number two, the back-end wasn't forthcoming. The maintenance part was not forthcoming.

Question: Sir, you talked about Tele-ophthalmology in Tripura. Shanker Netrayala is doing wonderful as far as tele-ophthalmology is concerned. That is probably a model that we need to study. Amrita is also doing a lot of studies in tele-ophthalmology and tele-radiology. I would like to ask, how would you be digitalizing these X-rays and is there any innovative technique you are utilizing or it something that is commercial?

Moderator: I will tell you what, our topic was, how do we take care of the primary health care centres? Any takes on that? Any comments on that?

Answer: So my suggestions are that we are talking about a lot of innovations in primary healthcare technology and other things. So how much, we are talking about the barriers and the facilitators. For example, a lot of innovations are taking place like you have told us. As we told you we can measure the blood pressure, for example in mobile, so accessibility is a very important issue for the bottom of the pyramid consumers, those who are in 'Basti', they have no mobile. And why can't they access this in some training program or so can we assess level of awareness?

I've seen in WHO, lot of low cost innovations are taking place. But who knows of these innovations? Who will be using that innovations? The issue is, whether it's reaching the masses. And what are the barriers.

Question: I worked with on getting innovators together to work on problems. And we did three such events, which were focused on maternal and child health. My biggest issue is how do I find a problem worth solving? And often you have got one person sitting on one side who has the problem, who often is the clinician or the nurse or the service provider. And you have got the technologist sitting with lots of solutions. But conversation is not happening. And especially if you're talking about impacting rural India with technology; in this gathering that is not very well represented. So one of the requests I have, how do you get people with the problem to interact more closely with people with the solutions? Because at that intersection true innovation is created. And if you can do that in a structured systematic manner at scale, then we have the ability to change how technologist like me can work to improve public health.

Question: I'm interested in looking at this from technology. The frugal interventions and I was impressed by what you were saying about your ten thousand steps. How can you achieve that? I can give an example of say in Singapore in the morning, fifteen minutes' walk to the MRT, get on the on the train, walk to work, go out for lunch and I go and walk. The same on the way home. So I don't have a car. There is no rickshaws whatever. And I reckon I'm doing about my ten thousand.

Just to also illustrate a point, a bit further, I was talking to a hospital operator, about the design, complaining about the use of the, how difficult it was to get into the lifts. And she said how do we put the staircase is a little more obvious, in the building? We could encourage more people to go and use the stairs. So my question to you is, how can you in the context of India, get people to go their ten thousand steps?

Moderator: I think that's the last question. Sum it up.

Question Hi, Everyone I'm Lalit Singhla, part of United Health Group. My question is more fundamental. We are talking about primary healthcare. Government has big infra-structure. We talked that twenty five percent of the PHCs don't even have a doctor. Even the ones that have doctor, they don't show up to their work. And then they too many sub-centers and there is a lot of public funding allocated to the whole infrastructure.

So am I right in saying that government has failed, or probably struggled to run the system effectively, leverage the funding and the money, and the infrastructure in the right way? And is this a time to go beyond the pilots like WISH Foundation and really look at how do we transform the system fundamentally? Do we take some revolutionary steps to look at the system holistically, the funding holistically and see how we engage international players with local players who have experience of running such systems of large scale and size. And change the whole system at the fundamental level?

Moderator: Thank you. Just to sum up and then ask Dr Sanjeev to talk about it. My Ph D. was on primary healthcare centers. I visited about eight of them in the government of Maharashtra, Rajasthan. What, I had really noticed that there were about twenty seven registers, and we have vertical programs all over. You have vertical program on Malaria, Leprosy, and TB. Believe it or not same guy is in five different registers.

Computers come in now. One person is supposed to compile all these registers and send the data upwards. The data goes upwards, well it's a one way traffic. It doesn't come down and tell you what you're doing. Your documentation is too much, your register filling is so much and it is a one way traffic. OK. The second is your doctor, believe it or not, your doctors don't come there. If you go to a village, you go to a Primary Health Center, and many PHCs are situated sixty kilo-meters from home village. And is not accessible in the sense that I have to change two buses to get to that PHC. How do you make a network of it? Health industry now is moving healthcare industry away from the government side, it is just providing infrastructure and not the becoming the provider. It is coming up in a big way in most of the developed countries. I will ask Dr. Sanjeev to sum it up. And finally, we go in to the next version.

Answer: Thank you, very useful insight through your questions, comments and suggestion. And I will incorporate most of it in our own internal thinking. Starting with where when you left, the ministry has asked NHSRC to develop folder for every family serviced by sub-centers, PHCs. We are thinking of linking it to AADHAR for unique Identification. Electronic medical record in the hospital, in PHC, with ANM, ASHA can get an update.

How many mother are due for next antenatal check-up? How many children have got second or third dose to become fully immunized. And this system was in place in the field practice in the All India Institute of medical sciences thirty years back. The problem is that when data moves up you have percentages and you are in a loss. Where are those, 20%, 30%, 40%? But at grassroots level they exactly know who is this person and then this electronic health record through family folder is going to help us in accessing those who have missed out.

In India, in most of the rural areas, pregnant woman goes for delivery to parents place. So record is somewhere else, delivery is some else. When you have electronic record, everything will start falling in place. How do we transform the health system, we are looking at each one of you.

I never worked in the government sector, till I took-up this position. When I go and meet the government, I tell the problem and if you keep repeating the problem, you are part of the problem. You tell the solution, everybody in the government is excited: secretary, ministers, including me. You come with a solution, everybody starts taking notes. Tell us the solution, we shall become part of that transformation.

And that brings to the point of Dr Goel. He said, we have a broadband connectivity. You tell us government has identified two sectors as priority, health and education. It is in government document. But you tell us what should we be done that broadband for health? We have not done that homework, so we need to be one step ahead of them. We have to be part of that transformation.

Moderator: My personal experience. I went to chief minister's constituency in district Jahalwad. Met the ADM and the collector, saying we got a broadband right up to the gram panchayat, Give me a connection to the medical college and I will take care of all your blocks. That was one year back.

Dr Sanjeev Kumar: We are technical people, you individuals won't carry that weight. When it goes from NHRSC, the letter goes from chief secretary to the states. If you have a cost involved, please incorporate in your cost centre, program implementation program, then it would be funded. So we can work together. You work at grassroots level, we work at a national level. If you work in isolation, you don't have that might; all of us have to come together. So let's do it that way. So that each one of us contribute. I am a restless person, why think one year later nothing has happened. So let's let us come together, as like-minded people, wherever we can press the button.

Question: Sir the basic problem is health is not the priority. In civil government, health is not the priority. That is the sad part of all that the pipe will never accommodate you.

Answer: Health is not an issue for most of us, as we look for disease. The ministry has identified, prime minister has identified, health and education. We have not given them anything what gets to the broadband. When they identify health is the priority, we experts talk in a forum like this, but we have never given anything to the ministry, saying, this is what you need to incorporate in your health for your broadband. So we need to do our homework as well**.**

Question: I just want to add on to your thoughts, when you said one year. Just to introduce myself. I am Dr Sharmila Anand, director of a medical university which is located in Ghaziabad.

We been waiting always for the government to come and help us as we did also start something initially and found that it was difficult. But then we went to Gram-panchayat and the district administration. We worked closely with them, participated in '*Indradhanush'*, as well as adopted PHCs. Today we are looking at the young, next generation medical professionals, who can go out and provide health at the doorsteps. We run a program called 'reaching the unreached' and it has helped us to reach a lot of people. When we get the right people to come in and connect and collaborate, we can take it to more number of people. That is where technology can actually help. These forums help us come together. Why do we wait for one year to see that things have not happened and expect someone else to come and do it for us. When in our own ways, if we can actually make an impact, and get people to help us, I think that would be a really nice. Just a thought to what you have done.

Dr Sanjeev Kumar: How do we get everybody working together? The drive has to come from

the individual. I am concerned about my health, that's why I downloaded this application on my phone. Everyone in the health system has to be part of giving a message to the people.

As of now, most of the presentations that I listened to in almost all the meeting I attended, is about how do you take care of these diseased people and very little discussion on how do you take care of people who are healthy. We need to change our perspective, and the ownership, needs to come with the individuals, who are the most important stakeholder for their own health, but we need to move in that direction including change in our own perspective.

It is not ministry of disease, it is the Ministry of Health. They need to talk more about health than the disease. Bringing the ideas together, we conduct what we call live health care technology assessment. Young professionals, most of them are students in India in engineering, medical scientists, biotechnology or young post graduates. We share with them, this is the burden of the diseases, for example, in India. These are the priority areas which need to be addressed by technology. And some of the technology, has come out of it: non-invasive haemoglobin-o-meter and non-invasive glucometer.

Three hundred twenty five people have been trained. If you are interested, you can join one of the workshops, where they give you the whole perspective of where the burden of disease, within that burden of disease what are the priority areas, need to be addressed? We work with the Indian Council of medical Research academic institutions. Last one was done in PGI Chandigarh. IIT madras is one of them, we work with. But we need to look at where the preferences are those of you who are interested. You can send people in your team, who are young professionals to be part of this workshop.

There are always barriers. How do we innovate to address those barriers? And that's the challenge for all of us in technology. How do we address those barriers? We certainly can get together and identify which innovations to be addressed for those barriers.

Each one of you who are working for commercial purposes, we are fine. Even there we can evaluate and recommend to the government of India, that this is a commercial product; It can be scaled up in the public health system but because it is cost effective. If you want to give it to us, we will evaluate it. If you don't give it to us, then we won't be as comfortable, because the evaluation, you have given, is your own evaluation. So that is how we can address, some of these barriers to scale up.

I won't go through all the points Dr. Goel raised, but only a few points. Let's not look at patients as 'I cooperate and you cooperate'. Let us look at patient's participation. I want to throw a challenge to all of you to develop a mobile application where any patient going to any health facility, can give a feedback on his or her level of satisfaction. We have been struggling to hire an agency, or do we open source it to all young professionals in the country. So that's the request pending with us to get the client satisfaction on board, in all of the states in all of the health facilities. So if we can look at Admiral V.K. Singh, may be a small group of interested colleagues come together, that is the energy you need. You give it tomorrow and ministry will scale it up so that one area, I want to take your suggestion on micro-financing, accessibility, public private partnership. Thank you so much for informative interaction.

Moderator : OK. Finally to sum it up. The take home points are: we already know that there is a national innovation portal; upload your innovations. There is a national optic fiber network right up to the Gram-Panchayat. Here is a success story, Santosh University has done wonderful event, they have met with a guy who's very positive IAS officer, who's been able to give them

help. It is a success story.

National optic fiber is available for health; bandwidth is no issue. It is fast. Aadhar card, family folder is great idea. Sir, if we do it, would you get rid of all 27 registers of family. That is what is required.

We are spending so much money. Why don't you, as I suggested to my health minister, give me a stadium in my village, a small stadium, not much of a big thing. You have infrastructure, you have got MNREGA coming up in big way and everyone does it half a way. Build a stadium, automatically you become health conscious.

And last but not the least used Telemedicine. I've been talking to Dr Shiban Ganju, he says it is a washout. Save one, life, it is enough. I have an experience, a captain was in at a height of 14-15 thousand feet. He had a problem, he could not be evacuated using chopper. But sitting in Delhi, we saved him. We saved that one life and that is more than enough for us. I thank ISRO for that. And finally people path: meet 10 people and go to the MLA.

Dr VK Singh: Can I make a small announcement? Firstly, though we have finished early. Now the writing of the report. Dr. Ganju and all of you are here: the reports will be very crisp because it goes to the minister, he wants 1-2 pages.

Dr Sanjeev Kumar: Can I suggest one more action item? Can we have a group of 3-4 people to follow up the recommendations, will meet every few months to follow-up, to see what has happened to our recommendations?

Dr V K Singh: I recommend Dr. Ganju and Dr. Sanjeev to nominate. And distance is not a barrier, we can do this conference using mobile anywhere in the world, need not be in Delhi. So between both of you sir. Please decide the names please, I will communicate it to you, in conjunction with Dr Ganju. Dr Ashwani Goel, Dr. Sanjeev Kumar, as he himself volunteered Mr. Bhattacharya and Dr. Basu.

Dr Ganju: Now we got five or six people here, we got to have some kind of a roadmap. What next? With the summary of the events today, which we're going to edit. I will also send you a tentative road map, which you can critique and send back and we come to some kind of final program. We can create an E-group and anybody can join later also.

In the group, we'll see how we can collaborate but I definitely want people to think, on one issue, because that gives the power to the people, and that ‘health as a human right’. Can that be legislated? How do we thrust all the activities towards that? Can we create an awareness of a right to health? You have to see what are the ramifications and implications. How much does it cost? And where does it go? Can we create enough political traction? This single tool will change the scene. At the ground, level it will make governance of healthcare more accountable.

We have five more minutes to give a kind of a framework for future action.

We should agree on certain governing principles. Healthcare is an embedded part of social justice and human right. A just society should offer an equitable health care. And health care should begin by assuming personal responsibility. You don't have to agree and if you don’t, we can drop any of these principles.

Before we start on our future source, I want give you the perspective, like Dr Kumar said, health

and disease are separate issues. How to stay healthy is one, and disease management is another.

Here is an eye opener, which I want to add, because we don't become aware of what really happens unless reminded. This is data from 2009, from public government hospitals of West Bengal. I collated this from their health ministry web site. And the summary is: ninety eight percent of hospital admissions and eighty percent of deaths are due to five preventable diseases: diarrhoea, pneumonia, TB etc

Among the non-communicable diseases, sixty four percent of hospital admissions and eighty eight percent deaths included injuries and snake bite among other conditions like stroke and heart attacks. Thirty percent of hospital admissions were due to injuries and thirteen percent due to a snake-bite.

In 'Arogyashri' model of Andhra Pradesh, which is a kind of success of model, you see the disease burden and look at the money, where it's going. Gastro-intestinal and pulmonary diseases contribute maximum disease burden. The healthcare expenditure on ninety percent hospital admissions, morbidity and mortality is only 0.9 to 1.2% of the budget. Where does the money go? The government hospitals, which pick up the maximum burden of the poor people, get seventy two Crores. Private hospitals and tertiary care like bypass surgeries, knee replacements, and chemotherapy get most of the money.

Somebody mentioned Yashshwini model, where again most of the money goes for tertiary care. Yashashwini has a minor primary care component. So when this group frames policy recommendations, we have to keep this in perspective.

Now let us follow the western countries. Here is the data from a study in 2005 by Commonwealth Fund International health policy survey. They looked at the six OECD countries. Nobody is happy. Either the citizens wanted to revamp their healthcare or build a new system. So let us not go and follow these models blindly. These have been tried and nobody is happy.

So what are the objectives of healthcare solutions? Yes, innovate gadgets and new organizational practices but define how innovations can moderate costs. You can innovate and escalate costs, without giving any good outcomes.

As the thought leaders in this event, any innovation, should address the broad functions of healthcare: prevent the preventable, cure of the curable, rehabilitate, research the unknown, palliate the incurable and provide comfort at death. Lot of money of the world sickness organizations, go to trying to cure the incurable. An ideal innovation should be simple, sustainable, scalable with speed and affordable. It should improve access and promote equity. And so when we make any presentation, we should value ourselves on these criteria.