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Eric Paternoster

Good morning. My name is Eric Paternoster. I head the insurance healthcare and life sciences vertical unit in Infosys. We are going to try to break this up in about two pieces. I go through an overview and then we wanted to have enough time for Q&A also after we go through our overview. There will be some time for questions at the end. I will try to go through this as soon as so we don't hold you up from lunch and go through what we see in the health care economy.

We feel like building tomorrow's enterprise requires every company, not just the healthcare clients that fall within my vertical but every company globally to be knowledgeable of the opportunities and challenges that are going to be presented to them by what is happening in the healthcare world today. I will go through some things and show what we are talking about. This is the safe harbor.

Our point of view is around the fact through 3 major dimensions the individual, the company, the government, whatever the entity is, will interact as a member and somebody is being impacted by the healthcare economy. This is something will go through and cover more detail as far as how that exactly works, and the opportunities that we have been already seeing in the health care economy.

A lot of this data is U.S-centric for couple of reasons. One is this is of the $ 4.7 trillion market, about half of that has something to do with the U.S. market. These are multinationals that are based there or the parts of the U.S. health care system. About half of the expenditure in 2009 was roughly happening in the U.S. The hope of healthcare reform in the U.S. is that this rate of increase slows down. It has gone from 13 to 16% of the GDP) during the last 5 years. It was starting to look like it was going to go above 20% and that was the key driver for healthcare reform. With about half of the world health care spend coming out of the U.S. market, we have been putting our lot of attention there since this business unit was formed when Infosys verticalized in 2003. Now we have taken some of our learning's from the U.S. market and applied them across other geographies but I will also touch on something around the theme of building tomorrow's enterprise where we also have been seeing a lot of opportunities in our other business units and we have been working on things to do with the healthcare economy and virtually every other business unit in Infosys, both the geo units and other vertical units.

Here are some of the high level trends. A big problem that is happening in India, China, U.S., Europe, every health care market is the high readmission cost and that's basically saying that we spend multiple times on the same condition; the same illness, the same disease, the same preventable healthcare event usually has been fixed the first intervention by the health care system. So it drives up the huge proportion of the cost is coming from the fact that it takes multiple tries either because of late intervention or improper intervention to actually deal with the problem. As you can see, the IT part of healthcare spending alone is $83 bn market this year.

These drivers that I am going to cover are true across all markets within healthcare, but this data specifically is U.S. related. These trends are happening across all geographies. The healthcare problem that is facing world is one of an aging population. That has been proven for years that there is always more ways to consume more of the healthcare spend as your population ages. 75% of the U.S. healthcare spending tied towards an elderly population and that so far been resistant to change because the fact that more therapies are continually being developed. The senior population is very powerful politically and will resist stronger than almost any other segments, any kind of reduction in benefits, and also there is natural feeling that there should be no depravation or somewhere being able to prolong their life with some new developments that happen in healthcare field.

We also have chronic disease. This is a key problem in every economy not just U.S. If you look at India, it is the same thing. If you look at the proportion of the healthcare spend, that comes for cardiac disease, for high blood pressure, for diabetes, it is gigantic and that is true in any developing country because it seems to come with economic development, the prevalence of these chronic conditions increases. So we have about 70% of the health care cost in total is coming from chronic conditions in U.S. It is not at that extent in India, but as the middle class continues to grow and as the exposure to what is possible in terms of intervention becomes more familiar to the consuming public, then that proportion will go up. It is rising rapidly in China today, it is ahead of India actually with what the percentage is. Neither one, crossed 50% yet, but it is going to be there.

The other thing is that if you look at changing lifestyle come along with these chronic conditions, there are other worrying factors like obesity especially childhood obesity is becoming a problem throughout the world and it seems to have a multiplier effect on the prevalence of chronic conditions as people age if there was history of childhood obesity. That has become a huge issue in prevention that no economy has successfully confronted as the economy develops. As people enjoying more comfortable lifestyle, they have not been able to figure out how to avoid childhood obesity which in turn drives up the healthcare costs. So all those drivers are creating the 3 trends, that we see in the center and we are putting all of our investment around.

The first trend is on prevention. The second is on innovation in product and services and third is on patient's centricity. You have heard different terms for the last –one in terms of the market of one or the individualized healthcare where somebody has their gene mapped and they can actually get personalized health care that exactly is tailored for their own individual DNA; that is where things are heading. The trend is towards tailoring your health insurance, your treatment, any interventions that are done by the system, all around individual aspects. If you look at on prevention like I mentioned earlier, if we can do something about childhood obesity, it will reduce the incidence of those chronic conditions by significant percentage. The data hasn't been collected long enough to know exactly what that exact number would be but it is considered that childhood obesity would be contributing more than any other single factor to the occurrence of one of those conditions in any economy where the occurrence of those conditions has significantly increased over the last 20 years. The feeling is and the research is still being done to prove it, that the largest single factor for that is childhood obesity.

This is what is important for us to talk about on building tomorrows enterprise and what we are seeing as a huge multiplier in terms of the amount of the healthcare work that we are doing in Infosys not just in US but in every geo that we operate in. It is not just the traditional companies that are serviced by my business unit that are seeing these opportunities to make money from healthcare. These are just some of the industries and some of the examples. In high-tech, we work with 2 of those 4 that I mentioned in the first bullet around offerings that they have for the healthcare sector. We also can see Cisco, Verizon and other players like that tailoring horizontal products that they had for specific opportunity in the healthcare market. Tele presence has a huge play for telemedicine to handle the world healthcare market. We have already got tele presence down to a rough version, a crude version which works off a laptop with your laptop camera. Once that is enhanced that gets improved and you can add monitoring tools to it, then world healthcare will be able to be done to much more significant degree through telemedicine than what it is today.

In financial services, if you look down on the bottom there we worked for a long time with one of the leading providers of credit scoring for mortgage lenders and for credit card companies. They have seen a huge opportunity for putting predictive modeling in which they are the experts for financial services; putting that into the healthcare domain so that you can actually predict for whether you are health insurer, whether you are an employer that has a certain population demographic, you operate in certain regions of the U.S. or in certain countries. They are developing algorithms that they are making money off of, to actually tell a company what their

healthcare costs would be so that they can avoid being surprised to the extent that the numbers are done. Also to improve new entrants into health insurance, to improve the quality of their actual area of work, that actually lets them price effectively. It is predictably, being looked at favorably by some of the new entrants that do not have established experience in doing predictive modeling for health insurance costs.

Some of the other industries publishing and services, these are the experts in content management. What other form of content management is more important than health data and look at the huge amounts of it that are out there. These horizontal content management companies that have started with just doing news clipping services and then moving to legal information and they are the experts on how to catalog, how to sort an index data. Now they are getting into doing it for research libraries, for pharma companies, healthcare litigation information which is a huge part of the cost in U.S. system and also just general health information so that the boundaries are shrinking in terms of being able to share all the data we have about a certain therapy.

Retail, consumer products is one of the bigger areas where we see work happening and this was one of the scariest for the traditional healthcare companies because of how expert these companies are at knowing their customers. You have retailers and consumer product companies, like P&G has acquired a concierge service of providers. Basically a small company that they have grown a little bit bigger that has a network of physicians and nurses, that can answer healthcare questions concerning some of the more medically oriented of their products. If you ever buy one of their OTC products, that has any kind of potential healthcare impact, they have this concierge staff they will advise you and help you make further product acquisition choices. We have CVS Caremark which has put minute clinics into almost all of their stores at this point. So they are going head to head against the providers. A lot of the providers like these emergency care services, the whole industry started up about 10-15 years ago, to provide point of need healthcare to uninsured or if you did not want to wait over the weekend to get served by your normal provider, there was this whole network of these emergency or urgent medical care centers. Well, that is what Caremark, even Kroger's the grocery store has gone head to head against that market segment and it is in the process of putting it out. This is why traditional healthcare providers, are worried about this retail and consumer product segment because they are used to moving quickly and they are moving quickly to do this.

We have CPG companies that are doing the most innovation about home monitoring devices. This started coming from medical device companies figuring out how to go down market and make some that is affordable that can actually let you check your blood pressure or your cholesterol. That innovation is coming from consumer products companies that know how to do that at an affordable cost and a lot of that is happening outside the U.S. at innovation. In communications I talked about Cisco, these companies are looking at the couple of areas. In developing countries just like they have so many industries that figured out how to utilize the lowest common denominator device, the handheld and actually good healthcare interventions on to the mobile device. We have been working on some telemedicine initiatives in the U.S. and also in India to work on looking at how people can solve this world medicine problem. No country in the world has enough providers to cover the world population. No doctor coming out of school in U.S. is going to be able to pay back the huge loans that most of them have from going to medical school by going out to a world community. One example we have is for an academic institution, we built a hepatitis C intervention that was all done by telemedicine out to native American reservations, in remote areas of that state that were served by that academic institution. They had out there in these very rural areas especially on native American reservations. There were no doctors to speak up. There are most probably nurse practitioners. They did not know how to deal with something like hepatitis C where it can be fatal if the intervention is not timely and correct. We worked on with that academic institution from their base location being able to educate and intervene through these nurse practitioners out and every corner of the state. We have done something similar on a

smaller scale as a prototype in this country. This is an area where the telecom companies again can bring an advantage. What we are trying to say here is that you are building tomorrow's enterprise, regardless of what industry in, you are doing your strategic planning and you should not neglect healthcare as an opportunity. It is also a threat, because we see already that companies that do not address the healthcare needs of their employees along with the rest of the benefits that come to the employee, can actually lose employees to competitors that have a better approach to how they are helping their employee with healthcare problems. Especially if employee's age, you will see that their tendency to move is restricted considerably by couple of things. One is the quality of their healthcare plan that they have with who they work for today. The second is whatever real-estate investment they have. But this is becoming increasingly a large factor. It is a threat and an opportunity for any company. We are actually doing a large amount of healthcare work across all the business units in Infosys and we only see that going up.

This is just to summarize the affordability prevention, patient-centricity, these are the themes that we are using to organize our investments in the sector. I already went through the drivers but again every company across all industries and all geographies are impacted by those. These are in terms of investing in these trends and trying to build relevant products. Shibu talked in the general session about iTransform. We will have a case study about that in a second. iExchange is an ecosystem play within the healthcare ecosystem. Healthcare reform in the U.S. has mandated that each state establishes at least one healthcare exchange; a market place for an individual or even eventually small groups to buy health insurance. That is how the U.S. decided to save the role of the private insurance system, by still introducing much heavier government control over pricing and over outcomes. Basically this is how we are going to deal with the 40 mn or so uninsured that exist in the US. At the state level we are going to operate an exchange that has varying levels that will have cafeteria type menu of options that you have available to you. You will have varying levels of health insurance that you will be allowed to purchase through these exchanges and the private insurance companies will be required if they are going to operate in that state, to opt at all even selling in their traditional way to employers, they are going to also have to participate on this exchange with a compliance sort of product. Now you can have more than one exchange but every state is required to have one. This is estimated by 2013 when all the pieces of healthcare reforms come together, to be at least a $50 bn market, in the US handling 50 states of several mandate put up in exchange. Now like so much other legislation in US, it's an unfunded mandate. The federal government tells you what you have to do but they provide no assistance in terms of funding in how to do that. Each one of these states has got to figure out how to do this in a cost-effective manner just like Medicaid. We work now with 13 states in the US in running their Medicaid programs. It's the same kind of system that is going to work on these exchanges where you are mandated to do a program, the government just sets the rules in Washington but at the state level you got to bear all the costs of running and figure out how to do it in a compliant manner. With such a huge opportunity, this overwhelms what we can do alone. This will be a consortium that we work with other major players; probably a major communications player and other people that have relationships with more state governments than we do currently. To be able to put together a group of companies who will supply the healthcare expertise and then we will basically go into the space and help them set up in running these exchanges. Right now we are in the process of finalizing the consortium that will work on this. We have already designed what is apparent so far from the regulations. The details are still being worked out. There are still clarifying regulations that have to come out to explain some of the details around how these exchanges will work. But just based on what's in the underlying legislation that came out in January, we have been able to put together a point of view to talk to potential consortium members about this is how it would work, this is what we would do and this is what we would like you to do for us in this consortium.

iTransform, I will talk about in a case study. The 360 e-health is basically the pharma healthcare version of the iEngage platform that you heard about in another session. We have been working on this for a couple of years and it was around the whole trend in pharma directed to consumer

marketing was how it started where the pharma companies were having more and more trouble getting mind share with the position which traditionally would drive the prescription decisions. This was to create a more educated consumer who would be going to their provider and actually requesting a certain medication from a certain company to be used or ask "why am I not using x", which they had seen advertised or they had been contacted through some Digital Marketing media. 360 e-help has now been merged into this platform that we have created for Digital Marketing and we are continuing with new clients using that platform that before we were building as a one-off when we were having this discussion.

Some of the partnerships, the Pistoia alliance is around an interesting phenomenon in pharma where there is more and more desire to see where collaboration could happen in the industry without violating intellectual property. It's kind of a push and pull where in academics are under a lot of pressure by their institutions to generate revenue off of the IP that gets created in their research. Companies have always been protective with the patent, with how long it takes to get through the process of being granted a patent on a medication and how little time you have left by the time you get through Phase III trials and get it approved by the regulatory body. So the Pistoia alliance has some constraints based on some of the features in the industry but there is a strong desire from all players in the industry to figure out how to collaborate better to make things happen.

On the right, there is some information about our healthcare practice in the business unit. Now if you add on the healthcare work that we are doing outside of my business units along what I talked about earlier on some of the industries and what they are doing, there are probably another 1500 to 2000 people that have been working on healthcare related activities in the consumer products segment, in the publishing segment, in financial services. This is what we mean by the fact that this is an eco-system at the same level like smarter organization, in terms of its prevalence and how ubiquitous healthcare is going to be as a phenomenon across all industries in all countries.

This was the cardiac monitoring device that we developed and some of the things around affordability. We built this from off-the-shelf components, so we could keep the costs very low. They became basically an integrator. This was a medical device company that actually figured out how to go down market and make something affordable with our help instead of over-engineering which a lot of medical device companies are prone to do because of who they traditionally sold to were highly educated physicians who will have it and used to going through a regulator process that tended to add features instead of taking features out of something. We brought a new approach to thinking about this to say; what is the minimum solution that you can actually create that would still add value to the consumer. How do you built that with commercially available components again instead of building a new component from scratch, find something that you can fit together to make it happen.

This is related to iTransform and I wanted to just explain a little bit. iTransform is a suite of products which was co-developed between my business unit and our product incubation group that addresses a Y2K type event that is happening in the healthcare industry in the US. This is a conversion that is mandated to go from the ICD-9 diagnostic codes to the ICD-10 version of those codes. It's a many-to-many conversion in that. It's not trivial; it's not like Y2K was where it's fairly simple to deal with it to fix the Y2K problem. For ICD-10, it's impossible to automate it a 100% but you can automate significant pieces of the process. In this case we show the benefits delivered, what the reduction in time and spend was for somebody like a large payer to figure out what their total exposure was to the ICD-10 conversion. Now this is required to be implemented by 2013 which coincides with when US healthcare reformists will have all the pieces come together. This was a key component of US healthcare. Some countries like Australia have implemented ICD-10 already. They have done it with a very limited set and the US is trying to implement the entire set of diagnostic codes with the thought that with that increase granularity that's available, you will be able to more precisely both identify the conditions, design the therapy and also avoid errors in

compensation which are a huge part of the problem. Also drive out frauds, not overpay and make sure that the compensation since the private insurer is still going to be in the system since the government is going to become a much larger part of the system as before because the way the uninsured, the poor are going to get, their health insurance through these exchanges that I talked about, is they are going to become members of the Medicaid which is the program for indigent healthcare in the country today. Medicaid is going to explode in terms of how many people are on that program. The government is going to say we cannot overpay. We do not want to curtail a benefit or curtail a treatment so they could be very precise in what was wrong with the person and not overpay for their treatment. That is why these codes are being mandated. We developed a suite of tools that start with assessment and go all the way through with remediation to the extent that's possible. There is also a huge opportunity to do business transformation around this because if you can see opportunities for more precisely diagnosing something, if you are a provider, you can actually go in and improve outcomes and be able to show that kind of reporting back that now more and more the store cards on how providers rate compared to other providers in terms of eliminating this readmission problem that I talked about or how much it costs together certain procedure at a provider. All these things can be addressed but this falls into the part cannot be automated totally.

So there is a huge opportunity for doing consulting, for doing other systems integration work that comes out of this. It is the same thing like in Y2K, so many companies took it as an opportunity to implement SAP or Oracle ERP and transform their business operations so they had to change all their systems anyway. This is the same kind of thing that is happening in the healthcare arena. We built a suite of products, we are doing very well in assessments right now because our competition just has a traditional group force approach of going in with the traditional consulting effort and going in by hand and looking at all the programs that somebody has and other data and try and analyze it that way running some very rough code analyzes that are totally generic, is about all they can do. This is tailored for ICD10 and that is how we can get those kinds of savings. We have been displacing some Big 5 type companies that come in with this traditional group force approach. Same way that the same companies got displaced back in Y2K days when the companies started out may be through the audit relationship giving it to them to look at what the Y2K exposure was going to be. They eventually all got displaced by technology companies. This was happening a lot. We are doing a lot faster this time around with this suite of tools.

I think I will stop and just see what questions you have before we go to lunch and not keep talking about this and to give you chance to ask me

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Eric Paternoster
One of the state contracts for setting up an exchange of running it for a period of years. If you compare it to like a standard Medicaid contract, those will be multi-year awards in a hundreds of millions dollars that is the size of those. We are a very familiar with that because we work with 4 healthcare plans which specialize totally in government sponsored healthcare plans which means they go out and market to states and localities and only do Medicare and Medicaid. Those plans are all getting contracts in that size for one of these states that they work on. We see that not being any different from this because you got to run the exchange. There has got to be all different kinds of access to the exchange available because an indigent individual is not going to have a laptop where they can get on the internet and figure out how to buy a health insurance. So there is a BPO component to it. There are going to be huge contracts. Some states we will set up multiple exchanges for different segments of their population and so awards might be broken up but just in general, each one of them will be in tens of millions or hundreds of millions of dollar because to get somebody interested in making investment to go and do it, you have to give them a multi-year contract. Because it will take some period of time to set it up. It will be a standard government type

contract which as you might be aware that there is always pretty large scale contract for whenever you do like a platform type of government contract, it is usually in hundreds of millions.

Participant

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Eric Paternoster
Like I said, first of all we are going to have to do this as a member of consortium probably because the opportunity is coming pretty rapidly and you have to have experience in running large scale government infrastructure in order to win these and neither us or any of our India-based competitors have that credibility yet to run large scale government contracts. I have been subcontracting for 5 years to one of those types of companies that does these Medicaid contracts or a division of their company and I have been supporting the software that they do those Medicaid contracts with. But they are supplying the computing horsepower and the communications aspects of those contracts. So that model already exists today. Their contract with each of the states, I think the smallest one is $ 50 million that they have for Medicaid. I cannot remember what is the biggest one is but they have the largest state but for the smallest state it is in the range of $ 50 million that they are doing and like I said, this is probably a bigger problem than that because Medicaid system is mostly where you send claims in electronically from providers, then you get compensated. This would have a much larger BPO component at least in the beginning. I do not see how it is going to avoid it because of the question of access. This is going to be bigger than that except may be in some very small states but I cannot see it being smaller than what these Medicaid contracts run at.

Participant

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Eric Paternoster
Yes. You have to play on all those dimensions. It varies between different parts of the government sector in terms of willingness to and the way it works in this particular area that we are working in currently is that if there is a US-based company that is willing to be the prime, then the state government don't have a reason to question who do they bring in as subcontractors. The same model would not work in defense or homeland security or one of those federal agencies because they would have requirements around the 100% US citizens doing the work. We have seen in some instances at a federal level some domestic content regulations creeping in and that is why in the IPS subsidiary that we have set up and I am going to be running, we have a US development center to be part of the business plan for that entity because you cannot just pick off the work that is allowed to the off shore. There are agencies in the federal government today have no problem with offshoring but that is kind of a moving target because it depends a lot on a political environment. You are well aware that generally with how the economy is going in US it kind of swings back and forth in terms of how much the unions make noise about jobs going offshore and things like that. But you have to remember that the huge price tag that the voters and tax payers in the US have been asked to bear for US healthcare reform and they have been told, do not worry about the details, we do not even know the details right now. We just passed this thing and we will figure it out as we go along and literally that's like what the Speaker at the House Nancy Pelosi said, she admitted we do not know what's in this or what it's going to look like but we need to do this and we will figure it out as we go along. The cost whatever has been stated, everybody in the country knows that is going to be much higher than that because there is no federal program that has ever come in at less than what was originally predicted and there is always tendency to add benefits on to anything from what was originally in the legislation. They cannot put this mandate. It is just like how these Medicaid contracts work. They put this mandate on the state to run this

Medicaid program. The federal government could not intervene and tell them which states are allowed to offshore and which ones are not. Each state figures that out on its own and now a number of them realized that the only way that some of these prime can deliver this in a cost-effective manner is to employ offshoring, either their own organic off shoring or through somebody like us. It is going to be the same way with this. I think just as much as there is an offshoring backlash due to the unemployment situation in US, there is also going to be this huge cost-consciousness and there is a huge concern about the size of the deficit and not running it up any larger. Then there is other issue that the US-based technology companies are making more and more of an issue of which is we do not have enough people with technology skills being generated every year in the US out of college. More retire every year in the US than come out of college. So either immigration has to be eased or more offshoring has to happen or probably both will have to happened or else US growth will come down because Microsoft, IBM; these companies are lobbying more than we are in increasing H1 deals and things like that. There aren't enough technology people to get the job done.

Okay thank you for coming today.