DÁIL ÉIREANN

COISTE UM CHÚRAM SLÁINTE SA TODHCHAÍ

COMMITTEE ON THE FUTURE OF HEALTHCARE

Dé Céadaoin, 14 Meán Fómhair 2016

Wednesday, 14 September 2016

The Select Committee met at 9 a.m.

MEMBERS PRESENT:

Deputy Mick Barry,	Deputy Billy Kelleher,
Deputy John Brassil,	Deputy Alan Kelly,
Deputy James Browne,	Deputy Hildegarde Naughton,
Deputy Pat Buckley,	Deputy Kate O'Connell,
Deputy Joan Collins,	Deputy Louise O'Reilly.
Deputy Jim Daly,	

DEPUTY RÓISÍN SHORTALL IN THE CHAIR

Health Service Reform: Dr. Stephen Kinsella

Chairman: I remind members, witnesses and people in the Public Gallery to ensure their mobile phones are switched off. This is important because they cause serious interference with the broadcasting and sound recording systems. Apologies have been received from Deputy Michael Harty.

This meeting comprises two public sessions during which the committee will hear evidence on different aspects of the health reform agenda. In the first session, we will hear evidence from Dr. Stephen Kinsella, an economist from the University of Limerick, on workforce planning models in the health service. In the second session, we will hear evidence from Mr. Richard Corbridge, chief information officer with the Health Service Executive, on the role ICT can play in delivering an integrated health service.

Before we begin, I acknowledge the work of the wide range of stakeholders who contributed to the committee's public call for submissions, which process closed recently. The response was very strong. That is very welcome. The committee received in the region of 140 responses, which were hugely informative and will assist us all in our ongoing work.

With that, I welcome Dr. Stephen Kinsella to the committee. I draw the attention of the witness to the fact that by virtue of section 17(2)(*l*) of the Defamation Act 2009, witnesses are protected by absolute privilege in respect of their evidence to the committee. However, if they are directed by the committee to cease giving evidence on a particular matter and they continue to so do, they are entitled thereafter only to a qualified privilege in respect of their evidence. They are directed that only evidence connected with the subject matter of these proceedings is to be given and they are asked to respect the parliamentary practice to the effect that, where possible, they should not criticise or make charges against any person, persons or entity by name or in such a way as to make him, her or it identifiable.

Members are reminded of the long-standing parliamentary practice to the effect that they should not comment on, criticise or make charges against a person outside the House or an official either by name or in such a way as to make him or her identifiable.

I invite Dr. Kinsella to make his opening statement.

Dr. Stephen Kinsella: My submission is on a body of work Dr. Rachel Kiersey and I carried out for the Health Research Board. It is a review of five different workforce planning models and consisted of an evidence-based review and a series of interviews with the people who make the models in these countries. A workforce model is a series of forecasts based on a baseline data set of the number of doctors, nurses, physios, etc. in the system and what one thinks the demand for the services they provide will be over a given period. It might be the number of doctors or physiotherapists in Limerick University Hospital in 2025, and it might cover the integrated care pathway patients can expect to go through to get the highest level of care and the requirements for same.

It is also about how these services change over time. An example that kept coming up involved dialysis nurses across four of five countries. When technological change takes place, certain service specialties tend to be used to a lesser extent. Technology means there is less demand for nurses specialised in dialysis because people can dialyse themselves at home to an increasing extent. How can the system know that it should reduce the number of training places for dialysis nurses? How does one know whether one is producing enough or too many

doctors? It is about the connection between the demands of the system in five, ten or 15 years, the supply and also the mitigating factors. For example, we know that migration is a major issue across all health professionals, including nurses and doctors. Most of these models involve very simple modelling. It is just forecasts being formed. What is really difficult is getting the data on a fine-grain level and obtaining a very qualitative understanding of what is going on.

I will take the committee through what we found. I ask members go to the results section of the paper. We found that the onset of health workforce planning emerged independently in each country we studied. We studied Australia, New Zealand, Scotland, Wales and the Netherlands. Each time it happened, it was in response to some pressure. Either it was demographic pressure, financial constraints or issues surrounding future supply. In several countries, for example, it was the lack of available nurses that caused people to ask how many nurses were being trained and how many were being brought in from abroad. There are very few integrated national care models. Many take modules and only look at doctors, nurses or allied health care professionals, respectively. Very often, they start with doctors, for various reasons. It is very interesting that once one has moved beyond doctors and their sub-specialties, one sees that there are is a great deal of thinking and planning to be done. Data are always the first problem. Typically, we do not know what the data are on a given day. If one stopped the health system today and asked the chief information officer of the HSE how many people were working that day in the health system, it is most likely he or she would not know the answer. If one asked him or her how many doctors or phlebotomists the service would require in Temple Street in 2020, he or she would not be able to provide an answer. That gives a sense that the planning system is short-term in nature. While there is a workforce planning model in place right now, everybody agrees that it could change.

Each workforce planning model that we studied was country specific. That is to say it was generated with respect to the institutional structures that underlay each individual country's needs. Australia is completely different from New Zealand institutionally and similarly Wales and Scotland, notwithstanding similarities in terms of the National Health Service, NHS, have quite different financial and legal structures. However, they all begin in the same way. One creates a baseline analysis of how many doctors, nurses, etc., one has in a particular year and then forecasts based on demographic supply. We know our population is ageing and that we have both a very young and a very old population and that will increase over time. We are aware that demands on the service will change. We are also aware that there are regional differences in the numbers that are accessible. Once there is sight of the regional data and the patient flow data, it is possible to analyse the evolution of our system, which is very important.

When I started lecturing years ago, people said, "Get the summary in first, in case people are not sufficiently caffeinated." Here is the conclusion. This is not just a quantitative process. That is, it is not just the case that some nerd in a room comes up with a forecast, a line goes up and that is fine. This is a qualitative process, which is to say that it is a way for the Department of Health and the Health Service Executive to initiate a dialogue across all the sub-specialties. As an aside, I note that I will be setting out some thoughts on governance structures in a while. This qualitative process starts with saying, "Here is our forecast. Is it right?" It is about asking the individual services and specialties whether it is correct. Every time, of course, they will come back and say it is not and that more of specialty X is required or less of specialty Y. However, what is really valuable is being able to have that dialogue. This was a real surprise to me as a technocratic, quantitative person. In all of the expert interviews we did, this qualitative process and the idea of generating fora surfaced. It means one could get the deans of medicine of all the major colleges and universities, a representative of the Department of Justice and

Equality, who will talk about migration issues, and representatives of the Department of Health and the HSE around a table with the Departments of Finance and Public Expenditure and Reform. If the medium-term forecast to 2021 is that health spending will increase by 7%, we can drill down and ask the different specialties how much of each resource they need and where, if we had the money, resources should go. We can then ask the colleges if they are training the necessary personnel. Before the Fottrell report and the massive increase in the number of doctors we produced, we were not producing enough doctors. Now, it seems like we are producing too many. The system needs a check and a balance. There needs to be feedback into the system to slow things down.

In many of the cases we studied, clear and legislated connections to policy levers were very important. For example, if an individual service did not do its forecasting plan, it does not get funded. It is legislated in Wales that the medium-term strategy for workforce planning is allied with the financial plan, so if one does not do these forecasts one does not have one's service level agreement signed off. If one does not have the forecast carried out, that is it. Similar actions are being taken in New Zealand. In Australia, where it is most developed, people can tell one down to the hour what each pharmacist, doctor, nurse and every other sub-specialty is doing. They have activity data by the hour so they are able to compute productivity levels not just by hospital, but also by individual service. I am not suggesting that we go that route just yet. Perhaps we could find out where all the doctors were, although I am being slightly facetious because we have quite good data on that.

However, if we had a robust data gathering exercise, the modelling is not very difficult. What is difficult is getting these fora established and having them repeat. In Scotland, for example, when it was rolled out there were 150 individual contact sessions between the workforce planning unit and the relevant sections. We are not just talking about the workforce planning unit talking to the HR manager of a hospital but to all of the people who run the services, who might say they need three administrative personnel rather than seven, that they do not need ten nurses but two nurses and six more doctors and so forth. One might think that system could be gamed. I am a university lecturer and if somebody asked me how many more university lecturers are required in economics, my answer would be "all of them". One would imagine that people who hold budgets would say that. In fact, it is not true. Most of the time if one is asked for a fairly credible forecast, typically one gives it. People are not that incredible, especially if they are held to it - "Last year you said your expectation was that you would need eight physiotherapists, but you did not need eight because you have coped perfectly well with four. I know this because I have latent demand data and I know that there was not much of a waiting list and it was cleared quite quickly." On the other hand, the service might not be sufficiently resourced with support staff. This is a pretty big issue in certain areas. The support staff is not there, so one has highly qualified medics, nurses and other allied health care professionals running around finding labels. Much of this is about balancing and understanding the team composition.

This qualitative aspect is really important. One of the matters I wish to impress upon the committee today is the need to think about what the structure of those engagements would be. What would that structure be like if one had to have the deans of all the colleges of medicine, all of the various representative bodies in the Higher Education Authority, HEA, justice and so forth there, as well as a sense that the funding will follow whatever strategic priority is set? The strategic priority is typically on a five to seven year basis, not one to two years, which means the funding must be set roughly in those parameters. As I will outline later, the Irish context does not put the lie to that medium-term planning approach, but historically it has been quite

difficult to do it.

We found that the engagement with the whole workforce planning process across all the countries we studied, and particularly a discourse around the modelling itself, is really influential. It changes the wider health workforce policy, because it simply promotes a conversation. This allows stakeholders concerned with health workforces to become actively involved, even me. I am talking about doctors and nurses. Very few people ask how many phlebotomists we need. It turns out that this type of work gives what one might call the medical scientists a voice at the table, that they did not previously have because everybody is concerned that the public discourse is around doctors and nurses. In fact, one needs a large number of allied health care professionals to make the system run and creating these engagements gives them a large voice at the table which they would not have had previously. They get input into policies which they previously did not have and that is very good. These types of conversations give one a sense of being able to sense and identify trends in a system, and these trends in a system turn out to be very important. One will not get this data sitting in a room with a spreadsheet. One only gets the data by talking to the people who run the service; that is the only place to get this data.

That is the reason the governance structure I recommend is so important. If one locates a workforce planning unit completely within the Department of Health, the links it has with service users may be limited. If one locates it entirely within the HSE, it will not have the strategic element which the Department of Health provides. My recommendation is to have the workforce planning unit, division or department span both and have links into other areas, simply because the health system is so big.

As part of the context for our review, we looked at the evolution of the Irish health system to date. I have a panel of figures for the members of the committee which is included in the series of graphs I have provided. I am delighted it is done in colour because mine printed out in black and white and is completely illegible, so I was a little worried we would be looking at the wrong things. These figures are indexed figures from the Department of Health, the Department of Public Expenditure and Reform and from the HSE's annual reports. I am seeking to give the committee a sense of what has happened to the evolution of the Irish health system since the mid-1990s. The members are looking at these numbers indexed; that is, one can imagine them as a type of horse race. We are not looking at the nominal numbers. We are only looking at them relative to a given index year, and for all but one 2008 is the index year. Everything is relative to the height of the crisis, which I believe is a valid way of seeing it.

If one looks at the first figure, it shows all the Vote if one adds in the voted expenditure for health and the HSE. That includes capital, non-pay, pay and pensions. If we look at the rest of the public sector, we can compare the evolution of both directly. One can see that from the early 1990s up to 2008 for much of the time health grew at a lower rate than the rest of the system. It caught up around 2003 and 2004 in terms of its funding levels, which it then matched exactly until the crisis hit in 2008. The emergency budget in 2009 pulled the wheels off the bus somewhat. One can see the jagged drop in health and HSE funding, which then jumped up again. One can see that the evolution of the health system relative to the rest of the public sector has been quite different. The spending on health, despite all of the negative press it has received, has been relatively high if one compares it with, for example, education which is rather different as a subject. Over the time there are two contrasting stories. One is of relative underfunding followed by a levelling out of funding, especially relative to the rest of the public service.

Look at health worker numbers in the second panel. Of course, they both fall relative to 2008 but health recovers faster but later. The rest of the public service begins recruiting. The

public sector moratorium is removed in 2013 but it does not actually begin until 2014 for the health sector. In terms of the deficit of people, there is an approximate 10% deficit of people by the end of the crisis in the rest of the public service and it is a 12% or 13% deficit in the health service. If one looks at voted expenditure on pensions, we spent approximately €2 billion in 2016 on pensions. An interesting point is that the health service accounts for approximately one third of all public sector staff - approximately 103,000 people are employed in the health service - but just a quarter of all public sector pension expenditure. It is clear from these statistics that health was relatively insulated from the decrease in capital expenditure over the period of the crisis. Again, that is to be expected. The next statistic to which I would like to refer explains the large increase. The voted expenditure on non-pay items is 25% higher in 2016 than it was in 2008. Non-pay expenditure in the health service is higher today than it was at the height of the crisis. We can get into the various reasons for that in response to members' questions. The level of voted expenditure on pay is relatively similar, as one might expect given that they are all public sector workers.

When we break down the staff levels, based on the HSE's annual report, we can see that 25% of those who work in the health service work in management, in administration or as support staff; 14% of health service staff work in health and social care; 34% of staff work in nursing; 9% of staff work in medical and dental roles and 18% of staff work in patient support. I would not attach massive amounts of explanatory power to these numbers, for several reasons. Support staff in this sense can be categorised in various ways. ICT personnel and pharmacists could be classified as support staff. It is not the case that all support staff are people who write letters. If one looks at what many of those who are counted as nursing staff do on a day-to-day basis, one will find that they are managing the system. There are other aspects of this in the patient support and medical and dental categories. This is a very imperfect measure, in terms of the breakdown of the levels, but it gives a sense of how the HSE sees itself and perhaps of how it has evolved.

We know for a fact that we will need to spend more on health in the coming years. Demographic pressures alone mean that current expenditure in the health service will have to be increased. This will have to happen independent of policy change or anything else. We know that demographic pressures will push this up. I would like to refer to an estimate of the dependency ratio that assumes there will be middling amounts of migration and fertility. It uses a pretty standard migration and fertility measure known as the M2-F2 assumption. It is estimated that the dependency ratio will increase by between 12% and 15%, which means that more older people will have to be cared for through their taxes by fewer younger people.

We have studied five different national models in the system. We have spoken to experts on these systems in several countries. I will break down the main findings from these models. There is no one single model that I would recommend for the Irish system, simply because we are so institutionally different from some of the other models. The simplest thing to do would be to take the Scottish model, find a logo and slap it onto the Irish system. I think that would be a mistake. The NHS system is very different from the Irish system, especially at the service delivery level. It is far less diffuse than our system, which has a very different public-private mix. While I would be reticent to recommend an individual model, I will go through the strengths and limitations of the various models.

The authorities in Scotland have spent a substantial amount of time engaging with the people they are going to be working with. They have been doing this for approximately ten years. One of the limitations of this approach is that Scotland organises its medical and other nursing

training differently, relative to other areas. The Scottish authorities feel there is an over-reliance on quantitative data. I was completely shocked when this came to the surface in the expert interviews. I had a notion that this was a very technocratic exercise. Those who went out to talk to everybody said it was actually a matter of structured engagement where they got to look people in the eye and ask whether everything was going okay. As part of this engagement, the interviewees are asked whether they have enough people and whether they need more. This helps trust to build up over time. I think there is great value in thinking about that and about what kind of structure enables that.

As I said earlier, Wales has a legislative foundation for workforce planning. It is based around five-year planning cycles. There have been some strong quantitative studies in Australia. They are less focused on the qualitative elements. A far more collaborative approach is taken in New Zealand, where data quality is a huge challenge. A great deal of the data in New Zealand comes from surveys. Anyone who has ever decided not to fill out a survey on one's phone will appreciate that a representative sample is lost when surveys are used. This turns out to be a big issue.

The medical manpower model used in the Netherlands is objectively the simplest one. It is based on GP planning. If we want to adopt the simplest possible system, we should choose the Dutch system. The authorities in that country are able to pursue such an approach because they use the universal health insurance model. That may be a bad phrase to use around here - I am not sure. While this is very useful, it is important to note that an important aspect was lacking in the Netherlands model because there was no way to mix the different teams. It produced a headline number of doctors, nurses, phlebotomists and so forth. Under that model, one could not tell whether two doctors were needed for every three nurses and so forth. There was no skill mix.

Three things are needed if workforce planning is to be done properly. First, a well-resourced unit dedicated to information collection and analysis needs to be established. Second, this unit needs to be split between the Department of Health and the HSE - the strategic and operational sides of the health service - and needs to have links to the Departments of Justice and Equality, Education and Skills, Public Expenditure and Reform and Finance. Obviously, much of this is about financial control as much as anything else. Third, there needs to be a commitment to the generation of a minimum data set, rather than a maximum data set, to make this thing work. There is an international standard for what that is. There are data quality indicators that enable us to say that our estimates of nursing provision in Tipperary are as good as our estimates of nursing provision in Dublin, for example.

The qualitative side of this workforce planning process cannot be neglected. The establishment of forums and the dissemination of information about workforce planning should be a crucial task for the workforce planning unit that is set up. This should be done before any formal model is put in place. I will set out a rough governance structure to give the committee a sense of what this would look like. Of course we have a large private sector in our system. This includes GPs. Tusla, the voluntary bodies, the various section 30 groups and the various hospital groups are also involved. It is quite a diffuse system. It is quite difficult to get one's head around just how complex the Irish health system is. The workforce planning unit will take data from all the various bodies, work between the Department of Health and the HSE and contact external stakeholders like the ESRI and the OECD. I think something like this can deliver a workforce planning model in two to three years, which would be a pretty good return on the taxpayers' investment. I suggest we would get a significant level of engagement from

the various health care professionals along the way. They would start telling us in a structured way what it is like to run these services and what they think needs to change. I do not think we would end up merely with people asking for more and more. I think most of the people who work in the health service are committed to making it better. Obviously, they are personally incentivised to make it better. I think we should create a system like this, to the extent that we can do so, in order to help our growing and ageing population.

Chairman: I thank Dr. Kinsella for his helpful presentation, which I appreciate very much. I would like to ask a couple of questions before I invite members to do likewise. I would be interested to know how Dr. Kinsella deals with the various variables within the health workforce. I refer to things like the model of care. I presume all of this depends on where the services are delivered and the extent to which there is a primary and community-based focus within the health service.

Do decisions need to be taken with regard to skill mix, which has been mentioned by Dr. Kinsella, prior to the construction of a model to ensure that model is effective? A similar question could be asked about work practices. The issues of skill mix and work practices are inter-related. For example, will chronic care programmes be predominantly delivered through nurses? How many nurses does one GP equal? What is the equivalent number? Do such decisions need to be made beforehand? How does one deal with variables in work practices, in terms of whether people are working seven over seven or nine to five or whatever, or the question of the mix between nurses and nurses' aides? Do they need to be decided before one builds an effective model?

Dr. Stephen Kinsella: All these questions came up time and again. This is called strategic health workforce planning. The strategic element is based on the notion that the policy-makers set a direction for the health system, that it moves to a primary care-based model with large hospitals and subsidiary hospitals. This has been the model we have been saying for many years that we are moving to. If that is the case, then hiring more people into hospitals is not in accordance with that strategy. The model of care is determined in an interplay between what the clinicians say they need and what the policy-makers know from their constituents and from what the experts are telling them is best placed. That is very important as well. The model of care comes from a dialogue between here and the people who run the service on the ground.

Where services are delivered is crucial. For example, if there is an area of the country that is poorly served by an individual service, workforce planning can spot that quickly. It is an efficient way of doing that, because there is a forum for saying, for example, that patients may have to drive for two and a half hours to get treatment. We can then ask whether there is a way to put a system in a satellite spot to help these patients. This is why I was talking about patient flow data, which is vital. One has to know, for example, what proportion of the people of Sligo are visiting Dublin on a weekly basis, and so forth. There is some data on that but it is quite old. I think it was done mostly for cancer care services.

The question of where services are delivered goes back to the primary care model versus the tertiary care model. This model is set at the strategic level and is then backfilled by the quantitative model. To take into account the skill-mix requires a very large amount of data. One has to have each individual service tell one what it needs. Running a cardiac care unit is very different to running an opthalmic surgery. What the service-provider needs is different and they need to surface this, somehow, to the service-provider. That is quite difficult unless we have these data-gathering fora. In Scotland, for example, we found there were very good templates. They were very simple, one-page templates, asking service-providers where they are located, where

they think they will be in two years, what they need to run their service at maximum efficiency, how many people they saw last year, and how many people they think they will see this year. In Scotland, they map these simple team composition structures onto the map of clinical care they know they need.

We all have a clinical care pathway we think is the best, but if we did a workforce plan for each clinical care pathway and each one took three years, it would take 90 years to do the whole thing. My suggestion would be to start in a simpler way, then work up to a skill mix. Even in Australia, where they have the most advanced methods, where they know what people are doing by the hour, they find it difficult to do this. My suggestion would be to start with a service delivery model and then maybe incorporate skill mix later on.

Chairman: Quite a few members are keen to speak so I will take questions in groups of three.

Deputy Alan Kelly: I thank Dr. Kinsella for attending. He made us aware of the paper at a very opportune time for this committee, given what we are studying. I have a few questions and observations. It is a great study and the timing is very important for us. We have a defined period to do this work, but as regards governance structure, Dr. Kinsella has a great deal of analysis of what is going on across different jurisdictions. I agree there is no one model that can fit - there never is - but as regards planting a model here, what would the structure be? Can we define it? Could Dr. Kinsella come back to us at a later date with something that we will not stick him with but that, from his analysis, will work best? There is a requirement for far more continuous input and analysis into it than just sticking it between the Department of Health and the HSE. The Department of Public Expenditure and Reform would have to play a significant role, from my knowledge.

In respect of Dr. Kinsella's analysis and correlating it to Ireland, my background is IT, where there is a saying, "dumb data in, dumb data out". How good is the raw data here in Ireland? Are there sectoral differences? Are there differences across different areas? That would be an issue. I am very much taken by Dr. Kinsella's story in respect of technology change and how it is not prepared for. The story in regard to dialysis is a very good example. Is that something that is present across the board in respect of other countries and how does it relate to Ireland? Technology in health care is changing dramatically all the time. Are we prepared for it?

On forecasting in Wales, Dr. Kinsella said they were held to account. How were they held to account? In a situation where that happened in Ireland, where someone did not do their work, there would be a political outcry, saying that people are not getting services, and then everyone would buckle. How is the Welsh approach different from here?

In respect of the qualitative-quantitative issue, there is a huge volume of quantitative data out there that needs analysis. I presume the qualitative analysis is necessary on top of it to execute continuous workforce planning. What are the best examples across those Dr. Kinsella has studied for getting that information? This is a continuous process. It is an iterative process. Workforce planning never stops; it is continuous. Could Dr. Kinsella discuss the provision of that qualitative data and the engagement process, with models of engagement that worked across jurisdictions? I am not sure the information will get out there.

Dr. Kinsella spoke earlier about how he believes that the majority of people do forecast and if they are held to account they are very honest about it. In one of our submissions, which I was reading last week, the CEO of one of the hospital groups proposed, as one of her main solutions,

to take a great deal of money off the group and put it into community care. That would solve most of her issues. I found that to be incredibly honest.

Could Dr. Kinsella speak about gathering that information and the models that worked? I thank Dr. Kinsella. It is a very good study.

Deputy Louise O'Reilly: I, too, thank Dr. Kinsella. I echo what Deputy Kelly said about the study - it is very interesting and very timely. Dr. Kinsella referred to planning cycles. Clearly we have been locked into something of an election cycle with regard to our health planning for a very long time. Would he have a suggestion as to what the ideal cycle is in terms of workforce planning? Clearly 50 years is too much and one year is too little.

I would be interested to know whether any of the 25% increase in non-pay expenditure from 2008 that Dr. Kinsella referred to was spent on purchasing man hours or whether it is all capital expenditure. My sense is that some of that is agency staff and some of that actually refers to what I would call privatisation by stealth, although I am sure other people have different terms for it.

With regard to the IT systems we have at the moment, I am aware that the nursing and midwifery planning and development units, NMPDUs, were disbanded because the people working in them were needed back on the front lines - they were put back on their tools. We have a great deal of workforce planning that we need to make up and in this regard we have a huge deficit. In terms of the number of qualified people, if we were to snap our fingers in the morning and say that we will put in place a workforce planning team to do this, how close would we be to being able to get that personnel together? What would be required in terms of IT? As was said earlier, one only gets out what one puts in when it comes to data. I would not be convinced that we have the IT infrastructure that would be able to support it but I would be interested to hear whether Dr. Kinsella has any views on what it would take for us to be able to do that.

Deputy Billy Kelleher: I will revisit a few points that have already been made. First and foremost, policy must set the template for the direction the health services will take. In that context, I assume that if we are to produce a workforce planning model in the years ahead, we need a definitive view as to where we are going with our health services. That would mean that we would have to assess whether primary care would become the bulwark of the delivery of health care in our communities. On top of that, we also have an issue that is not compatible with other countries that we looked at, such as Australia, New Zealand, the Netherlands, Scotland and Wales. This issue is a national health system. We have a national health system but half our population has private health insurance. How can we assess the delivery of health care in the private sector *vis-à-vis* efficiencies there versus the public sector because if we are to amalgamate or move to a stage where it should all be done through public health, clearly, we must assess it very stringently to see whether different efficiency levels, etc., exist? Did Dr. Kinsella look at that part of health care delivery in this country in terms of his views on assessing performance, etc.?

This leads to how one assesses efficiencies in a workforce planning model and how one extrapolates from quantitative and qualitative data in terms of efficiencies for future workforce planning. It goes back to Dr. Kinsella's original point about dialysis nurses not only in that context, which is just changing technologies, but in terms of assessing efficiencies such as how many people are required to carry out a certain task and whether there can be changes because of technological advances, IT, changing work practices and inherent ability to get more efficiencies out of individuals and the system.

When we speak about skill sets, I have always noticed that when one meets groups of people to address the problems in our health service, while they come with the best of intentions, they also come as captives of their own profession. Dr. Kinsella said earlier that management, the Department of Health, the HSE and others, by and large, forecast honestly. I suppose they do forecast honestly but not all forecasts are correct so it is very hard to assess whether it was a forecast with the best of intentions or whether it was just a forecast with other intentions. How does one assess where health policy analysts *vis-à-vis* those who deliver health policy such as the Government, the Department of Health and possibly even the HSE may be steered because of political considerations? In respect of laying off staff and cuts in numbers, we were always told that it was able to deliver but it was quite evident that when one drilled down through it, it was not able to do that. Where can we independently ensure that workforce planning models are independent of the decision making of policy makers even though the model on the policy is being assessed? This is critically important. Could Dr. Kinsella address how we assess private health insurance *vis-à-vis* rolling it into a public health model?

Chairman: There are some very big questions there so could Dr. Kinsella do his best to address them?

Dr. Stephen Kinsella: I will do my best. Defining the structure in governance terms is very important. The correct structure evolves. These things must evolve. Data quality is variable everywhere. One of the ways one assesses data quality is by using this minimum data set requirement. There is an international standard. If only 9% of the nurses fill out a survey about what they do on a daily basis, perhaps the information in the survey is not that great. It is that kind of idea. There is a minimum data standard that is pretty good.

Sectoral issues abound. It turns out that we have pretty good data about the medical sub-specialities that are working. Examples would be cardio-thoracic surgeons. We know exactly how many of those we have in the system because one could probably count them on two hands. There is capacity in the system to do that.

Are we prepared for technical change? I would say that the answer is "No" right now. Quite simply, we only perceive technological change as an increase in the cost of delivering medicine. There is a lot of data on health inflation, which runs far in advance of the inflation rates for other goods. Some of that is as a result of drug pricing, etc., but some of it is simply as a result of the newest technical "whizz bang" thing that will deliver better care but cost a lot more.

How do we hold the forecasters to account? The answer is that it is legislatively backed so nobody can back out of it because it is enshrined in law that this is something that needs to be done as part of the budgeting cycle. If one does not do this, the political system is, for want of a better word, insulated from this. One can simply point to the legislation and say, "look, it is not us, it's those bad people who legislated for this in the past", who may also be us. The hue and cry about this may be less than one might think because there is a fair amount of data to back it up. When one has external experts saying that this is the best standard of care given in light of where one is - I am sounding awfully political because I know that another debate about this is taking place - and this is what it should be, people tend to go with that, generally speaking.

What is the best example of engagement? The regional fora in the Scottish example were really excellent. They had two people whose only job was to go around gathering this data. They were two principal officer-level people driving Scotland just hearing what people had to say so these two people amassed an enormous amount of soft knowledge and had amazing emotional intelligence. When I spoke to them, they really knew when somebody was on the

level and when they were not so there was credibility there.

The ideal planning length is somewhere between three and five years. Seven years is too long. One forgets what it was. I would imagine that, for us, three years is probably where we want to be because we still have a single-year budgeting cycle. However, we have a system with over 100,000 people working in it and it is very difficult to turn that in under five years.

In respect of the 25% increase in terms of support staff management and administration, there could well be agency people in there. I do not know. They do not drill down into the data. I can check with the HSE and come back to Deputy O'Reilly.

Deputy Louise O'Reilly: On a point of clarification, it concerned the 25% increase in non-pay expenditure. It related to whether agency staff were included. I suspect they were.

Dr. Stephen Kinsella: I do not know but I can check and get back to the Deputy.

There is an IT workforce deficit but there is a very large spend in the Department of Health on IT. In respect of the eHealth strategy and data analytics, there is a deputy secretary just for data analytics and research who is a very good and competent person. My hope is that one can ally this with those data gathering initiatives. What is the capacity if we turned it on? There are people who have produced workforce planning models in SOLAS. Professor Eilis McGovern and her team in the HSE have done considerable work as well. A group in the Department of Health has done this work to a high standard for midwives and nurses. In terms of boots on the ground, the capacity to deliver the service exists, at least in skeleton form. We would need to buttress it by adding in more people. Another group that would be very useful is the Irish Government Economic and Evaluation Service, IGEES. Some of our best University of Limerick graduates are with that group now. These are really smart people and very numerate but, most important, they give us a direct connection back to the Department of Public Expenditure and Reform because that is where they were originally located.

Deputy Kelleher asked several questions, including one on the private versus public health system. This is the main reason I do not recommend either the Scottish or Welsh models. It is also why the governance structure should be managed between the Department of Health and the HSE. The Department can compel access to some of the data from the private systems whereas the HSE cannot.

Data issues abound. Assessing performance has to be done on qualitative and quantitative basis. If we set a target, then people will move to fulfil the target. If we do not have the qualitative elements along with other data, then all we get is people trying to hit targets. Some of the best performance models set the targets but do not tell anyone what they are. It is really interesting. They set they target and then tell those involved simply to try to do the best they can. They found that everyone exceeded the target. Behavioural economics suggests that if we give people a target, they work to it. There is a great example involving Boston firefighters. They brought in a rule to the effect that no one could be absent for more than 15 days per year. Then, the absenteeism rate exploded because people realised they could take 15 extra days. Staff who had not taken a day off in 20 years then took 15 sick days. Then, when they removed the cap the figure stayed at 15 days. We should be careful of the targets we set.

Can we assess efficiencies in workforce planning? We can, but it is typically done through the price system. People try to figure out how expensive it is to recruit 100 new consultants or 25 new phlebotomists and so forth. Typically, it is done through the price system. The Aus-

tralians have a very good system but I would caution against introducing a similar system immediately. It comes back to work practices. If we were to ask every consultant and nurse what they do on an hourly basis, I do not think they would be able to give an answer. Producing the system to give us that answer would be enormously destructive in terms of the trust we want to build up with everyone. I would do that only as a last step, if at all.

Forecasting quality is absolutely vital. It turns out that we can figure out whether forecasts were of high quality. We relate the forecasted levels to the levels that actually materialised. Let us suppose we have six different anaesthetist groups and we are forecasting their levels. Then let us suppose three are bang on. We can measure that by the amount of latent demand. If we have three people with a fairly average waiting list and then two others over-claim and have no waiting list while three other people are waiting around not doing much or doing mostly private work instead, then we may have overshot here and undershot there. It is a rough balancing act over time and we can see that, especially with the qualitative element.

Is there a tension between these developments? There is, absolutely. There is a question of leaving it with the Department of Health and the HSE and then perhaps putting it with a body like the ESRI. There is a tension. In Australia they created an entirely new institute of workforce planning and had what was almost an ESRI body for workforce planning. Then after some years they ended up nationalising the organisation and bringing it in to the health service again. There are many different models to make it work. I am uncertain whether such a body should be independent of policy. I think we would want it to be fairly connected to the policy-making system. Otherwise, it ends up evolving into a fairly technocratic dry exercise where someone produces numerous charts and people say it is grand but there is no action. It needs to be close to the systems of power, including the committee.

Deputy John Brassil: I thank Dr. Kinsella for his presentation. I have some brief questions. Where are we in Ireland with regard to the data-gathering process? Are we at zero or are we somewhere along the line? Is the information Dr. Kinsella has presented to us part of his role? Has he been seconded from the University of Limerick to gather this information?

Have we any information regarding the relationship between the timescale of someone coming into an accident and emergency department and getting blood checked, X-rays, ECGs, MRIs or whatever might be needed and effective treatment of that person? It seems to me that the gathering of data on that level is critical, and if we have a quick turnaround in getting what we need to diagnose a patient, then we will have a quick diagnosis and everyone benefits. Are there data on that?

Deputy Mick Barry: I thank Dr. Kinsella for the talk and for the many interesting things to ponder. I have three questions. They relate to the issues of demographics, the question of current staffing levels and the increasing use of agency staff within the health service and hospitals in particular.

It would seem to me that one of the tasks posed here is to look at the big picture and the broad brush stroke before getting down to the detail. I am calling on Dr. Kinsella to comment. It would also seem to me - again, I am inviting comment on this - that there are two issues which point in the direction of significantly increased staffing levels in the context of putting forward a plan. The first is the issue of demographics. The map on the dependency ratio with the M2 F2 graph is quite dramatic. Dr. Kinsella referred to an increase of 12% to 15% over a period of ten years or so. One statistic relates to the numbers of our population over the age of 65 years. Currently, the figure is below 600,000 and about 585,000. That is set to rise within ten years

to 850,000 or perhaps beyond to 860,000 or 870,000. There will likely be an increase of approximately 50% in that one group within society. There is another statistic on the prevalence of chronic disease. It is not entirely linked to the demographics, but it is not unrelated either. The figure is expected to rise by 4% or 5% per annum. That figure was produced by the Irish Nurses and Midwives Organisation. It strikes me as a very strong statistic.

I am also wondering how we factor in other things. For example, there are things that people may not be presenting for now but for which they will be presenting in five or ten years' time. Let us consider mental health and the question of depression. The culture is changing and it is becoming less of a stigma for a person to say that he is feeling bad and needs help, but there remain many people in society who would not present with depression or anxiety. They would rather try to power through and batter on. There is a better and more open attitude among the younger generation. I imagine that as the demographics shift, there may be an increase in mental health issues. I suspect there will be, but there may also be an increase in the number of people willing to present and say as much. Considering those factors together, it strikes me, particularly on the issue of demographics, that it points to an increased need for health services and recruitment of professionals within the service.

The second issue is current staffing levels. The graph is interesting. It shows worker numbers in the health service to be down perhaps by about 7% on where they were in 2008. The graph is a somewhat optimistic one because it points upwards. However, I think it would show a plateau if it included the numbers for 2016, because there is this X and Y policy now, as enunciated by Tony O'Brien of the HSE, that one can only hire Y if X leaves. Therefore, while there was an increase in staffing numbers of more than 4,500 the year before last, I think last year there was a plateauing of the situation. For example, we are down more than 3,000 nurses on the 2009 figures, and there are quality of care issues such as the linking of bed closures to staff shortages and so on. Again, I am inviting comment, but to me these issues point also to the need for significant recruitment.

My final question concerns the issue of agency staff. Anecdotally, I am getting back from health service workers reports of a very significant increase in the number of staff being brought in from agencies. This applies perhaps particularly to nursing. I saw one figure which indicated that there is a budget this year of €226 million for agency staff and that half of the budget had been exhausted by the end of April. In other words, a third of the way into the year, half of the budget had been used. It also strikes me that if one is planning in a sound way, surely there is a very strong argument to base staffing fundamentally on the recruitment of full-time permanent posts rather than using agency staff, which seems to me the epitome of short-termism. One is considering not just quantity, but quality as well. Obviously, if someone is employed in a hospital, he or she works there and it is good for morale - there is an issue with demoralisation in the health service - and it will improve the quality of the work. Would Dr. Kinsella therefore agree that an over-reliance on agency staff is an indication of short-termism and that a more planned approach would base itself far more on the recruitment of permanent staff?

Deputy Kate O'Connell: I thank Dr. Kinsella for his presentation. My first question concerns the way our system is structured in Ireland. We have the regional health organisations and, on a separate wing, mental health and social care. Is that kind of division between acute care and social and metal care reflected in any of the other models Dr. Kinsella considered? It seems to me, from my position on this committee, that if mental health has its own wing, that immediately stigmatises it. Is that division present in any other country?

Dr. Kinsella mentioned something about pensions in the health service accounting for 25%,

I think, of overall pensions. Maybe we do not know the reason for this, but is it to do with salary levels or the fact that nurses within the HSE are forced to retire at 65 even if they do not want to? Is it because we force people into retirement early?

To follow on from Deputy Brassil's point about where we are now and whether we have done anything yet to fix things, does the same go for IT? Are we 50% of the way through the IT developments or are we just starting off?

We talk about workforce planning over a two-to-three-year period. That is great and must be done, and there is obviously time that one needs to spend planning things, but while that is being done, could a section of the health service be taken and sorted out in tandem with that so that we are not just coming up with another plan or report - so that we could actually achieve something? For example, everyone seems to agree that the national cancer strategy was a major achievement and everyone says it seems to work very well. My experience of it has been very positive. The national maternity strategy is ready to go. Maternity hospitals are separate from general medical hospitals. Could one theoretically carry out that strategy in tandem with a kind of overlook of the whole health service? Instead of this "Let's fix the health service" approach, could we set about planning for it over a number of years while fixing little sections of it as we go along?

Finally, doctors, pharmacists, physiotherapists and occupational therapists from Ireland have moved to other countries and there is a fair amount of skills transfer. As a nurse, one can go to Australia or whatever. Do we have any data on, or are there any optimum ratios of staff that we could take from other countries? Would it be possible to say that on average, internationally, for every ten consultants one needs 30 nurses, three pharmacists, two phlebotomists and five care assistants, or whatever? Is there some point at which we could start that we could use as a standard for what we might work towards?

Dr. Stephen Kinsella: To answer Deputy Brassil's point about where we are in Ireland, in our readiness for workforce planning, my understanding is that the HSE has devised a scoring system on its readiness to produce these data. I myself have not seen the scores. I imagine that, on a score of one to ten, we are somewhere around five, in that we know how many doctors we have. We know because we have a payroll and we know how much we pay them. One can use such a system, but I sense that once one moves away from the two or three main categories, the quality of the data degrades pretty quickly. Deputy Brassil asked if I had been seconded to gather the data. No, I have not; I was asked to write this report for the Health Research Board. I am still teaching classes in UL. I am teaching one at three o'clock. I am tipping along and very happy there. I am very interested in this stuff. It is great.

Regarding timescale and treatment, patient flow data are absolutely vital. They come from a unique identifier system. One needs to have such a system and get over the data protection and privacy issues that surround it in order to gather that kind of patient data. If I bring my ten-year-old son into Nenagh Hospital tomorrow for a broken arm - touch wood - he will be seen and treated, but if I bring him in the next day to University Hospital Limerick, they will not know he has been in Nenagh Hospital unless I tell them. It is therefore a database issue, a big data issue and a very important issue in terms of quality and reliability of care. It is related to some of the efficiency issues about which Deputy Kelleher spoke. I gave a talk at University Hospital Limerick, the grand rounds lecture, at which I asked the doctors present, if I gave them the money to hire the people lost between 2008 and today, what they would do with it. I asked whether they would hire more nurses or more people like them. They said they would put all of the money, every single penny, into ICT systems. These are young doctors who are all vy-

ing for registrar positions and so on. To me, that was a really important issue. Deputy Brassil asked whether there are any data on that kind of treatment flow. The answer is yes, but they are case studies. Case studies are typically examples of excellent care, which is great, but one also needs the middling stuff and the bad stuff.

In response to Deputy Barry, that 50% increase is on a low-fertility assumption. The dependency ratio I think he was seeing was using the M1F3 measure, whereby the population explodes, which is reflected in the chart. I think I have seen the chart circulated recently. It is based on an assumption of very low fertility. I have not seen the INMO stat, but I will check it out, and I thank the Deputy for telling me about it.

Regarding the mental health issue, I am glad to see that it is becoming more publicly acceptable to do this. People in my family have suffered from it, so that it is coming out more is great to see. Medicine and medical care comprise a derived-demand system. The more that people use it, the more it gets used. It is like a road, in that if one builds a new road, it will be full of cars. Do not get me wrong, as it is good that people present with these issues, but it entails a necessary increase in cost to the system. The best example of this is autism services. We are finally getting around to producing really good autism services in some parts of the country, which is producing a natural increase in Exchequer spend. Once autism is diagnosed, it obviously does not go away. The State has rightly made a commitment to the person and his or her family for the next 40, 50, 60 or 70 years. When these diagnoses are made, they do not tend to be associated with one-time spikes in expenditure, but with long-term increases. Nonetheless, it is the hallmark of a good and decent society that we do these things, so the State should do them. However, in a world of constrained resources, by definition this means that the money in question is not being spent on early childhood education, higher education, etc.

In general, there will be an increased need for staffing across almost all grades, but my sense is that this is not true at the fine grain or service level. I will give an example. If we decided that we wanted to route more services into the community care space, we would fund that area and not other areas, but we would route people to that area in order to decrease demand there. To do this, one needs a plan. One cannot just stop something and hope that it gets built up by the private sector or the like. That tends not to work. The private sector tends to take options that maximise its profits, as it should. There is an issue with that. I do not want to give a two-handed answer but, while worker levels would increase, they would not increase by the same amount everywhere. I only have anecdotal data on this.

No workforce planning model that I have seen plans for agency staff. Models plan for full-time or part-time staff on a full-time equivalent, FTE, basis. We are discussing worker equivalence, not agency staff. Agency staff are seen as a sticky plaster to solve the problem. My strong preference is for permanent and pensionable people in positions where they can do their best work. One does not get a professional system if one does not hire people for professional reasons and pay them appropriately. In fact, one overpays for agency staff.

May I ask Deputy O'Connell for clarification on the divisions issue? Does she mean funding or the actual locations of the systems, for example, mental health services in one place and coronary care somewhere else?

Deputy Kate O'Connell: Within the HSE. Mental health and social care services are segregated from the acute hospital set-up. Does that happen anywhere else?

Dr. Stephen Kinsella: The Deputy means the actual delivery of care.

Deputy Kate O'Connell: Yes.

Dr. Stephen Kinsella: Yes, it happens elsewhere. It happens in certain countries like the Netherlands, but other countries integrate them. Typically, it depends on how the system evolved. Essentially, our health system evolved from the Catholic Church and a series of 19th century Victorian systems that were effectively designed as workhouses. Our hospitals are in certain places because of a decision that someone made in the 19th or, in some cases, 18th century. We have stuck with many of these systems because they have been there. Some of the governance arrangements are 19th century ones, which is bizarre. We are stuck with a large number of systems because that is how they were in the past. Our approach to mental health, for example, has been to ignore it for generations. This is why one is separate from the other in physical, funding and governance terms. I hope that our approach will change, but it depends on one's starting point. New Zealand does not do it in the same way and instead uses an integrated model of care. New Zealand is an interesting model of health care delivery. Not all of its staff are permanent and pensionable, but it is efficient and good value for money and everything is integrated in terms of funding and delivery. I do not want to give the Deputy an "it depends" answer, but it is where we came from.

Deputy Kate O'Connell: Given what Dr. Kinsella has studied and the size of our country, would it be appropriate to have everything integrated, that is, the New Zealand way instead of the Dutch way?

Dr. Stephen Kinsella: With our current population density, one would keep everything separate. With a population of 7 million to 8 million on the island in 30 years' time, which is what this committee should start planning for, Dublin will have 2 million or 2.5 million people, which is probably the population density per square mile of Los Angeles. Places like Limerick will have 300,000 or 400,000 people. It is a different proposition. There will be areas of the country where almost no one lives. Interestingly, it will be back to the same level that obtained before the Famine, when 8 million people lived on the island. In such a situation, one would plan to integrate services as the population grew and aged.

I will offer an example. The Deputy asked whether there was a section of the health service that we could do something about now. The answer is "Yes", and it is the national children's hospital. It is a big piece of capital infrastructure, but it is not there currently. We could plan for the workforce that will be involved. For example, we could place Child and Adolescent Mental Health Services, CAMHS, in there. As the system evolves, one builds things in. We could fix that. There is some talk of moving to the trust model for our large hospitals. As one moved to a trust, one could build in that workforce planning along with the legislative and financial backing.

Regarding ratios of staff in various countries, I have seen many studies. My sense is that this work would have to be done at the service level, which would mean contacting all of the major professional organisations and asking them what they believed best practice would look like if, for example, they delivered ophthalmic surgery. One must listen to the service users and service providers. If one does not, one ends up with a load of nerds producing spreadsheets. That sounds good to people like me, a nerd who produces spreadsheets, but does it help those who are on the ground delivering services? This was the feedback from all of our expert interviews. While we could generate a baseline, we would need to ask the experts first.

Deputy Hildegarde Naughton: I thank Dr. Kinsella for his excellent presentation. Workforce planning entails a number of activities, but the main thrust is to have the right amount of

people in the right place at the right time. The common refrain is that the HSE is top-heavy with management, in that there are too many chiefs and not enough Indians. Has this been borne out by Dr. Kinsella's studies?

Is there sufficient talent management within the HSE? Are high achievers being rewarded within the system or is promotion due to seniority still an issue? How do we address this or has Dr. Kinsella examples of how it was tackled in his other models?

Deputy Joan Collins: I will be brief because many questions have been asked. I thank Dr. Kinsella. I wish to ask him about his studies. Our health service has moved from the Victorian type to matrons to the church, etc. Generally, everyone attended public hospitals, for example, accident and emergency departments.

Given that the national cancer strategy has worked well, should we start with that to find the information required for the national children's strategy, the national mental health strategy, the national disability strategy, the national cystic fibrosis strategy and so on and feed it into services that are provided through our public health services or otherwise? Is this taking on board that we are looking at a single-tier health care service based on need rather than ability to pay? Reference was made to the population reaching 8 million in so many years and those services coming together. The way the health service has developed in Ireland means there has never been direct information pulled, for example, from the national cancer treatment plan: what are the issues, what does one need, how does it get put through the system, how many patients are there, whether there will be more patients in the system over time, etc. Consider people who have cystic fibrosis or scoliosis and where their national treatment plan is going. It is done in Galway and at the children's hospital in Temple Street, among other places, but the issue is how to pull all that information together and how it can link in to make a more efficient service so health care can be provided based on need rather than ability to pay. It is about getting people into the public health service rather than letting them go private because they feel the public service is not there.

Deputy Jim Daly: Dr. Kinsella mentioned that the health care sector included section 30 bodies, the voluntary sector and Tusla. What are Doctor Kinsella's feelings on that side of things? All of those bodies have their own individual management committees and it is probably difficult to get information from them. Perhaps the witness could indicate whether that is a big stumbling block in the area of workforce planning and if there is any way around that or any suggestions in that area?

Chairman: I ask Deputy Barry to be very brief.

Deputy Mick Barry: I am going to try to read Dr. Kinsella's mind a wee bit. When he spoke about workforce planning in Wales and Scotland, Dr. Kinsella indicated that he liked it. However, he felt that it might not fit with the health service in Ireland and its mix between public and private. The question must be asked: is it the case that we make plans to suit the system or that we adjust the system to the plans? When one looks at the population issue with a broad brush stroke - for example, in 30 years' time there will be 2.5 million people in Dublin and 8 million in the State, which equates to a population the size of Los Angeles - if we are going to plan this properly, do we need to move more in the direction of England and Wales with regard to a national health service and a centralisation of health services? Can the current system be properly planned for, given the types of changes we face?

Chairman: I wish to add a couple of questions, the first of which relates to the point made

by Deputy O'Connell. I assume there is some element-----

Dr. Stephen Kinsella: I just want to take some notes on the Chairman's questions, but I have run out of paper. I brought only ten pages. Could I steal a writing pad, please?

Chairman: I want to pick up on the question asked by Deputy O'Connell about ratios in terms of staff. Will Dr. Kinsella indicate whether there are objective best-practice ratios, issued by the World Health Organization or the OECD, with groups of countries comparable to Ireland, at least with regard to the number of cardiologists or speech therapists, for example? Should that be our starting point, if those objective ratios are set and adjusting for profile of population and so on?

Dr. Kinsella made reference to elements of good practice in respect of workforce planning for nurses, midwives and other categories of worker, but is he saying, fundamentally, that there is no overall workforce planning of consequence going on in Ireland? Are there no agencies or bodies taking responsibility in the round for health workforce planning? This is what I took from his comments.

Another question to which we would want to apply our minds very soon is the allocation of resources and what we know to be very wide variations in staff ratios on a geographic basis. Has Dr. Kinsella looked at that issue and, if he has, what are his findings on those variations?

Dr. Stephen Kinsella: On the question of whether we are top-heavy with management within the HSE, my role was not to look at the HSE but to look at everybody else and come back. I am hesitant to criticise the HSE because everyone does. My sense is that if 25% of staff are doing management, administration and support it feels like a lot, but one has to look at where they began and where we are now. I am not trying to evade the Chairman's question but I would be much more interested in the question of what it would look like in ten years' time - would there still be a 25% ratio or would it be reduced to 15% by using better technology to do some of the work and what does that mean for those administrative staff? When one considers the ratio of management to administrative staff within the HSE versus comparator countries, the percentages do not look wildly out of kilter. However, those data have to be taken with a pinch of salt because there may be nurses who perform lots of administrative work and there may be support staff who do much of the front-line work, so we are not 100% sure.

With regard to talent management and rewards within the system, the public sector is, unfortunately, not replete with massive amounts of rewards within the system. I cannot imagine what a bonus culture would look like in universities, for example. I would love one, if the politicians want to do one - that would be great. I believe that our public sector and public structures are still within a very early-20th-century mode in which one gets a job for life, stays there and moves up in terms of seniority. I do not see any evidence that it is different in other parts of the system. My own experience is mostly within the higher education system, but I do not see any evidence that it is different.

Deputy Barry asked about work planned around the national strategies, such as the maternity and cancer strategies. That can be done, but if we do that we will not get around to the major ones for quite some time. I believe there are some 30 different clinical care pathways. If we worked on one plan at a time and each one took three years, that would be 90 years. Even this long-term committee does not quite hold to that. I believe that we need to do one overarching plan and maybe work on specific modules at the same time. It is important to have a workforce planning unit - that is, a group of ten or 15 people whose sole purpose is to gather all the data.

It should not be done separately by SOLAS, the HSE and the Department of Health. The group would gather the data and would fit it into the e-health strategy and all the rest of the system. In being enabled to do so, the group would build up a competence so it can determine, for example, a module on midwives. We saw this in Scotland, where a workforce planning module was prepared specifically for midwives. This has happened in other places also, where having people on the ground with the data means that further investigations can happen in a particular dimension, as policy makers require. For example, we know that diabetes levels are going to increase massively, so we may need more diabetes nurses - who knows? It will be a case of planning for that. We know it is going to get worse: the clinicians are telling us that we will have a problem into the future. Autism care requirements may increase. Care for people with different developmental disorders and those with mental health care requirements will increase. We will need to do a workforce plan for that. It would all be done in one place and it would not be aligned to a particular strategy whose work, when the strategy runs it course, might never feed back into anything else. That would be one of my ideas - one resource putting all the data together.

With regard to the section 30 queries by Deputy Daly, that is why one needs to have a governance structure at the level of the HSE. Even the Department of Health finds it difficult to get data from some section 37 and 38 organisations. The Government will need to change the law in order to have them comply as efficiently as possible, as if they were fully public hospitals. Again, it is interesting; it comes back to our history in that voluntary care has typically been provided in the absence of the State providing it and so what one has is a half-way house whereby one has charities doing the State's work that are poorly regulated. People are set up to do a job, whose vocation in life is to help homeless people or people whose children are dying of cancer, for example, and one is saying to them that they must also fill out a risk register and the skill-sets are just not there.

I do not have the answer but a good question for me to pose to the committee is whether we have too many charities. That is a question this committee could answer. What are the consequences if the answer is "Yes"? If the answer is "Yes" then this committee must recommend that some of those charities get amalgamated, go away or become regulated out of existence. That is a big question. Do we have too many hospitals? That is another big question. Do we have too few? This is why we elect Deputies. They must answer those questions. I wish members good luck in answering them.

In terms of the information, the law must change. Some of the organisations are just private companies, effectively, with a board of management and the CEO is subsumed into the board and the board might decide it is not giving the information. The HSE has made lots of changes in order to get the information on a timely basis and it is starting to get to the nub of some of the issues, but I strongly suggest that with thousands of charities we have not seen the end of this.

A good question is whether we adjust the system we have or strategise for the system that we want. I strongly urge the second option. I would argue that one should set the strategy for the system one wants and one should build funding on a multi-annual basis in order to get there. The best example of that is the city of Copenhagen. It was decided to plan the city using the finger model and to develop in a certain direction along one finger for five years and then go back and develop another finger and then another one. The intention was to connect up the fingers using public transport. Anyone who has been there will know it is a very nice city. They did not plan for the city they had, they planned for the city they would have and then money was put in as it became available. When the money was not available no building took place, but over

a 30-year period they produced a beautiful city. One could do the same with the health system. One would do it by simply sticking to a plan. That is why it is called strategic health workforce planning. It is strategic because the Government sets the strategy. It is interesting to see where the strategy is set but my hope is that it would be at Cabinet level and committee level.

In reply to the question of whether ratios should be our best starting point, the answer is "Yes" but what one will find is that the ratios are different by country depending on their institutional structure, so one must control for that and it is quite difficult to achieve. I have seen many of studies that tried to do this. Eventually, what they end up doing is focusing on doctors, nurses and physiotherapist and then they give up because it is very difficult to get comparable data. Reference was made earlier, for example, to nurses and nurses aides but they do not have those comparable distinctions in other countries which means one cannot compare them directly and it becomes a little difficult. That said, we could do that as our starting point. To my knowledge it has not been done but I am open to correction. It could be done as part of the work of the committee. I imagine the HSE would be the first ones to do it.

In terms of allocation of resources and staff ratios, one should follow the other. The question is what is the appropriate staff ratio. There must be dialogue with the people who do the service. If one does not, one will impose a system where there are too many doctors and not enough nurses or one will forget something. I believe in listening to the people who do the work. That is probably the best way to do it, and that is informed by best practice.

Chairman: I thank Dr. Kinsella, it has been a really worthwhile session. He has been very generous with his time. I speak for everybody in saying that we very much appreciate the fact that he picked up on all of the questions asked and provided very direct answers, which is not always the case at committees. We know he is under time pressure as he must be in Limerick for 3 p.m. We appreciate Dr. Kinsella's attendance.

Dr. Stephen Kinsella: It was my pleasure. I thank members.

Chairman: I suggest that we take a ten minute break. People might like to get coffee or whatever else. Witnesses from the HSE dealing with ICT are outside and are ready to come in. Members should be back here in ten minutes.

Sitting suspended at 10.45 a.m. and resumed at 11.05 a.m.

Health Service Reform: eHealth Ireland

Chairman: I welcome Mr. Richard Corbridge, chief information officer of the HSE, to our meeting. He is accompanied by Ms Yvonne Goff who is the HSE's chief clinical information officer. I thank them both for coming along and also welcome Mr. Ray Mitchell.

I advise the witnesses that by virtue of section 17(2)(*l*) of the Defamation Act 2009, witnesses are protected by absolute privilege in respect of their evidence to the committee. If they are directed by the committee to cease giving evidence on a particular matter and they continue to do so, they are entitled thereafter only to a qualified privilege in respect of their evidence. Witnesses are directed that only evidence connected with the subject matter of these proceedings is to be given and are asked to respect the parliamentary practice to the effect that, where possible, they should not criticise or make charges against any person or entity by name or in such a way as to make him, her or it identifiable. Members are reminded of the long-standing

ruling of the Chair to the effect that members should not comment on, criticise or make charges against a person outside the House, or an official by name or in such a way as to make him or her identifiable.

I apologise for the delay; we had a long session earlier. I invite Mr. Corbridge to give his opening statement.

Mr. Richard Corbridge: I thank the committee for the invitation to attend this committee meeting. I am joined by my colleague, Yvonne Goff, who is the HSE's chief clinical information officer, a role recognised globally as key to enabling the delivery of digital solutions in health and to maintaining a clinical focus in the delivery of digital solutions for how we put forward what we do. The work being done in Ireland around clinical engagement has been recognised by the European Union, the World Health Organization and the NHS as having world class clinical engagement and leadership in many of its digital projects. This is a crucial foundation to the digital journey we are on today.

I will first clarify the concept of eHealth Ireland in relation to the Health Service Executive. It is a function created out of the eHealth Ireland strategy of 2013. This document was provided to the committee previously by the Department of Health in an earlier submission. Today, eHealth Ireland is a function within the HSE tasked with bringing about a change to the way in which health care is delivered in Ireland through the use of digital solutions. The documentation that has been provided to the committee ahead of this meeting will give it a comprehensive view of what and where the delivery for the eHealth Ireland programme has got to over the last 18 months. These documents include: Ireland's eHealth, a progress document that sets out key successes that have been achieved and provides a summary of the focus for the next 12 months, highlighting priority areas throughout the health system, and the Knowledge and Information Strategy, a plan formulated and agreed across all stakeholders in March 2015. This document sets out an organisational design which created a national programme delivering digital benefits into health throughout Ireland. In addition, there is a pack of ten slides which give the committee some pictures to explain some of the things we will go through as part of this opening statement.

The development of the knowledge and information plan is not simply another health-based strategy. Its agreement and implementation has enabled us to move forward at a rate not seen before in digital health in Ireland. It has enabled us to consider what digital means to health care specifically in Ireland, learning from other jurisdictions such as the USA, the NHS in the UK, Northern Ireland, Estonia and Australia, where success has been achieved in some arenas and where significant lessons have been learnt in others. The delivery of digital solutions supporting health care is described in the knowledge and information plan. It has enabled the HSE to put in place a national team to deliver solutions to the whole health system. It removes a previous focus on acute hospital solutions and places at the heart of health care delivery the ability to centre what we do with digital on the health system, not the health care definitions and boundaries but putting the patient at the centre of everything we do.

Digital solutions deployed to the health care system are immune to organisational structure and change. They are put in place to empower the patient to choose where they want to be treated and to neutralise the current boundaries of health care. Effectively, digital solutions can be seen as a catalyst to the delivery of integrated and personalised care. "No more IT projects" is the mantra of eHealth Ireland. This may seem somewhat strange but it is a key lesson learnt from previous attempts to deliver large digital solutions in health in Ireland. What do we mean by "No more IT projects"? We mean everything that digital can do, whether it is a new financial

management system or an electronic health record for community functions around Ireland, has to be more about the business change than the technology. Digital solution should not change the way people work. We need to do that through development of business change facilitated by digital.

The knowledge and information plan defines the resources, both financial and human, needed to do this and a timeline to enable it. All targets set in the plan in the spring of 2015 have thus far been met, which is a credit to the eHealth Ireland team and its collaboration with the Department of Health. The success of 2015 has released a small amount of additional funding to the HSE in this area after over a decade of what is considered to be under-investment.

Building on a change that has seen some success provides Ireland with a unique opportunity to apply lessons learned from elsewhere and move forward safe in the knowledge that others have proven the direction Ireland can take. Now is not just a safer time to invest in digital solutions for health, but an essential time. The integration of care, the removal of false boundaries and placing care delivery around the patient can only be achieved with digital solutions.

I would like to provide the committee with an overview of the current resources available to the HSE to take forward this digital agenda. We have a very lean team in comparison to other Government Departments and health care systems. There is one IT person supporting every 236 people in the HSE today. Other Departments such as the Revenue Commissioners have one IT person supporting every 11 resources. In other areas, such as social welfare and agriculture, there is one IT person for every 17 resources to support their complex agendas.

The current average EU health care budget spend on digital solutions is just over 3%. The HSE has around 1% of its budget allocated to this agenda. In 2016, we secured permission to add further resources to the team, around 49 new people. This has been progressing through the year as we start to bring those people on board and into the team.

The HSE has created a function that can work in an agile manner. It does not require funding linked to EU norms. However, it will necessitate a steady programme of investment that, over time, enables it to become a function that drives business change and supports digital delivery in health. I ask the committee to give consideration to how digital solutions can be implemented in health care over the next decade. In order to truly realise benefits, the system needs to be equipped with business change capabilities and the ability to apply funding from IT to business change.

Clinical leadership of digital projects today is the key enabler of the of the work eHealth Ireland is doing. More than 200 clinicians across 45 disciplines now have the additional role of clinical information officer. This resource is there to ensure that projects that used to be focused on the delivery of IT are now there to focus on the delivery of patient and clinical benefit. The vision can overcome many operational issues in the creation of integrated care. Digital is the catalyst for the delivery of an empowered patient who expects and rightly assumes that care is integrated.

In 2015, the Minister's office asked us to consider how we could learn through real Irish digital projects within our current budget. We chose three radically different chronic disease areas to focus on: epilepsy, bipolar disorder and haemophilia. These areas became known as lighthouse projects. Haemophilia now has a patient solution that allows illness to be managed, controlled and audited digitally. The supply chain of that treatment can now be managed at home with the patient's mobile phone. The solution also allows patients to have access to their

records and will this year enable secure communication with their clinicians. The Irish Haemophilia Society has considered the savings in this programme and puts the figure at around €10 million a year in drug cost savings.

A second lighthouse project is epilepsy. Ireland has begun its first genomics sequencing programme in partnership with the Royal College of Surgeons in Ireland. Through seeking for the genome of suspected epilepsy patients we can provide efficient and safe care to a cohort of patients; fatalities could be avoided and the cost of treatment has come down dramatically. There are as many as 130 epilepsy-related deaths in Ireland each year, 90 of which are considered to be undiagnosed children. The cost of finding the correct medicines for those patients is approximately €5 million year. Investment in this project has made and can continue to make treatment available for 40,000 epilepsy sufferers in Ireland. Treatment can now be personalised and contextualised to their type of epilepsy.

The final lighthouse project is in the area of bipolar disorder, which affects 1% of the Irish population. The ability to treat complex mental health issues through the use of digital solutions is yet to be fully explored globally. Ireland has been able to invest and we consider bipolar disorder as an area to concentrate on. Delivering a solution for the recording and communicating of the patient's disorder directly to the clinician is the first step for this calendar year.

I would like to describe a number of national solutions that have been the focus of our attention over 2016. These are projects that can become the foundational elements of the future of a digital fabric of Ireland. In the coming weeks, the individual health identifier will be connected to the first local health system, joining up information and supporting integrated care. The technology infrastructure to support the individual health identifier, which was legislated for in 2014 by the Health Identifiers Act, is now live. The complete population and building of the process to support this within health are under way. The Department of Health continues to work with the Department of Social Protection to get agreement on the linkage between datasets, all of which is made clear in legislation. This will allow us to populate many of our current and new information systems with the IHI, ensuring that patient information across a range of systems can be safely connected. The HSE is ready to place the individual health identifier on all electronic referrals as soon as the Department has completed this negotiation.

The implementation of electronic referrals in every hospital in Ireland is now complete. More than 40% of GPs used the service in August 2016, with 10,733 referrals being handled by this digital service during that month. This means that a patient can see the arrival of his or her referral in the hospital while he or she still with his or her GP. This solution removes the need for a paper referral and for the GP practice to post the referral, where the referral can touch an estimated 11 hands in its movement through the health system. This digital process enables an increase in efficiency, security and traceability, and allows us a significant opportunity to modernise the referral process. This will clearly have an impact on waiting lists across the system and will create a significant cost reduction with the removal of paper referrals. The referral project is now moving to the next stage, with the ability for patients to see their referrals digitally and to make changes to the time and date of their appointments. Due to the success of e-referral, we can now move to consider how e-pharmacy and electronic prescribing can also be added, and a focus will be applied to that in the coming months.

There are three other key projects that are a priority to the end of 2016 and that will begin to deliver benefits before the end of this year. The first national digital health record solution will be the maternity and newborn clinical management system, MNCMS. This will be deployed in Ireland's maternity hospitals over the next 18 months. The first hospital will be Cork, in late

October, and Kerry, in late November this year. Moving one of Europe's busiest maternity hospitals from a largely paper-based administrative system to one which is almost paper-free and supports clinical practice is a major task, but one that is on track and is clinically led. Delivery in this area will allow Ireland's maternity services to ensure national integrated care is safely and efficiently delivered into the next decade.

Ireland will move to a single digital lab system, known as MedLIS. This will allow information to be shared securely across the areas of care that have a legitimate reason to access this type of information. Electronic ordering, tests and results and sharing between acute, primary and community care settings will reduce the burden of testing and retesting. This will have a significant financial saving as well as being more convenient and, in some cases, safer for the patient.

Another priority is the connectivity of delivery staff to digital solutions. The connection of the 47,000 health staff who today have no access to any digital solution for their work is a key enabler for eHealth Ireland to put in place. The priority areas include the implementation of 10,000 new physical devices into community and primary care, areas that are currently largely paper-based. This is crucial to the success of all digital projects.

Ireland is the first EU member state to avail of the Health Cloud First policy. This technical term simply means that the clinical resources of Ireland can access their system safely, securely and from anywhere. They can do this happy in the knowledge that information remains within Ireland and is protected to a high globally recognised standard. One of the next areas that can avail of this is the cancer care solution, known as MOCIS. Currently, cancer care is delivered largely on paper and does not have a digital solution to support it. Early in 2017, MOCIS will also begin its journey to go live.

Before closing, I would like to speak about the opportunities of the future. I hope what has been made clear today is the opportunity of the present, the building blocks that are being put in place and structures set up to facilitate the ten-year journey ahead of us. The concept of an electronic health record Ireland is not new. However, Ireland now has a well-structured and HSE-approved route to deliver an electronic health record.

This programme of work will span ten years and will put in place a set of solutions built around the individual health identifier, which will be deployed in a modular fashion to the benefit of the whole health care system. It is in this area that Ireland can come to the concept of digitally connected health care systems and leapfrog other jurisdictions. The concept of an electronic health record described in the business case is not one of a single, monolithic Irish Government database, but rather involves connectivity, integration and transformation and clinically led implementation with the person at the centre. This is a ten-year journey that the electronic health record programme will put in place. It is not an immediate large investment, but rather a commitment to incrementally evaluate the success of digital over a ten-year period and continue to add to the investment as benefits can be seen and success is clear. It is crucial for Ireland that this solution is not a big bang but an evolution of today's systems, set in stone as we move to 2020. By 2020, clinicians will be able to access digital information about patients appropriately, and by 2025 we will see a digital fabric throughout the health system including a system that is also accessible and in the hands of the people of Ireland. It is important to reiterate this is not a single one year investment; it is a continuously assessed multi-year investment over the lifetime of the programme.

I thank committee members for their attention and interest in these key areas. The success

of the past 18 months can be built upon with support, investment and enthusiasm. We believe we can truly change the way in which the health system can work together by enabling eHealth Ireland as a digital catalyst. I and my colleague will endeavour to answer any questions committee members may have.

Chairman: I thank Mr. Corbridge for his presentation. He referred to the evolution, which is particularly slow. It is hard for many of us to understand why the evolution has been so slow. We have been speaking about an individual health identifier for many years. It was legislated for, as Mr. Corbridge stated, in 2014. What is the difficulty with the Department of Social Protection? Why are we still in a situation where the HSE is trying to negotiate on data sharing?

My next question relates to the urgent need to ensure electronic referrals and record-keeping at primary care level in particular. Mr. Corbridge stated 40% of GPs use electronic referrals This is very low in this day and age. What needs to happen to increase this figure to 100%? Mr. Corbridge referred to the fact that 47,000 health staff have no access to any digital solution. This is quite a shocking figure in this day and age, when the vast majority of workers and teenagers have access to digital solutions for whatever work they are doing. Why is this number so large? What needs to happen to expedite this to ensure standards are increased to an acceptable modern level in the HSE?

Mr. Richard Corbridge: I will answer all of the questions and Ms Goff may add clinical patient focus. The negotiations between the Department of Social Protection and the Department of Health on the use of PPS numbers and sharing information have reached the point where there is a memorandum of understanding between the two Departments. Once this is finalised and agreed we can begin to use the individual health identifier. The length of time between the Act and going live is, to some degree, to do with investment and being able to work out how to begin the implementation. We started the technology part of this 18 months ago. To do this in 18 months is considered by other jurisdictions as quite a significant achievement. It has taken a long time to work from the Act to understand how to implement what we have done, but the solution has been put in place in 18 months and brings about a great change.

Chairman: The need for a unique health identifier has been highlighted for many years.

Mr. Richard Corbridge: Absolutely.

Chairman: It seems not much preparatory work was done prior to passing the Act. It is disappointing that we are at such an early stage.

Mr. Richard Corbridge: It is good that it has now been created. There is an individual health identifier for every person in Ireland, and once the negotiations have been completed it can be turned on and applied to every referral.

Chairman: Is Mr. Corbridge stating the negotiations are not yet completed?

Mr. Richard Corbridge: Yes.

Chairman: It is still being negotiated with the Department.

Ms Yvonne Goff: I could not agree more with the Chairman. From a clinical point of view, it is absolutely essential. It is key to bringing patient data together. All of the national systems we have been implementing for the past 18 months, or five years, have been built based on being able to take the additional individual health identifier number. We are ready to go.

Mr. Richard Corbridge: We began implementation of electronic referral with major project investment 12 months ago. To move in 12 months from three hospitals in Cork and Kerry to every hospital in Ireland being capable of receiving an electronic referral is rapid progress. GP systems in Ireland are already predominantly digital and the electronic referral solution is being built in such a way as to allow GPs to have access to it. The biggest selling point, for want of a better way of putting it, of electronic referral for a GP is the removal of cost. A GP would no longer need to complete the administrative functions of printing, putting a stamp on an envelope and sending it. We have seen a very quick take-up of the electronic referral service. The HSE has set itself a target of having 100% of GPs using the electronic referral service by 1 April next year. This will be a joint leap forward because it will give patients access to electronic referral and will allow us to collect information and use it in an anonymised way to manage the referral process and patterns.

Chairman: What about electronic records?

Mr. Richard Corbridge: Creating an electronic health record for Ireland is a much bigger and wider programme of work. The e-referral will start to build a foundation to get people used to using digital solutions. The reality today is many of our hospitals and healthcare systems are almost entirely reliant on paper. E-referral is one of a number of projects to create a foundation to allow us to build on it and start to move forward.

Chairman: My final question was on the 47,000 staff who have no access to any digital solutions.

Mr. Richard Corbridge: It is a shocking to think about this. As the Chairman rightly pointed out, we probably all have a very powerful pocket computer today, and the HSE has not had the funding to implement this type of digital fabric into the healthcare system. In April, we set ourselves a target to connect these 47,000 people to digital solutions. This means giving them the ability to log onto a computer that will be in their care setting. It gives them the ability to have an e-mail account and solutions they can start to use to do this. What is perhaps even more worrying are the 10,000 people in primary and community care who have no devices and our programme to roll out these is well under way. In 2015, Ireland was the largest EU population to roll out new Microsoft solutions into what we deliver and we followed up on this commitment this year.

Chairman: At what point does Mr. Corbridge expect most of the staff to be-----

Mr. Richard Corbridge: By Christmas this year.

Senator Hildegarde Naughton: I thank the witnesses for coming before the committee. I understand the IT spend in 2009 was approximately 0.75% of the budget. By international standards, what is required to meet the targets and be on track? As has been stated by my colleagues, we are behind on this. The HSE is putting in place very good targets but what is required percentage wise when we consider what other countries spend on investing in our IT systems? Mr. Corbridge stated e-prescriptions are coming down the track in the coming months and I ask him to expand on this. With regard to the GP uptake of 40%, what has been the main barrier to date with regard to the slow uptake of e-referrals? Is the HSE leveraging the skills and experience of the ICT industry in progressing this to help it meet its targets and develop the IT systems?

Chairman: I ask the witnesses to bank these questions and we will take questions in groups

of three.

Deputy Kate O'Connell: Deputy Naughton mentioned electronic prescriptions and I am very interested to hear more about where we are with this. Reference is often made to a push pull system with prescriptions. Where are we with regard to patient choice in Ireland? A family member is a pharmacist in the Netherlands and in that country a defined number of patients are directed to a particular community pharmacy setting so an element of choice is removed. As a community pharmacist, I am quite interested hear where we are with this. With regard to the Department of Social Protection, recently I received an identifier card with a chip. A chip seems outdated at this stage. If we are to integrate systems, is it true to say the card will be defunct? If there is to be one number identifier per patient, it seems somewhat bizarre that the social protection card would not be used. Why not simply have one card for everything? As for spending in this regard, I may have missed this at the outset but technology moves so quickly that when something like this is being done over the next ten years, is the ability to adapt to changes that happen in the technological world being factored in? It is great to see the savings in these few projects. Perhaps I am missing it but does the Health Service Executive, HSE, have data showing the savings made when this is done whereby, for example, if one invests €10 million, one will save €20 million over ten years or whatever? Are such data available because significant amounts appeared to have been saved already?

Deputy Louise O'Reilly: I thank Mr. Corbridge for the presentation and while I apologise for missing some of it, I got a chance to read it beforehand. In respect of the 47,000 people who currently do not have access to a computer as part of their work within the health service, I assume that number does not also take into account agency staff who are not directly employed or does it? Second, this is more of an observation than a question, as someone who has represented workers in the health service, but there is great emphasis on making sure those who are senior management in the health service have access to a wide range of equipment. They have iPads, iPhones, BlackBerry devices and everything else but those who are on the front line and who might benefit most from it do not. For example, when the health service introduced electronic payslips, none of the catering staff in hospitals was able to access them and likewise for directly employed cleaning staff, health care assistants and people like that. However, senior managers who would not necessarily have a need for all the information and communications technology, ICT, equipment because they have desk computers, also had all the mobile information technology, IT, equipment to go with it. There must be something of a refocusing on who actually needs the technology.

The 2017 figure for capital investment in ICT is €55 million. In Mr. Corbridge's estimation, will that come close or will it even knock the corners off it? Deputy Naughton alluded to a percentage of overall expenditure on health but rather than a percentage, what actual capital figure does Mr. Corbridge perceive to be necessary to ensure some of the fairly ambitious targets he has outlined can be hit? Finally, a system of integrated waiting lists is in operation in Portugal at present that all the figures suggest has had a significant impact on reducing waiting times. The system has integrated all of the waiting lists rather than having separate waiting lists. In Mr. Corbridge's opinion, were this to be done would there be a saving to the Exchequer? How far is the HSE from being able to introduce a measure that is fairly desirable and that makes a lot of sense? How far is the HSE from having such an integrated waiting list system or is it dependent on the unique patient identifier, which unfortunately and regrettably is taking a long time to implement?

Chairman: Mr. Corbridge might address those questions.

Mr. Richard Corbridge: I thank the Chairman. First, on funding and the size of funding, the team size, that is, the people on the team probably is the area we must consider most in 2017. We are spending money from a capital point of view that allows us to buy technology. Our biggest problem is having people to implement and, in particular, with people working with Ms Yvonne Goff's team to do the business change part of it. It is all well and good to have enough money to buy the brown boxes and cables and to put them into hospitals but we need additional resources to train people and make the business change happen. There is a real risk in information technology across the world and in health care in particular of spending money on technology that people cannot use. This is a major pattern that was seen in the United States and is why we have concentrated in 2015 and 2016 in particular on making sure that the clinical engagement, namely, the 200 people working with Ms Goff, bring to bear that resource, which is different, on how we actually implement in that space. My suggestion or request would be that consideration be given less to the capital budget and changes therein and more to the revenue side. IT in general is moving more towards a platform as a service, that is, things as a service one buys each year, rather than as an investment that lasts for five or ten years. One point to bear in mind with technology and the investment thus far is that in Ireland today, there are patient administration systems in hospitals in Dublin that are 32 years old. That kind of investment has not happened and therefore driving that forward would be a useful way to go. Would Ms Goff like to say anything about the ePharmacy piece?

Ms Yvonne Goff: The ePharmacy programme has just begun. We are considering three pillars, the first of which is the national drug catalogue. The second is e-prescribing in the community and a third concerns pharmacy within the hospitals. Of the group of 200 clinicians, 19 are pharmacists and another subgroup comprises doctors who are interested in pharmacy. They have come together and are considering a solution that would address everyone's needs. For instance, Deputy O'Connell asked a question about patient choice. In England, as she is aware, they started with no patient choice and a patient was obliged to go to a certain pharmacy but they now are in a different phase in which they are broadening out the patient choice. Again, to revert to the point made earlier by Mr. Richard Corbridge, although we are slow to the game, we have the benefit of learning from other countries and will continue to so do. We definitely do not have all the solutions with regard to the ePharmacy programme. It is at the beginning and it is being scoped out at present.

Mr. Richard Corbridge: Another question concerned general practitioner, GP, uptake of the referral solution. As for the suggestion that it has been slow, it has been 12 months and as of August, 40% of GPs are now using it. That is not actually really slow for health care and technology. Health care globally and not just in Ireland takes time to adopt digital solutions. In respect of what we actively are doing, over the next month we will begin a communications process with the people of Ireland, namely, the patients. We will tell them that the next time they are in front of their GP, they should ask to be electronically referred. The benefit to a patient in how they feel when they have been electronically referred, rather than handed a referral and asked to post it or get to the hospital themselves, is significant. Increasingly, patients asking their GPs is what will drive the process, particularly because thus far, GPs have been warm to the electronic referral because it reduces their costs and brings efficiencies. Our commitment is that within 12 months, we will be very close to 100% of first referrals out of GP practice being electronic referrals, which globally would be quite a quick implementation of a solution like that.

Ms Yvonne Goff: Part of that is a cultural change as, for instance, we carried out the same process with radiology reporting. That was going out through Healthlink, which is the same

process as we have for the referrals. As GPs were not comfortable with not receiving a paper report for a long time, we spent significant time on a communication plan and building up to a time when we ceased printing reports and over six months, there was a saving of €150,000 based on that. It was through communication and working with the GPs in particular that they became comfortable with moving into this environment.

Mr. Richard Corbridge: Deputy O'Connell mentioned the HSE engaging with the ICT industry and she is quite correct in that right across Dublin and Ireland, we see many partners that could help us. The HSE has created something called the eHealth Ireland Ecosystem. That is a group of people, now 300 in number, who come together each quarter to help eHealth Ireland drive forward its agenda. They range from some of the biggest digital organisations globally, which come and provide assistance - not at cost - to make sure we can learn from other jurisdictions and keep driving forward in how we do this. The ecosystem was set out in the original eHealth Ireland strategy as something that should exist and 12 months later, with such numbers of people involved, it has been highly successful. We use a lot of the digital organisations not as contractor partners, but as organisations that are willing to provide advice and guidance on where we go. This has been particularly useful in the past six months as we have started to learn more and more about different jurisdictions as we have built the electronic health record business case.

The Deputy also mentioned the public service card. One plan through which the Department of Health is working with the Department of Social Protection is on how the individual health identifier can be on that same card, that is, how in the future that number and code could be part of that same identity and dataset. It is a discussion between the Department of Health and the Department of Social Protection about how to make that happen. It makes complete logical sense to do it; the Deputy is absolutely right to say that. As for the speed of technology adoption - this is something on which Ms Yvonne Goff can also comment - I have worked in health care technology for 20 years. I have never seen such amazing clinical engagement as that which we have in Ireland. Clinicians in Ireland want technology and there are two key reasons for this. First, the system in Ireland is largely paper-based and clinicians can see that this perhaps is not always the easiest, most efficient and safe way of delivering health care. Second, many clinicians will have worked in other jurisdictions that have digital solutions. Consequently, our pace is very much based on the business change capability we have put in place. We must not do what the United States has done, where digital is done to clinicians and clinicians walk away from digital and stop using it.

Ms Yvonne Goff: Quite simply, clinicians are involved in all the programmes we are developing from the point of procurement all the way through to support. We are less likely to buy a system that will not fit into meeting our needs or will never fit into doing so. That is the way we work together with our IT staff on every one of our technology programmes.

Mr. Richard Corbridge: Deputy O'Connell mentioned savings and efficiencies. The electronic health record business case, which the HSE, eHealth Ireland Committee and the Chief Clinical Information Officers Council has approved, is now with the Department of Health. It stresses the efficiencies and safety savings that can be made through implementing an electronic health record system. It does not give a literal figure for each hospital, community setting and mental health setting. That has been proven in the NHS in particular to be quite a dangerous thing to do. What it can do is make sure the system becomes more efficient and more safely delivered, and that is crucial to that business case and how we take that further forward.

The 47,000 people Deputy Louise O'Reilly referred to in our document also includes agen-

cy staff. It is the people who work in the health care system. A process will be put in place to enable a single digital identity for a member of staff who is working in the health system regardless of where they work across the health care system. The Deputy's comment on the level of technology is spot on. It is very much the case that we consider how we can use technology at a more senior level rather than its implementation at the front end. Ms Goff's team drives us to make sure that is not what we do. That is unique for Ireland. In other jurisdictions in which I have worked, the clinicians have said they want and need this technology rather than it being a management function illustrating the technology that could be in place.

Ms Yvonne Goff: Deputy O'Reilly's point was not only around clinicians but about domestic staff and others, so I must consider her point further.

Deputy Louise O'Reilly: They could not access their payslips, which was the way it came to our attention. However, it would be beneficial for a range of reasons.

Ms Yvonne Goff: Absolutely.

Mr. Richard Corbridge: Deputy O'Reilly mentioned figures and asked what additional money we would need. The electronic health record business case considers a capital investment of around €107 million in year one. That is not an insignificant additional amount of capital but I would refer to my earlier comment about revenue and about the ability to have the right number of people employed by the health system to implement this. We need to be careful not to rely on temporary staff, contractors and consultancy teams and to make sure that we lodge the intelligence and capability to deliver this in the Irish health care system and not be reliant on temporary resources.

Chairman: To clarify those figures, over what period will the figure of €107 million capital investment be required?

Mr. Richard Corbridge: Next year, in 2017.

Deputy Alan Kelly: Will that amount be required every year?

Mr. Richard Corbridge: The electronic health record business case covers a nine-year programme. It includes the €55 million in capital that is already set out. It is not an additional amount of €107 million.

Deputy Alan Kelly: What happens in year two?

Mr. Richard Corbridge: It is around the same amount. We can make sure that the members are provided with the full electronic health record business case if they have not received it already, and that will give them the detail.

Chairman: What is the total figure over the nine-year programme?

Mr. Richard Corbridge: It is detailed on one of the slides. It is around €840 million over ten years.

Chairman: Has Mr Corbridge an estimate of the revenue cost involved?

Mr. Richard Corbridge: Yes. That is also set out on the slides and they show the mix of revenue capital and the change in the way that we have solutions delivered. If we skip through to one of the last slides, the members will be able to see that detail.

Chairman: It is the very last slide.

Mr. Richard Corbridge: It is. Slide 10 details the revenue costs, the capital costs and the spread of resource over the year. Slide 10 in the document pack we have provided gives members the details on that.

The last question was about integrated waiting lists and the possibilities around that. Many members will be aware that in the past three weeks we were asked by the Minister to deliver a digital challenge solution to the waiting list issue that exists today. That is now with the Minister's office to consider how that could be put in place. That includes a 12-month challenge and an additional spend of €1 million, and one of the products within it would be an integrated waiting list. In terms of electronic referral system, when moving referrals to an electronic solution, it is not that difficult to create an integrated waiting list from that solution.

Deputy Kate O'Connell: In considering the cost savings of implementing this, Mr. Corbridge mentioned something about this being dangerous with respect to the NHS. What did he mean by that?

Mr. Richard Corbridge: In the NHS the national programme for IT was alleged to have spent £13 billion sterling on technology and that was against a physical saving that the national programme for IT suggested it would make. We forget sometimes that the health care systems of the world are based on demand. If we make a system more efficient, it does not remove demand. It just means we can do more. Therefore, to say one would save money is not something that I believe a digital solution would do in the health system. It means that one can provide more care, be more efficient and deliver what one does more safely rather than return money to the system.

Chairman: I call Deputy Buckley.

Deputy Pat Buckley: I thank Mr. Corbridge for his presentation. Most of the questions I had have been answered. They related to the 47,000 staff, the 10,000-plus devices and the issue of data sharing. Is there a definitive report or has anything issued yet on the pilot scheme for Cork and Kerry, or is it still in its infancy? Can we get data on that?

Ms Yvonne Goff: Is that the newborn project?

Deputy Pat Buckley: Yes.

Ms Yvonne Goff: Will Mr. Corbridge address that?

Mr. Richard Corbridge: Yes.

Deputy Pat Buckley: Mr. Corbridge mentioned the savings made within the technology sector. If savings are made in hospitals in any area, will those savings be spent locally in those hospitals?

Deputy John Brassil: I apologise if this question has been answered as I had to step out briefly. How big an issue is data protection for the future of IT or ehealth care? If there are issues, do we need to legislate to overcome them? I would hate to think that we would continue run up against a problem because of data protection. Sometimes we have to serve the greater good. I would be interested to get our guests' views on that.

It is stated in the summary that this is a ten-year journey and that it is important not to have

big bang solution - I think that was the phrase used. Given where we are at with IT and, as Deputy O'Connell pointed out, it changes almost annually in that what we are using today is almost obsolete in 12 months' time, should we be more ambitious? It was stated that this is a lean, mean operation, but are we fit for purpose? Revenue is pretty efficient at what it does, too efficient perhaps for people like me if I were still in business. Is, as was mentioned, one person per 11 what is needed, and if it is, is that what we should be striving towards? As a committee we have been set up to come up with a ten-year strategy. Mr. Corbridge spoke about a ten-year strategy, so there is a sort of fit there. I have seen the benefits of improvements in ehealth for local GPs who work with the system through the hospitals, and the amount of time and energy saved by the exchanging of information electronically is colossal. Are we ambitious enough in this area?

Deputy Alan Kelly: Most of the questions I had have been put forward. I am very interested in this paper and presentation. The witnesses have an incredibly difficult job. In a previous life I used to manage large integration IT projects, so I can share their pain at times. Much of the pain is not due to IT. Sometimes it relates to the decision-making and the process. Leaders are very important in projects that are going to take this length of time to implement. Historically, if we consider many of the integration projects that have been done in this country, and they are very well known from the media given the volume of funding that has been put into them, there has been a loss of critical leadership at certain points. Effectively, many of the people, including the witnesses at the top of tree, are single points of possible failure. Is there a process for managing that, particularly as people move on all the time?

The second issue is technology use. Deputy Brassil stated that everything moves and that changes take place every year. That is the case. It changes every month at this stage. Obviously, from an IP point of view, I presume open source is being managed in a way that allows continuity rather than technological single points of failure. I presume there is a methodology for doing that and we do not get locked in with any supplier to the point where we cannot get out. I remember being involved in the launch of the Leap Card in respect of which there was a process whereby technology partners were locked in and it caused significant delays.

I am a huge supporter of the public service card. That is a massive project. At what stage is the HSE in its conversation with the Departments of Public Expenditure and Reform and Social Protection, both of which are involved with that project? I presume it is on a continuous basis and Mr. Corbridge might let us know whether that is the position.

I am delighted to hear about eHealth Ireland. I knew a little about it but not enough. How does Mr. Corbridge find stakeholder engagement in this regard and is everyone covered? From a buy-in point of view, this is a necessity not only among technology partners but across government?

I will not begin to discuss medical devices because a lengthy conversation is required in that regard. The IT projects that are being done within the Department of Health and the data management system are integrated but they also separate. We spoke earlier with Dr. Stephen Kinsella, who made a good presentation. There is an overlap in respect of some of the aspects here. I refer to consistency in data, the processes for managing data and the back-end database. The quality of data is essential. As stated earlier, there is a phrase which goes "dumb data in, dumb data out". In the context of the process for managing data - the differential regarding the management of it from the top down - the IT aspect is one issue. Obviously, it is ever-changing. However, it is about ensuring that there are standards as regards data input because all the technology in the world is irrelevant if the data are not being input correctly. I accept that they must

come together but I presume they are managed throughout the network down to the very lowest level separately. Those are my questions.

Chairman: There was a lot in that.

Mr. Richard Corbridge: First, the Cork and Kerry maternity hospitals, that is, the area we were looking at, they are not pilot projects. They are the first sites that will go live. Obviously, we will evaluate each site as it goes live. They are the first two maternity hospitals to go live. The clinical engagement and passion in both hospitals for that system to go live successfully is phenomenal. The solution that is being deployed is an American solution that was procured a number of years ago but has been clinically built and validated specifically for the delivery of maternity care in Ireland. I personally have never seen a more committed clinical team to make a solution go live well. There have been 8,000 man hours of training in Cork hospital alone to ensure that system goes live successfully over the weekend in October, and then the team moves on to Kerry. We in the team all are personally committed to ensure those two sites go live well. New IT systems, particularly those in the area of health, will often give rise to issues when they first go live. We know how to manage those issues in Cork and Kerry and have a good team on the ground to ensure they are fully supportive. We strongly believe that they will not be pilot projects; they will be proving how this should be done for hospitals across the rest of the country. The programme team is ready to roll that into every one of the maternity hospitals. Ms Goff may want to say something about the clinical engagement aspect.

Ms Yvonne Goff: It ties in to the second question about the big-bang solution. One of the restrictions is that we have our solution and we have huge clinical engagement, but it is difficult, from a clinical point of view, to keep the business running as usual. Midwives and doctors have to be released to test and train on these systems and although we might be asking for a large number of IT staff, we also need the clinicians to be able to attend that training and to build and test that system as well. It goes to our big-bang theory a little bit that, unfortunately, we are not at that stage and we do not have an unlimited number of clinicians at present.

Mr. Richard Corbridge: Moving to the savings in individual hospitals, where we take a national solution, such as the health cloud first solution, which will release money that is spent locally. This means that money can then be spent in those local hospitals and on mental health and community organisations. Where we have deployed solutions such as the electronic referral into GP practices, that saves money in such practices. However, that money is not pulled back to the centre. It is money that is released in the GP practice to be spent differently on particular efficiencies. The same goes for simple solutions, such as mobile phone bills. There is a single mobile bill solution for the HSE that has saved millions of euro. However, those savings are not re-spent in the area of technology. It is important to point out that they are re-spent across the HSE.

Ms Yvonne Goff: On the savings of the e-referrals, we are putting the money back in to bring the e-referrals to phase 2. An electronic order can go all the way through into the system now rather than just stop at the door of the hospital. That is where we are trying to reinvest.

Mr. Richard Corbridge: On the question regarding data protection and legislation relating to it, other jurisdictions have ultimately failed to deliver technology into health for multiple years because they have fallen down in the context of data protection. We go into this with our eyes wide open and having learned those lessons. One of the principles we have adopted, particularly in terms of the electronic health record, is that data protection and the ability to govern who has looked at information to do with health will be placed in the hands of the pa-

tient. We will enable a patient to log-on to see who, from a clinical point of view, has looked at his or her records and be able to do something about that. That has been proven, particularly in Estonia, as a way of taking away many of the concerns around data protection. The concept of a legitimate relationship to access information, I personally believe, is something in respect of which there is a need to change legislation in order that it might be contemplated. We must also consider how we do that so that we have health information legislation around accessing health information is important to the success of our programme. We have seen, even in the past six months, issues in the NHS where large programmes, after quite a significant spend, have been stopped because of data protection concerns. We work with the Department of Health to ensure that we address our data protections and keep striving to deliver in that space. Something called the privacy impact assessment was completely around the individual health identifier before that was made capable and live. That was done in the public domain, with comments from the public, to try to ensure that we bring people on the same journey that we ourselves are on in that space.

As Ms Goff said in respect of the big-bang solution, the ten-year strategy and the ambition we have in that space, our rate-limiting factor on the delivery of technology in Ireland is probably not technologist, it actually relates to clinical capacity. The Cork hospital example is a prime one, where 8,000 hours of training were needed in a hospital before a system could go live. That cannot be fulfilled by putting IT staff into that place. Business change is what drives efficiency and benefits from digital, and business change cannot be done to people. It is clinical time that is most needed as opposed to IT staff. That is one of the asks in the opening statement - to consider how, at some point, the digital health budget could also include capacity to do business change. Currently, my budget does not allow me to spend money on business change. It only allows me to spend money on technology. I must then seek assistance from the system itself to spend its own clinical budget on business change and that makes it somewhat challenging sometimes to ensure that business change can happen.

On the question around leadership and how to keep it in place, we have built a strong team across eHealth Ireland. Throughout the whole function, as small as it is, we have a team of passionate people who believe strongly in what they are trying to deliver. There is the ability to move that team and flex it to reflect the Health Service Executive itself and how we change our structures and what we deliver. Having 200 clinicians and a chief clinical information officer who is considered to be the deputy CIO is hugely important to me personally because that means that we are clinically led and have clinicians involved in where we are going. We are striving to ensure we combat any issues around changes in leadership, changes in styles and changes in structures. We have created a national structure in the past 18 months. Previously, we had lots of local IT teams. That also has been crucial in ensuring that we deliver a single vision for where we go.

Ms Yvonne Goff: I want to point out on all of our projects, because Deputy Kelly mentioned single point of failure, on each of our teams we have a national team and a local team so that there is also bi-directional communication the whole time. We are trying to ensure there is not a single point of failure.

Mr. Richard Corbridge: Deputy Kelly also mentioned the concept of how to manage different solutions. In the context of the solutions we have deployed thus far, we have made clear that we will not accept a single solution. What we are looking for across Ireland - if it was possible to go back one slide in the presentation then there would be slide that would demonstrate this - is not a single system or solution. It is actually about being able to have a set of solutions

that come together to deliver that integrated electronic health record. It has been important to learn from the experience in other countries in order to ensure that we can drive forward how we deliver those different solutions and put them in place. That is a really big part of it.

The Deputy mentioned the public services card. There are very early negotiations around the individual health identifier and health information could become part of that public services card. That is very much a discussion between the Department of Health, the Department of Social Protection and the Department of Public Expenditure and Reform. I have been working very closely with the Government CIO to make sure the health information that could be part of that card can be driven forward and moved into that space as closely as possible.

Chairman: Is the public services card future-proofed from that point of view?

Mr. Richard Corbridge: Yes.

Chairman: Am I correct that the intention with the unique patient identifier is that it would be based on the PPS number but would be a separate number that can be linked to it?

Mr. Richard Corbridge: It is a separate number. The dataset that is the individual health identifier includes the PPS number as part of it, so the two can be referenced to each other.

Deputy Alan Kelly: I presume the individual identification code and the PPS number correlate with the health number.

Mr. Richard Corbridge: The Deputy mentioned stakeholder engagement and buy-in from eHealth Ireland. We have phenomenal engagement from a clinical point of view out into our hospitals, community settings and GP user groups. Probably the biggest part of the role today is trying to make sure that engagement is there. We are trying to ensure that people understand the eHealth Ireland journey and the direction of travel. One of the ways we have done this is by trying to pick projects that we can deliver each year, as well as the end goal. Projects like epilepsy genomic sequencing, the bipolar project and those lighthouse projects were picked very much to invest time, effort, money and communications in order to engage different cohorts of people in how we can drive benefit to different patients. The success has been phenomenal, and we would in particular call out the epilepsy area. We believe Ireland is the first country in the world to start a genomic sequencing programme for epilepsy so that, by sequencing the genome of a child under the age of five, one can find out what is the right drug for that child. There is no need to try lots of different drugs and we will no longer have 90 children under the age of five dying. It is a huge programme of benefit and one that other countries can and will be able to learn from.

Ms Yvonne Goff: It is important to say we are also engaging with all the patient advocacy groups to make sure the patient's voice is heard at every point.

Mr. Richard Corbridge: The last question was around the separation of IT and data. What we have put in place over the past 18 months is what we call the eHealth Ireland design authority. This will be a function that has the final say on solutions that are deployed throughout the system to make sure the data models integrate and interact across the whole Irish health care system. We have a data dictionary in place which captures all of the single data models and allows different systems to reference that. We have put a lot of effort and work into trying to make sure our single data model can move forward.

Deputy Mick Barry: I thank Mr. Corbridge and Ms Goff for very interesting documenta-

tion and their presentation. I have two questions. One relates to the issue of electronic referrals from GPs and the other relates to the savings identified by the lighthouse projects. With regard to the electronic referrals by GPs, perhaps I got the information wrong, in which case the witnesses might correct me, but my understanding is the programme has been rolled out over the past 12 months and there is a 40% take-up. The witnesses are predicting that by April of next year we will have reached the target of 100%. I hope they are right but I want to ask what are the grounds for their confidence. If it has gone from zero to 40% in that period, unless there is an increased take-up, we are looking at a percentage in the low 60s by April of next year. I would imagine that, in a situation like this, there would probably be one third of GP practices that would take to it like a duck to water and buy in fairly quickly. Once they were on board, however, it would begin to get tougher and, in the normal scheme of things, one would expect it to slow down somewhat. There is also the age profile of GPs. It is not the laptop generation. I can think of GPs who I would imagine will be slow to move from paper to electronic referral. My own doctor has an electronic referral system but that is not the case with other GPs I know. On what is the idea based that we will be at 100% by April of next year?

The savings identified by the lighthouse projects are €5 million next year on epilepsy and €20 million over three years on the haemophilia sector. I would like to hear a breakdown, not to the nearest euro but in broad percentage terms, as to where those savings are coming from. I have listened to various points in the presentation and during the questions, so I can see mobile phones are one area for savings, given a lot of money was previously spent on phone calls. There will be savings on drugs, as was indicated in regard to the genomic sequencing for epilepsy. Is that part of the savings that are identified here? What about labour costs? I can imagine there will be a need for fewer people to do the work once the IT systems are in place but surely that would not be a saving to the health service in the sense that people are not being made redundant and they would be transferred to other work. Is the HSE counting the fact they are working in other sectors as part of the savings? How do the savings break down?

Deputy Billy Kelleher: I thank the witnesses for their presentations. A lot has been asked and answered. To bring it back to the practicalities of the delivery of health care in general, if we look at the various policies that have been outlined by the Department of Health, the HSE and various Governments, and probably by this committee in its final deliberations, without setting that it stone, primary care and community care will be where most health services are delivered in the years ahead. This will be for many reasons, in particular cost efficiency, but it is also the obvious place to deliver health care as opposed to acute hospital settings.

To put it into a practical example, a public health nurse calls out to a patient in some part of the country, he or she makes an assessment of the patient and, given he or she may or may not be prescribing nurse, it may be necessary to refer back to the GP to prescribe. The GP should then, in theory, be able to prescribe through electronic means to the pharmacy, and all of that should be centralised under the individual health identifier code. The question is how far we are away from this happening. I visited a GP practice recently where the staff have to put the mobile phones into a car and drive to the top of a hill to download messages before driving back to the surgery. That is happening as we speak in rural parts of this country. While we are trying to move to this model, do we have the infrastructure in place and has this been considered in terms of the ability to roll out e-health across the country?

To follow on from a question asked by Deputy Barry, there is the issue of the support and training that would be required. While come clinicians are technologically advanced and want to embrace technology, others may be resistant or may not feel confident in engaging in that

process. The witnesses mentioned a figure of 40%. In general, it is those who are interested who will step up to the plate first and it then gets harder and harder to encourage or, possibly, force people. In that context, how much is being put aside in the HSE budget for training and support in moving people to e-health?

Reference was made to 47,000 new digital identities and 10,000 staff being given access to a digital device by December 2016. Is that digital device an iPad or a tablet? What type of device will they have access to? With the continuous advances in technology, how flexible will contracts and tendering processes be in terms of ensuring we are not burdened with out-of-date equipment, given tendering processes can be very slow in this State?

How compatible will our system be with other jurisdictions? For example, there is an EU directive whereby people can access treatment abroad if it is not provided for in this State. This is one area where I wonder whether information can be transferred electronically to clinicians in other jurisdictions who are taking on an Irish patient. On the issue of collating data, the Scottish did a lot of analysis of prescribing by individual GPs and GP practices. Would e-health make that more efficient or do we already have systems in place to do that?

Mr. Richard Corbridge: On the question of e-referrals and how we get to 100%, it took us until May of this year to get all hospitals enabled to receive electronic referrals. Over the year that we have moved from 0% to 40% of GPs, we have moved from no hospitals to all hospitals being able to receive an electronic referral. Obviously the rate limiting factor in being able to send an electronic referral is that the hospital needs to be able to receive it at the other end. The Deputy's point is absolutely valid that there are practices out there that are not digital today, but it is only around 3% of practices. The electronic referral solution that has been deployed is agnostic of the GP system that is already deployed. It is a web-based solution that GPs can access easily. It has been built to make the process as simple as possible and to illustrate the efficiencies and savings to the GP practice of using it. The target we have set ourselves, not just in new referrals but in a number of places, are stretch targets. We are setting these targets to allow the team to have room to stretch and believe it in terms of where we can get to with e-referrals and other subjects. That is why we have said 100% of practices by April of next year delivering electronic referrals. That is direction we are taking in that space.

The issue of savings, specifically with regard to epilepsy and haemophilia, was raised. The savings relating to epilepsy that were called out at around €5 million are based on the fact that if we could sequence the genome of everybody with suspected epilepsy, we would know the type of drug with which to treat them. Last year we spent €5 million on drugs while trying to find out which was the right one for treating patients with suspected epilepsy. That is where the €5 million in savings comes from. If we spend money on sequencing the genome, we know the right drug to use straight away and, therefore, we save that €5 million. The money that was suggested around haemophilia arises from savings around the supply chain management. If we do not have a supply chain solution that is deployed to the patient then we do not know whether the patient has received all of the treatment he or she needs or whether the patient has had a bleed. Therefore, we are constantly sending the treatment to their fridge in order that they have it on board. The Irish Haemophilia Society did some work in the past two years to try to understand how an early version of that solution was saving money and that is where those figures came from. They are very specifically savings related to drug wastage, with drugs being stockpiled in patients' homes, as opposed to any of the other additional savings that are in that space.

Reference was made to primary and community care and how we get GPs involved and move it forward. Our work with the GP systems suppliers of Ireland, of which there are two

main players, has been forthcoming in terms of how they adopt the individual health identifier, IHI, and put the electronic referral and e-pharmacy solutions into their systems. We believe the relationship is in a good place with those systems and with those people and will drive forward a change in that marketplace. The fact that Ireland only has two organisations to engage with to drive forward changes in those systems is phenomenally useful for us because we can build relationships and standards and have the design authority to put those systems in place. It enables us to drive forward how we extend the functionality that is available in GP systems out into the community.

One of the four pillars of the electronic health record, EHR, is to deliver EHR functionality into the community. We believe community is an easier place than an acute hospital to deploy the EHR because currently there is no digital solution there. Therefore, once the business case is approved, we will focus on having an early win in the community around the EHR.

Ms Yvonne Goff: It will support the training of staff too, and part of the budget is for the infrastructure required to deploy the systems out to the community.

Mr. Richard Corbridge: Deputy Kelleher commented on the 10,000 devices but it should be noted that it does not actually mean a single device for 10,000 people. It means enough additional devices in primary care and community settings to allow people to have access to a device. The days of queuing up to use an Excel spreadsheet on one machine in one community centre needs to end. We need to have more machines in more places in order that people can have access to that kit. It does not necessarily mean a piece of kit for every single person that is in the system. Predominantly, they would not use a single piece of kit each if it were deployed into the system. That has been seen across many jurisdictions. The aim is to improve the access to the systems that are there.

If one looks at the maternity and newborn system in Cork and Kerry, for example, we are rolling out a large number of new devices called computers-on-wheels in order that there are touch screens on wards, enabling people to access information as they pass by rather than being expected to carry their own device with them. That is a really big and important part of where we are going in that space.

On the issue of flexibility around contracts, the HSE works with the Office of the Government Chief Information Officer, OGCIO and the Office of Government Procurement, OGP, to make sure there are frameworks in place that do not lock us in to old equipment and to ensure we can continue to move forward. Things like mobile devices are in a good place in terms of the refresh rate, particularly in the past three years.

Compatibility with other jurisdictions is something that is very much EU-driven to allow the transfer of information. The IHI uses the same format as the NHS number which will give us the ability in the future to identify our patient information uniquely as if it were being shared with Northern Ireland or with the NHS. Behind the IHI is a code called the GS1, which is a global standard number that allows the number to identify a patient uniquely across the EU. The IHI has been built with exactly that in mind, which is very important.

The Deputy's last comments centred on collaboration and data analysis. Data analysis cannot be done easily today but with e-health Ireland in place, we will be able to conduct data analysis where it is appropriate, anonymised and where information is available. That is a key hook in terms of where we are going.

Chairman: Is there any resistance from GPs? Where there is resistance, how is it dealt with?

Mr. Richard Corbridge: There is some resistance. As I have said, clinical engagement is phenomenal in Ireland, but in every cohort there will be some resistance. We deal with it by talking about the efficiencies, savings and the safety improvements that can accrue from this. We will slowly engage every clinical organisation throughout Ireland to ensure we can move forward with them and illustrate the benefits that digital solutions can bring to what they are delivering.

Chairman: I have two brief questions. Has the HSE with the Revenue Commissioners, given the success of their systems? Is it likely that patients will be able to get access to information like the length of waiting lists? That would be very helpful in the sense that if one consultant has an 18-month waiting list while another one has a six-month list, patients could choose to be referred to the latter consultant. However, I know that this has been resisted traditionally by consultants. Has any progress been made on that?

Mr. Richard Corbridge: We have consulted Revenue and its partners. The organisations with which Revenue worked actually helped us to create our knowledge and information plan and the operating model. We shared an awful lot of learning across those different areas.

Patients having access to waiting list information and information on referrals is digitally possible because of the e-referrals solution. It is a policy decision as to whether we open up that information, but digitally and technically it is absolutely possible to do so.

Chairman: I thank Mr. Corbridge and Ms Goff for their presentations and their comprehensive responses to the questions put to them. The committee is very appreciative of their time and expertise.

The select committee went into private session at 12.18 p.m. and adjourned at 12.45 p.m until 9 a.m. on Wednesday, 21 September 2016.