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UNDER SECRETARY FOR TECHNOLOGY
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"A NATIONAL SUMMIT: MOVING TOWARD INTEROPERABILITY—AFFORDABLE, ACCESSIBLE HEALTHCARE WORKSHOP"

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PANEL 1: MARKET DRIVERS AND SOCIETAL ISSUES

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Introduction

Thanks for inviting me here today.

Almost 20 years ago, I came to Washington with the idea of working on really big, important problems facing our nation; and problems generally do not get any bigger than this.

The official topic of our panel today is interoperability, but really, we are talking about a much bigger challenge.

The Challenge

What is that challenge? In a phrase: the Baby Boom. The first "boomer" will turn 65 in four years … and 76 million of her friends and peers will follow suit shortly thereafter.

With people living longer, this demographic tidal wave will swell the ranks of the elderly in America from 12.5 percent of the population today to 18.8 percent in 2025 – a 50 percent increase. By 2050, there will be 1 million Americans over the age of 100.

I am not a doctor or a health policy expert, but I know this much: This will be a major challenge. We can hope that these senior Americans will be healthier than those seniors of previous generations. But the reality is, older people have more chronic conditions, they get sick more, and taking care of them is both more time-consuming and more expensive.

What will make this harder is that we do not have a ready-made system for taking care of our sick seniors in any kind of setting other than an institutional one. At-home care is not a strong suit of our medical system, to put it mildly.

We are real good at building round-the-clock healthcare settings like nursing homes and hospitals, but not very good at making our homes better suited for the kind of lives our parents and grandparents will want to live in the coming decades.

Not only is that shortsighted financially, but it's probably not a very good way to care for seniors. But it is not my intent to throw rocks at those who serve on the front lines of our nation's most challenging problems; the opposite is true.

The Opportunity

Fortunately, this is one of those classic good news/bad news situations. The bad news is that we have 76 million Baby Boomers entering their golden years. The good news is that we have 76 million Baby Boomers entering their golden years.

I say that because I see this so-called "crisis" as a tremendous "opportunity" – an opportunity to unleash the creative potential of America's entrepreneurial class, to reduce costs and improve the lives of seniors through applied innovation and new technology.

I'm not talking about the Jetson's here: I'm talking about simple technologies that let seniors "age at home," as the saying goes, independently and with dignity. I'm talking about sensors that detect falls and alert caregivers if there is a problem; stoves that turn off if they are left on accidentally; or cell phones that detect voice tremors, an early sign of Parkinson's.

Many of these technologies are available today, and more are being created every day. Eric[1] and Wes[2] will flesh out these ideas for you in a few minutes, and paint a picture of what this "next generation" of technology can and will look like.

Why Is This Time Different?

Of course, we've been hearing about this next generation of healthcare tools for some time.

We have had some experience getting heath information technology integrated into the hospital setting – and I think we can all agree that the results have been mixed. Yes, we have the ability to monitor drug dosage from pharmacy to I.V. line, but for many reasons – some cultural, some financial, some technical – we have not implemented this technology as well, or as fast, as we should. But we're beginning to get there.

Co-panelists:
[1] Eric Dishman, General Manager & Global Director, Intel Health Research & Innovation Group, Principal Research Scientist, Intel Corporation, Chairman, Center for Aging Services Technologies
[2] Wes Rishel, Managing Vice President, Gartner, Inc.

However, the focus of this panel is not on that setting, but the at-home setting, where frankly, the opportunities are even greater.

The brightest minds of the Boomer generation will push good technologies out of the lab and into everyday life in a major way. The Baby Boom generation is unlike any generation we have seen before.

Raised in a time of tremendous positive changes in our economy, unequaled upward mobility and a lifestyle marked by constant change, Boomers are accustomed to more mobility, more freedom and more activity than any generation in history. As they age, they will want new technologies that help them maintain their freedom and retain their quality of life.

They are also used to technology. This is the group that embraced jet travel, the Internet, the PC, the cell phone, the ATM … and the list goes on.

Baby Boomers are not naturally gifted at adapting to technological change – no more so than their children or grandchildren, certainly. And no matter what generation is doing the adapting, consumer uptake of technological change has a pattern that is quite discernible over time – especially in the United States. When a technology begins to become accepted by consumers, its usage tends to grow exponentially.

But one thing is certain: Baby Boomers are not afraid of technology, and one can assume that their willingness to adapt to new forms of technology will not diminish as they grow old. In fact, it may well increase. I routinely seek out my father for help on my home computer.

After all, they will embrace technologies that help them stay independent. This is a generation that will demand more than a longer life; they will demand a better quality of life.

The Role of Government and the Technology Administration

With all of these positive factors, you might wonder: why are we here? Why don't we just sit back and let the power of the free market economy do its thing?

The Bush Administration takes a strong view that private markets are the best way to solve complex problems. Entrepreneurs develop solutions that governments cannot anticipate and should not direct.

And yet, while we understand the limits of government, we also understand the role we have to play in fostering innovation. In the healthcare arena in particular, government can be both a force for innovation and an impediment to change.

That is where we come in – sometimes, impediments to the functioning of the free market already exist and the market needs help that only the government can provide – at this point I am resisting the use of the worn laugh line, "I'm from the government and I'm here to help." Helping to build highways and other important infrastructure is an essential function of government and that is how we can best lend our aid to fostering progress in this important aspect of eldercare, but we must proceed carefully.

For example, four out of every ten dollars spent in health care comes from the federal government. Changes in Medicare reimbursement policies can singlehandedly create or destroy an entire sub-industry in health care. The FDA's regulatory and safety oversight is a massive factor in the creation of potentially life-saving drugs and devices.

I can't authoritatively speak to those areas of federal government influence – and if you ask me any specifics in those areas, I will have to plead ignorance.

But one of my key responsibilities is to help *you* speak to those areas. We believe that policy development should be informed by those working on the front lines; that the people who are most affected by federal rules and purchasing practices should have a voice in shaping those policies. One of the key roles of the Technology Administration is to serve as an analytical forum for the technology community and the government. Gathering, analyzing and making suggestions for action based on our research. So please, if you have concerns … or should I say, *when* you have concerns … the doors of the Technology Administration are still open.

More broadly, my agency tries to shape a policy environment that helps bring new products to market – that makes sure that our best ideas don't sit idle in someone's lab. We try to help America get the most out of its innovative spirit – through fostering an environment that welcomes entrepreneurship, transferring knowledge out of federally funded labs and universities, ensuring the funding of basic research and the next generation of researchers and innovators, shaping government procurement policies, and many other policy matters.

The Challenge Overseas

So what do we need to do first? Let's look at the competitive landscape. We are already seeing other countries pull ahead in the market for technologies that help seniors in the home care environment. That is particularly true of "grayer" countries like Japan and Sweden, where these technologies are seen as a burgeoning industry that offers them worldwide market advantage.

I see that development as a competitive threat to the United States and it must be answered – after all, other countries are developing a specialty in serving aging consumers, while we are just getting going. At the same time, I see activity overseas as a validation of the power of the market – it shows that, as a population ages, the demand for these products does grow. We need U.S. industry to serve these overseas markets, to test their ideas, products, services, and ensure their competitiveness when U.S. market

opportunities become ripe. Unlike so many other problems we face in these unsure times, this is one that we cannot claim has come upon us by surprise.

So, while we cannot sit idly by while other nations build a leadership position in these industries, we must recognize that the market power of the Baby Boomer generation will present a compelling case for massive innovation and investment in exactly the kinds of tools, systems, and components we will need.

As someone who cares deeply about accelerating the transition of technology from the conceptual stage to actual production and marketing and into the hands consumers who can benefit from it, I can tell you that, from a corporate perspective, it is very nice to have a path cleared by either competitors or by market opportunity. In this case, we have both.

The Challenge At Home

Importantly, we know what challenges we must overcome to speed the path of age-related technologies to market. There are reimbursement issues, privacy concerns, regulation, and, of course, what we've come to focus on today: the issue of interoperability.

Let me draw on what may be a familiar analogy: In the early days of the railroad era, America had several different track gauges. Railcars would pull into a station and all the cargo and passengers would have to switch trains before it could continue its journey. It was hugely inefficient.

The same is true in so many areas of health care technology, especially in technology focused on seniors. We have at our disposal many of the root ideas for such promising technologies – but we lack ways to make sure those technologies can relate to each other. If you can produce a tool that will monitor the at-home vital signs of a senior, but there is no way for that information to be shared with a piece of technology that could adjust that senior's medication levels, the power of that technology is diminished.

Fortunately, we have seen this kind of problem before, and we have solved it. Let me explain.

Past Examples: RFID and AHIC

For years, people talked about how low-cost RFID radio tags would revolutionize the business world, streamlining product delivery and giving manufacturers and retailers more control over the flow and safety of inventory. And for years, this "RFID revolution" was right around the corner.

In the end, however, it took the better part of a decade of concentrated attention for this "next big thing" to become a reality. The reason was that every start-up RFID producer was pushing its own variation of the same idea, and none of them worked together. Companies became unwilling to invest in any of the systems; they were afraid they'd buy

the equivalent of the Betamax. Globally, there were at least 120 different standards operating in 2005.

Industry began to solve the problem last year through a number of standard harmonization approaches, including one led by EPCglobal, the group that manages standards for UPC bar codes. Slowly, we're moving toward an environment where RFID tagging systems are better able to interoperate with one another and often able to be read by multiple technologies.

Throughout the process, the Technology Administration has been an advocate for the value of these technologies within government, and has worked to bring together parties with divergent interests to ensure the promise of RFID technology is met.

In that vein, my participation in the American Health Information Community, or AHIC, is geared to help establish interoperability standards that will allow us to meet the President's goal of having an electronic health record for every American by 2014. It is a huge challenge given the complexities of the U.S. healthcare system, with its multiple payors and complicated billing systems. But by convening the industry's and government's most thoughtful leaders on a regular basis, we are making real progress.

Our Focus Over The Next Two Years

In the case of technology for the at-home environment, we understand the challenge is not merely technological – and so it is not just technology firms that have a role to play.

Architects and homebuilders will need to design buildings that take into account the needs of seniors … home renovation supply stores like Home Depot will have to stock and sell more age-enabling products … cell phone companies will have to create "smarter" smart phones that remind seniors to lock their doors at night and take their pills on schedule … computer companies like Intel will have to create new chips that will allow disease management programs to work seamlessly with other health care information technologies.

Our role at the Technology Administration is to help facilitate that growth, and to help overcome interoperability challenges …

- By sponsoring meetings like this to identify the core issues surrounding the interoperability of technologies for the growing aging market.

- By identifying at these meetings the market barriers that prevent us from overcoming those hurdles.

- By working together with key stakeholders in both the private and public sectors to move past those hurdles – with each major sector doing what it does best. In my view, the private sector innovates best, and the public sector is very good at convening and bringing about consensus.

- By creating the "demand pull" that comes when the federal government, which is a huge purchaser of health care products and services, better understands the transformative power of these technologies.

- By building a broader environment so that technology can move to market rapidly.

- And finally, by working actively to ensure the next generation of research is seeded so as not to lose momentum.

Conclusion:

I will grant that the heavy lifting will be done by people like my panelists and many of you in the audience. (However, when the hard work is finally done… you can count on the fact that someone from the government… like me… will be here… arms opened wide… and ready to claim all of the credit!)

There is a real danger that if we don't get the policy issues surrounding interoperability right, all the amazing lab work in the world would amount to very little – mere vaporware. My role is to push, prod, pull, and do anything else I can do to get smart scientists and companies to work on these important issues; to help get those good ideas out of the lab and onto store shelves and the homes of seniors who will need those technologies to stay healthy, mobile, and safe.

We have all had a chance to watch a video by Eric's CAST group on the future of aging technology. The piece does a great job showing how relatively simple technologies have helped one family deal with the challenges of aging. It makes a much better future for our seniors seem very much within reach – the challenge to us is not to imagine such a future, it's to design it and deliver it.

With that, I'll turn it over to Eric and Wes, who will explain exactly what that future is going to look like – if we all work hard enough to get there.

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