

BACKGROUNDER

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INTEL IN HEALTHCARE

Intel has been driving a fundamental shift to an end user-centered platform approach to the market that began with the development of the Intel® Centrino® mobile technology platform. The company reorganized itself around this platform model last year, and is now focused on five key market segment opportunities: mobility, digital home, enterprise, health and channel.

Drawing on Intel's heritage as a technology innovator, the Digital Health Group brings Intel's knowledge and technical expertise to improve the overall healthcare experience, working with and listening to the experts from the healthcare industry. The Digital Health Group is working with both the information technology industry and the healthcare industry to deliver computing and communications solutions that connect people and information in new and important ways.

A Commitment to Connecting People and Information for a New Model of Care

Today we face a worldwide growth in chronic conditions and an aging population that will place a potentially catastrophic burden on the healthcare system. Technology is the essential ingredient to evolving the current model of care and enabling seamless interaction and high quality information exchange throughout the complex healthcare system. Intel's Digital Health Group is helping accelerate healthcare quality improvement efforts around the world by delivering innovative, game changing, digital technologies that make it possible for people to protect and enhance their health on a continuous basis throughout their lives independent of location - from the hospital to the home to the human body. Our mission is to enable patients, their families and healthcare providers to connect to the right information at the right time so they can make better and more informed decisions about their health.

Intel technology can drive a fundamental shift from episodic care – when a person's health is in crisis – to a more proactive model of care. Such a shift promotes wellness and independence on an ongoing basis. This in turn can help reduce the need for costly, acute care and increase quality of life by creating greater convenience and comfort for both patients and caregivers. This new model of technology-enabled continuous health creates a sustainable approach to healthcare in this new era of chronic conditions and an aging population. Intel technology can drive a paradigm shift in healthcare by connecting individuals to the most valuable health information at the most crucial time - and empowering them to take control.

A Unique Point of View

As a world leader in technology, Intel is in a unique position to help advance healthcare, because only Intel provides a broad portfolio of key technology ingredients relevant to so many aspects of the system. It is this broad technology portfolio and the fact that we work with many diverse partners throughout the system that allows us to take an unusually holistic approach to problem solving. And we bring a natural interest in the optimization of the whole system which helps enable new market opportunities that can improve healthcare overall.

Intel has been active in healthcare needs research for the last eight years. The Digital Health Group is drawing on Intel's heritage as a technology innovator to focus first on the desired end-user benefit – imagining what's possible through people-centered research – and then designing and bringing to market platforms that deliver that desired experience.

We start by asking what unmet healthcare needs exist – whether those people are patients, caregivers, doctors, nurses, or administrators – and then combine and integrate the hardware, software, standards and services to create healthcare platforms that deliver totally new, technology-enabled experiences that meet those needs. The Digital Health Group's Health Research & Innovation team is one of the largest teams of social scientists and engineers in the industry. The members of this team go to homes, hospitals and doctors offices, living or co-locating with patients, doctors and nurses over long periods of time to observe and understand their specific needs. This work serves as a starting point for Intel's product design teams to ensure that end-user needs are the central design point for platform development.

To address the growing wave of ageing citizens in Europe and around the world, Intel, in conjunction with the Industrial Development Agency (IDA) Ireland, formed a multi-million-dollar research initiative aimed at developing innovative technologies that will help people "age in place" from wherever they choose to live. The TRIL Centre, which stands for Technology Research for Independent Living, brings together worldclass industry and academic experts who are inventing and testing new technologies with older people, and their families, to support them in continuing to live independently. One of the largest research efforts of this type in the world, the TRIL Centre focuses on three key areas: improving social health and community engagement for older people, detecting and preventing falls in the home, and helping those with memory loss to maintain their independence.

Working Toward the Vision

Intel's strategy to drive technology-enabled continuous health is focused on improving acute care in the institutional setting; advancing personal health technologies; and advancing standards and policies that enable innovation and interoperability across the healthcare ecosystem. Taken together, these efforts can enable a wide range of stakeholders to better connect people and information in ways that advance prevention, early detection, treatment success, caregiver support and independent living.

Healthcare IT

Intel has worked with public and private hospitals and hospital systems around the world to understand their information technology needs and business objectives. Some key areas of focus include the adoption of Electronic Medical Records, mobile point of care, clinical information systems, management information systems, and digitized imaging.

Intel is committed to driving standards, interoperability and EMR adoption to create Integrated Digital Hospitals. The goal is to improve efficiency and access to quality patient care by enabling a secure and seamless flow of information to the point of care or decision. For example, in collaboration with the Asklepios Group, the largest privately-owned healthcare system in Germany, Intel helped define and implement RFID and wireless technologies, mobile point of care and a wireless operating room to address this hospital's needs and facilitate patient-physician communication, improve patient care and streamline billing in their newly constructed Barmbek Hospital in Hamburg, Germany. This will be a model for hospitals in both the Asklepios Group and other healthcare systems around the world.

In February 2007, Intel announced the mobile clinical assistant (MCA) which enables nurses to spend more time with patients, do their jobs on the move while remaining connected, and manage the administration of medications. As Intel's first platform built specifically for healthcare, the MCA is an important step in the company's efforts to better connect clinicians to comprehensive patient information on a real-time basis. The lightweight, spill-resistant, drop-tolerant and easily disinfected MCA allows nurses to access up-to-the-minute patient records and to document a patient's condition instantly, enhancing clinical workflow while reducing the staff's administrative workload.

Motion Computing's C5 is the first product based on Intel's MCA platform and has earned support from clinicians and nurses participating in pilot studies around the world including the Salford Royal NHS Foundation Trust in the United Kingdom. In fact, the NHS was involved from the very beginning in providing input into the design of the MCA category.

Personal Health

Our vision of Personal Health is to change healthcare from a centralized model where people go to the hospital where healthcare is provided, to a distributed model where healthcare is integrated into the places where people live their lives. Healthcare then becomes something that is managed on a continuous basis. Personal health technology can empower people to track and manage their fitness, stress level, chronic disease or care for an elderly family member.

Our personal health research prototypes have focused on helping people monitor and improve their health and well-being, and help healthcare organizations deliver higher quality care more efficiently. We have a vision of connecting people and information across the continuum of care and empowering people to proactively manage their health conditions. We are committed to help evolve the current model of care by connecting patients, their families and healthcare providers to the right information at the right time – therefore allowing for more informed decision-making, while empowering patients to take a more active role in their own care from the comfort and convenience of their home. We are developing products to better care for ageing and chronically ill individuals, the first of which are personal health systems focused on managing chronic diseases.

Interoperability, Standards and Ecosystems Work

Transformation in healthcare will not be possible without standards-based interoperability. The technology sector has shown repeatedly that standards benefit all players by stimulating innovation and moving the entire industry toward greater productivity and lower costs. Intel has collaborated with companies in all major industries globally and is known for its accomplishments around establishing and contributing to a wide range of standards groups and consortia to drive interoperability.

Intel's experience in standards and policy work can help accelerate healthcare transformation through an approach that develops greater interoperability throughout the healthcare system and provides common building blocks that better connect people and information – enabling such tools as personal health records, personal health platforms and electronic health records, for example. Our aim is to develop standards-based platforms that inspire partners to develop truly state of the art, interoperable products and solutions.

In June 2006, Intel and other founding member companies announced the formation of the Continua Health Alliance. This open industry group will establish an ecosystem of connected personal health and fitness products and services, making it possible for patients, caregivers and healthcare providers to more proactively address ongoing healthcare needs. The Continua Health Alliance efforts will be focused on three major categories: chronic disease management, monitoring the health and healthcare needs of aging people and proactive health and fitness.

Applying Intel's Assets to Healthcare

Intel is applying its experience and assets in healthcare to address not only the challenges of technology, but the challenges of imagination. We are drawing on our experience to work with industry, academia, providers and consumer to imagine how people can prevent and manage disease and promote wellness in thrilling new ways. Our commitment to contribute to the transformation that leaders in healthcare seek extends to our work with government – from the appointment of Intel Chairman Dr. Craig R. Barrett to the American Health Information Community (AHIC) to multi-sectoral initiatives that

anticipate the age wave and accelerate the development of technologies that support independent living and aging in place. Intel believes there is no more important endeavor to which to dedicate its experience than efforts to advance healthcare around the world.

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