A proactive approach to healthcare

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We've cured cancer. Well...not quite, but according to some, early detection will eradicate deadly diseases. This was one of many fascinating topics covered at the 2011 Imec Tech Forum.

Imec (Interuniversity Microelectronics Centre) is a Belgium-based R&D center that focuses on nano-electronics. I recently had the chance to visit their sprawling campus and, over the course of two days, learn about research projects and future developments. President and CEO Luc Van den hove was kind enough to emcee the event, and his keynote address offered insight regarding healthcare tools.

Imec President and CEO Luc Van den hove proposes a proactive healthcare approach.

According to Van den hove, healthcare is predicated on a reactive approach. We treat the disease rather than focusing on the symptoms…the *early* symptoms. Yearly physicals are inadequate to address the root cause and symptoms of chronic disease. Rather, a highly-advanced process of advanced detection will deal with the affliction before it manifests itself.

Van den hove proposed a number of solutions towards a more proactive healthcare approach. Imec and Holst Centre announced an ultra-low power ECG patch [1] that integrates an electrocardiogram chip and a Bluetooth Low Energy (BLE) radio. The patch monitors cardiac patients via smart phones, and it transmits pertinent information to doctors.

Medicine will go digital, driven by body area networks. In addition, DNA sequencing should stimulate the aforementioned proactive approach to healthcare.

I was reminded of a talk given by Michio Kaku [2] on ubiquitous computing. At NI Week 2010, the theoretical physicist gave a lecture, wherein he predicted the future; unlike charlatans like The Amazing Criswell, however, Kaku's predictions are based on scientific fact.

The gist of Kaku's address focused on healthcare's future evolutionary changes. In the future, chips will cost a penny, enabling their integration in everything from clothing to Barbie dolls. "Preventative medicine" will be integrated into our daily lives. When you use the restroom, your toilet will analyze for cancer colonies years before a tumor appears. If you blow on your mirror, it will check for the early signs of lung cancer.

Healthcare will be radically redefined, shifting from a reactive to a proactive approach. The cure for cancer won't come in the form of a syringe, a pill, or gene therapy. It will be preemptively destroyed years before the earliest symptoms.

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[1] http://ecnmag.com/news/2011/10/ECG-Patch-Combines-Ultralow-Power-SoC-with-Bluetooth/
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