Medical Device Development: Medtronic
Speaker: Trevor Gunn, director of international relations for Medtronic

Introduction by Prof. Regis

Medtronic is world’s largest medical technology company
Began in a garage in 1949 by Earl Bakken.

Lecture by Trevor Gunn

He has no medical training, but does have a background in foreign relations and understands foreign governments. He’s the only person at Medtronic who does what he does on a full-time basis.

Medtronic works closely with other medtech companies
- Much of what’s true for Medtronic is also true for GE and Johnson&Johnson, etc.

Trevor’s personal interest is in the non-developed world, though Medtronic serves countries all over the world including the developed world.

[Trevor shows a map of what Medtronic makes…]
- “brain pace maker” for Alzheimer’s; implanted in a similar location to a normal pacemaker, with leads into the brain – controls Parkinsonian tremors within 10 seconds of being turned on.
- Microelectronics
- Defibrillators
- Batteries for medical devices
- Deep brain stimulator

Question: How do you organize all this? Is there central coordination or do these projects operate similar to independent companies?
Answer: These devices are developed pretty separately; there’s no attempt to hard-coordinate the different projects. These operations are pretty close to being separate companies.

Medtronic has acquired many companies.
Works with doctors on innovations; about 2/3 of revenues come from products developed within the last 2 years. Device lifetimes of about 18 months.
Does most of its manufacturing in the U.S.; 31/35 manufacturing facilities are located in the U.S.
72,000 suppliers (compare with Boeing and its 10,000 suppliers).
450 distributors in just the emerging markets.

95% of products come from interactions with doctors.
What about disposables?  Disposables are necessary and expensive over time.
- Can we force the (free/cheap) inclusion of X years of disposables with the purchase of some pricey piece of equipment that requires them?

Trends for discussion
- Chronic disease (vs. infection) is growing
- Massive confusion abroad about medtech vs. pharma
  - The pharma industry is highly regulated, for example, while often the medtech industry is not, which can be dangerous.
- Emerging markets are rising as % of revenues
- Large decision makers are being forced to create holistic solutions
- High degree of control is being wrested from the traditional masters (doctors) by institutions, globally.

Closing by Prof. Regis
- Technology doesn’t solve human problems; humans solve human problems, with good policies.