



## MEMORANDUM

### Medtronic 2014 Analyst Meeting - Focus on type 2 diabetes, new business models; new MiniMed Flex hybrid pump - June 5, 2014

#### Executive Highlights

- In its analyst meeting today, Medtronic reported its global market share as ~70% in durable pumps, ~60% in CGM.
- Medtronic has established a type 2 diabetes business unit and has future plans to launch a type 2 technology platform and establish a "type 2 ecosystem."
- Medtronic's pipeline now includes the MiniMed Flex, a "hybrid" durable pump with a smaller footprint that patients can wear on OR off the body. Design details were very light on this device, so it's hard to know what the final form factor will look like.

*This morning, Medtronic held its 2014 Analyst Meeting in New York City, its first since 2012. An illuminating 12-slide presentation on the Diabetes business was our first opportunity to hear very new Group President Mr. Hooman Hakami (formerly of GE), who has been at Medtronic for just a few weeks. He has taken over leading diabetes from Katie Szyman, who is now working on corporate distribution and other strategic issues that relate to the entire corporation. Mr. Hakami shared a confident strategic update on Medtronic Diabetes, emphasizing significant opportunity to expand into type 2 diabetes; the company's market leadership and upcoming insulin delivery and CGM pipeline for type 1 diabetes; and the potential for new business models. The three most common words in his talk were "tremendous" "opportunity," and "growth," terms that gelled with the untapped opportunities in type 2 and plans for international expansion. Overall, while the meeting had some very interesting bits of notable news here and there, there were no very major product timelines or hugely surprising announcements. By all accounts, we thought it was a fairly safe and conservative presentation for analysts - that was wise, given how dynamic diabetes continues to be. We did think the type 2 focus was a safe bet, given how much help type 2 patients need and how many more should be on both insulin at all as well as meantime (or physiologic) insulin. Below, we share our view of the meeting's top business, strategy, and R&D/pipeline highlights, followed by a pipeline summary and Q&A.*

#### Business Highlights

*1. Medtronic reported its global market share as ~70% in durable pumps and ~60% in CGM. This approximates to ~\$1.33 billion in Medtronic pump sales and ~\$240 million in Medtronic CGM sales in FY14 (an 85% pump/15% CGM split). Medtronic's pumps accessories and consumables business is \$800 million per year. The company did not give tremendous detail on how it defines CGM sales nor did it share the "durable" vs. "sensor" split for CGM. We note we are reporting the management numbers rather than interpreting them, given these limitations.*

*2. Business granularity: Medtronic has 975 sales reps (inside + outside) in the US; 800 customer support individuals in San Antonio; ~8.5% of revenue is spent on R&D (~\$141 million R&D budget per year). No installed base metrics were shared, though our back-of-envelope calculation suggests Medtronic's worldwide installed base may now be as high as ~700,000 patients - some of course may have purchased pumps or CGM but not sure on an ongoing basis.*

*3. In FY14, 8% of Medtronic Diabetes' business came from emerging markets (~\$132 million), up significantly from 4% in FY10 (~\$54 million). We assume there is vast potential here and are curious about emerging markets profitability.*

## Strategy Highlights

4. Medtronic has established a type 2 diabetes business unit and has future plans to launch a type 2 technology platform and establish a "type 2 ecosystem." At ADA 2014, Medtronic will present results from the long-awaited OpT2mise trial (abstract 102-LB) and will launch a "new partnership" for type 2 diabetes.
5. Medtronic estimates there are ~1 million patients on insulin pumps globally, 20 million patients on MDI, and 25 million patients on basal/premix insulin. (The pump figure is far higher than we have heard before).
6. Medtronic characterized its three future "areas of opportunity" as (i) global penetration; (ii) type 2 focus; and (iii) new business-to-consumer business models. Management also emphasized the goal to "move beyond pumps and sensors" through a focus on services, payer and government partnerships, leveraging the Cardiocom acquisition/ongoing customer support and management, and moving into prediabetes and health/wellness.

## R&D Pipeline Highlights

7. Medtronic's shared two new pipeline products - the MiniMed 670G (hybrid closed-loop) and the MiniMed Flex (a "hybrid" durable pump with a smaller footprint that can be worn on OR off the body).
8. The long-awaited patch pump is officially no longer in Medtronic's pipeline. There was no mention of the "optical sensor," "overnight closed-loop," or "fingerstick replacement."
9. The CGM pipeline slide shared the first details and picture of the Enlite 3 sensor - it will have "intelligent diagnostics" and "improved accuracy & comfort" (not quantified).
10. Medtronic's ambitious goal is to launch a new pump and CGM product every 12-18 months.

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## FINANCIAL HIGHLIGHTS

**1. An overall pump/CGM market slide reported Medtronic's global market share as ~70% in durable pumps and ~60% in CGM.** This translates to ~65% market share, the same figure given at Medtronic's [2012](#) and [2010](#) analyst days. The slide did not share whether these share estimates were by sales or patients, or how they were derived (obviously we know they are put together using internal estimates - we cautious readers that these are not our own estimates as we do not have as much information on units as we'd like to estimate. That said, we certainly point out that 24/7 use of CGM is lower as we understand it). Using the company's estimates of a \$1.9 billion global pump market size and a \$400 million global CGM market size, and assuming these are market share by sales estimates, this roughly translates to ~\$1.33 billion in Medtronic pump sales and ~\$240 million in Medtronic CGM sales in FY14. That would represent an 85% pump/15% CGM split, which is similar to what we estimated at the [2012 Analyst meeting](#). We do not know what the actual figures are as they are not reported. We do point out that assigning a CGM sales number to every pump sold implies that every pump user uses CGM, which is not the case.

- **Mr. Hakami stated that Medtronic's pump accessories and consumables business is \$800 million per year** - this is the first time we've ever heard this much granularity about the company's disposable business. Notably, this consumable portion of the business reflects 48% of FY14 Diabetes revenues.

- **Medtronic estimates the current global pump/CGM market is \$2.6 billion.** The company estimates the pump/CGM market will grow 9% in FY15 (!) and in low-double digits thereafter to reach ~\$4.0 billion four years from now. For comparison, the [2010 analyst day](#) forecasted 10-12% market growth in the following year (FY11), and the [2012 analyst day](#) projected 6-9% market growth in FY13. Said Mr. Hakami during today's meeting, "There aren't too many markets that are this big and growing this fast." Some would of course take issue with that level of optimism, as the overall market grew at a fairly modest 6% annual rate between FY12 and FY14 (according to Medtronic's estimates). An aside: though the slide called this the "Diabetes Device Market," we would note that it was slightly misleading, as it does not include blood glucose monitoring.
- **We noted the slide's listing of a \$0.3 billion "patch pump" market (i.e., Insulet's 2013 sales were \$247 million),** a market Medtronic expects to grow in "double-digits" in FY15 ([Insulet 2014 guidance](#) called for full-year sales to grow 19-27%). **Of course, Medtronic does not have a patch pump product, and in Q&A revealed a disposable patch pump product is off the roadmap entirely - certainly a win for Insulet as there has always been a fair amount of noise about when Medtronic would enter this market, etc.** This market segment was perhaps included on the slide to (i) show it's relatively smaller size relative to the durable pump market; or (ii) a move by Medtronic to persuade investors of the MiniMed Flex's potential (see below). As we have said for some time, there is certainly great opportunity for both companies to be successful. We do think it would have been hard for Medtronic to enter the patch pump market through building it itself, since the margins and cash flow would be considerably different from Medtronic's traditional pump business.
- **In FY15, Medtronic estimates the durable pump market will grow in the "low-single digits," while the CGM and patch pumps markets are expected to grow in "double-digits."** Said Mr. Hakami, "All together, you have a big growing market, #1 position, and a strong competitive advantage. There is no reason for us not to think about the Diabetes business unit as one that can sustain double digit growth in the foreseeable future." Given that pumps are 85% of the business, and this segment is only pegged for "low single-digit growth," the comment struck us as a bit overly optimistic.

| Underpenetrated Therapies |                             | Large and Growing Markets      |                             | Leading Market Position     |                           |
|---------------------------|-----------------------------|--------------------------------|-----------------------------|-----------------------------|---------------------------|
| <i>Device</i>             | <i>Industry Penetration</i> | <i>FY14 Actual Market Size</i> | <i>FY15 Expected Growth</i> | <i>FY14 Medtronic Share</i> | <i>Medtronic Position</i> |
| <b>Durable Pump</b>       | <4%                         | \$1.9 billion                  | Low-single Digits           | ~70%                        | #1                        |
| <b>CGM</b>                | <1%                         | \$0.4 billion                  | Double-Digits               | ~60%                        | #1                        |
| <b>Patch Pump</b>         | <1%                         | \$0.3 billion                  | Double-Digits               | N/A                         | N/A                       |

- **Management repeatedly emphasized that Medtronic's "~\$2 billion" Diabetes franchise (\$1.7 billion in FY14, to be exact) comes on serving just ~1% of type 1+ type 2 patients. Management reasoned that bumping penetration to 5-7% of patients would quintuple the franchise into a \$10 billion business.** To give some further color, Mr. Hakami remarked that Medtronic products are globally penetrated into 20% of type 1s around the world, and since type 1 is 5% of people with diabetes, Medtronic has only ~1% global diabetes penetration today. This further implied that Medtronic will need to make a very significant and meaningful expansion into type 2 diabetes, which was of course a big theme of the entire presentation (see below).
  - **Today's presentation of market penetration data bundled type 1 and type 2 together** - by contrast, the [2012 analyst day](#) separated type 1 and type 2 diabetes. We

think it actually makes more sense to break out type 1 and type 2, since the markets and strategies are so very different.

**2. Mr. Hakami listed Medtronic's five major competitive advantages**, providing more granularity on the business than we can ever recall hearing.

- **Sales coverage** - **In the US, Medtronic has 975 sales reps (inside + outside sales)**. Mr. Hakami said that's "more than all of our competitors combined - by close to a factor of two." For context, Insulet has 135 reps, Dexcom has 90 reps, and Tandem has 60 reps (note - these numbers may not be directly comparable, as we're not sure if Dexcom/Tandem/Insulet numbers include *both* inside and outside sales). We're also not sure how many reps Animas, Asante, and Roche have. It was notable to hear this much specificity, which we haven't heard before.
- **Customer support infrastructure** - Mr. Hakami called Medtronic Diabetes' customer support "unparalleled," with 800 individuals in San Antonio, TX that guide patients through the care pathway. It's "a clear asset for our business," he said. That's for sure!
- **R&D investment capacity** - Mr. Hakami noted that ~8.5% of revenue is spent on R&D - it was not clear if this was Diabetes Revenue or Company-wide Revenue, but assuming it was Diabetes revenue, that translates to an impressive **R&D budget of \$141 million per year**. The implication, said Mr. Hakami, is that Medtronic has "great latitude to drive innovation" and "build a funnel for pumps, sensors, and beyond." We would agree that the budget is very significant, and in some sense, it is surprising that Medtronic has not brought more new products to the market in the past few years. Of course, the FDA has proved quite challenging the MiniMed 530G/Enlite - it hasn't been for lack of trying.
- **Number of patients served** - Mr. Hakami did not share a specific number around Medtronic's installed base of patients, but did note that the company's size and scale "is second to none." This allows it to gather more data on user needs, requirements, clinical data, and economic outcomes "in a way that no one else in the industry can." **A later slide estimated 1 million patients globally on pumps, and assuming Medtronic has a 70% market share, that could very roughly translate to an installed base of ~700,000 patients** (we're not sure if the 70% market share number refers to share of industry sales or patients). That sounds like a high estimate but we do not have specifics.
- **Product cost position** - With size comes an advantage from a product cost position - Mr. Hakami boasted that Medtronic's margins are an "order of magnitude greater than the competition."

**3. In FY14, 8% of Medtronic Diabetes' business came from emerging markets (~\$132 million), up significantly from 4% in FY10 (~\$54 million).** Between FY10 and FY14, the emerging markets business grew at a compound annual growth rate (CAGR) of 23%. Over the next six years, the company expects a ~25% CAGR, bringing emerging markets to 16% of the Diabetes business by FY20. That was notable to hear that emerging markets will grow faster (at least slightly) from a higher base. This fits well into the overall company's emphasis on growing emerging markets, a theme CEO Mr. Omar Ishrak hammers home in every call and presentation. Mr. Hakami said, there is a "tremendous runway internationally" (right now, the US is 60% of Medtronic Diabetes' total revenue) and Medtronic is "just scratching the surface."

- **Mr. Hakami highlighted some of Medtronic's specific international Diabetes initiatives:** CGM-based screening in India through a partnership at Apollo Hospital; training, education, and support in Kazakhstan; a partnership with the Ministry of Health in China to "help them better understand what the care pathway should look like for patients in China"; and "region-specific innovation" in Japan.

## BUSINESS STRATEGY HIGHLIGHTS

**4. Notably, Medtronic has established a type 2 diabetes business unit and has future plans to launch a type 2 technology platform and establish a "type 2 ecosystem"** (see figure 3 in the appendix). The goal of the new business unit is to understand patients, their unique requirements, and

develop innovative solutions to solve unique clinical challenges. The business unit will also work on establishing a broader type 2 ecosystem through "partnerships and ventures."

- **At ADA 2014, Medtronic will present results from the long-awaited [OpT2mise trial](#), testing pumps vs. MDI in 400 patients with type 2 diabetes (late-breaking poster #102-LB).**
- **Medtronic will also launch a "new partnership" for type 2 diabetes at ADA 2014. Management vaguely characterized the partnership as a "really big step towards creating an ecosystem."** We wonder if this will build off the Aetna pilot program for pumps in type 2 diabetes [announced in March](#).

**5. Medtronic estimates there are ~1 million patients on insulin pumps globally, 20 million patients on MDI, and 25 million patients on basal/premix insulin.** The company's goal is to provide solutions along the "diabetes continuum of care." The implication was that Medtronic would look to provide products or build businesses in each of these distinct segments, though specific strategies in each segment were not defined. The most rational horizontal move would be to address the ~20 million patients on MDI and oral medications (see below). We wonder if acquisitions could drive this, perhaps CeQur or Valeritas (though the latter announced plans to go public at [JPM 2014](#)). We noted the similarity of this strategy to that shared by [J&J during its Medical Device Update Day a few weeks ago](#) (Wellness app for prediabetes, Invokana for patients on orals, Finesse patch pen for early insulin therapy, Animas Vibe pump for intensive insulin therapy).

| Category                             | Therapy                                 | Number of Patients    |
|--------------------------------------|---|-----------------------|
| <b>Intensive Insulin</b>             | Insulin Pumps                           | ~1 million patients   |
|                                      | Oral meds + MDI                         | ~20 million patients  |
| <b>On insulin, but non-intensive</b> | Oral meds + basal/premix                | ~25 million patients  |
| <b>Not on insulin, non-intensive</b> | Diet/exercise/oral meds/<br>injectables | 300 million+ patients |

**6. Medtronic characterized its three "areas of opportunity" as (i) global penetration; (ii) type 2 focus; and (iii) new business-to-consumer business models.** The company's current strengths were directly mapped onto these future areas of opportunity ("the strengths today are the same assets that need to be leveraged for the areas of opportunity"). We thought this was an interesting way to frame current expertise with future growth potential, though the link is somewhat more challenging than the slide implied - having clinical depth in type 1 diabetes, for example, is still a far cry from clinical depth in type 2 diabetes. Similarly, understanding patients and HCPs is one thing, but translating that understanding into new business models is clearly another thing entirely. **The exact nature of these business models was not specified (e.g., HCP or patient-focused? Coaching? Data analytics? Remote monitoring?).** This provided lots of room for thought.

| Areas of Strength                        | Areas of Opportunity                                   |
|--|--|
| Scale                                    | Global Penetration                                     |
| Clinical Depth                           | Type 2 Focus   |
| Patient and HCP Support                  | New "B to C" [business to consumer]<br>Business Models |
| <b>Assets Can Be Naturally Leveraged</b> |  |

- **The presentation also proposed another key future strategy: "Move beyond pumps and sensors."** The company aims to achieve this goal through three main approaches:

- **Grow services** - Drive consumables product pipeline and support; leverage Big Data from the installed base (i.e., through CareLink) to drive new business models. Regarding the former, Mr. Hakami mentioned the company's "\$800 million accessories and consumables portfolio," the first granularity we've ever heard on the size of that business. Management believes there is opportunity for new products in the consumable/accessory segment. We hope this includes innovation in infusion sets and insulin delivery, of which there has been very little improvement in recent years!
- **Strategic lifetime management** - Payer and government partnerships; leverage Cardiocom and customer support. It was great to hear the latter mentioned in a Diabetes sense - as a reminder, [Medtronic announced the acquisition of Cardiocom](#) on August 12 for \$200 million. Cardiocom's products and services include remote monitoring and patient-centered software to enable efficient care coordination and specialized telehealth nurse support. **The initial focus within Medtronic has been on heart failure and hypertension, though in the F1Q14 call, management noted plans to expand to diabetes in the longer-run.** In this regard, Mr. Hakami mentioned the possibility of leveraging the Diabetes' San Antonio customer support infrastructure.
- **New applications and users** - **Prediabetes and health/wellness.** Mr. Hakami characterized this as "a tremendous opportunity to go after," though "still in the early days in terms of our thinking." That was a big deal to hear! This would certainly be a major leap from where Medtronic's current business is, though prediabetes is also such a profound area of unmet need, and one with so much potential to bend the cost curve in the long run - it's outstanding to see Medtronic thinking forward on this front.

## R&D PIPELINE UPDATES

**7. Medtronic's slide on "Type 1 Leadership" shared two new pipeline products we had not previously heard of - the MiniMed 670G and the MiniMed Flex.** These were listed alongside the MiniMed 640G, the MiniMed 530G, and the MiniMed Revel. There were no timelines attached to any product on the slide. Though much of the presentation emphasized the opportunity in type 2 diabetes, Mr. Hakami assured listeners that he "intends to continue that march to an artificial pancreas. It is a noble goal, it's the right goal, and it's one we're going to continue." He got the message didn't he! Excellent alignment, we thought, with the vision of Medtronic's very impressive Chief Medical Officer for Diabetes, Dr. Fran Kaufman.

- **The MiniMed Flex was positioned as a "hybrid pump."** Mr. Hakami said it's going to have smaller footprint than a traditional pump, which will allow a patient to choose whether to wear it on OR off the body. However, it will still be a durable pump with tubing. From our view, this is a clear strategic move to achieve some of the advantages of a patch pump (discretion, wearing it on the body instead of a pocket, no tubing hanging out), while maintaining Medtronic's established durable pump business model. No further details were shared, but we assume this pump would have a handheld to enable a patch-pump-like experience.
- **The MiniMed 670G was characterized as a "hybrid closed-loop system" and a "big step towards the ultimate goal of an artificial pancreas.** This is the first mention of this model. No further details were shared. At [AACE 2014](#), Dr. Bruce Bode's slide noted that a Medtronic hybrid closed-loop product would be called the "MiniMed 740G;" we wonder if that is a similar product to the 670G but on a next-gen pump platform.
- **The slide also included a nice clear picture of the MiniMed 640G pump platform** (similar to those we've seen previously, but with greater detail) - see figure 1 in the appendix. The pump will have a color screen, a much different button structure (four-way arrow, central select button, back button, one other button), and a home screen that includes a bolus and basal menu. Mr. Hakami did not share a launch timeline. As of [Medtronic's F4Q14 call](#) in May, the product had obtained a CE Mark, was ongoing user evaluations in Europe, and a European launch was expected in FY15 (i.e., by April 2015). Meanwhile, an in-clinic study in the US was expected to start soon.

- **Mr. Hakami said that feedback on the MiniMed 530G has been "excellent."** He called it a "step closer to a closed-loop system" and emphasized the product's "system" integration between the pump and sensor. No launch metrics or further detail was shared.
- **The pipeline slide plotted the company's portfolio of current and future products on a graph with "Therapy Impact" (y-axis; i.e., artificial pancreas) and "Therapy Ease" (x-axis)** - see Figure 2 in the Appendix. Two competitors were also listed on the plot - "Patch Competitor #1" (presumably Insulet) and Durable Competitor #1 (presumably Animas). The MiniMed 670G was the furthest in the upper right (highest therapy ease and highest impact). Medtronic views the MiniMed Flex as slightly less easy vs. "Patch Competitor #1" (i.e., Insulet), but with slightly higher therapy impact (i.e., including some insulin delivery automation or at minimum, sensor integration). The MiniMed Revel had the lowest "score" on this two-axis graph, but still was positioned as having a higher therapy impact than "Durable Competitor #1" (i.e., Animas).

**8. A traditional patch pump is no longer in Medtronic's pipeline. The pipeline slides also did not mention "optical sensor," "overnight closed-loop," or "fingerstick replacement"** - all were expected in "FY17+" at [Medtronic's 2012 Analyst Day](#). This did not come as a surprise, but was officially clarified during Q&A. The patch pump had long been rumored, but even as of [the 2012 Analyst Day](#), had already been much delayed over the years. We had long suspected the business model was simply too different for Medtronic to pursue full force. The MiniMed Flex is a logical compromise, though the devil will be in the details in terms of how it competes with Insulet's OmniPod.

**9. The CGM pipeline slide shared the first details and picture of the Enlite 3 sensor - it will have "intelligent diagnostics" and "improved accuracy & comfort."** Management is "very excited" about this product. The slide noted that a US trial will "begin soon" ([ClinicalTrials.gov Identifier: NCT02130284](#)), an update we first wrote about in our [Medtronic F4Q14 report](#) a couple weeks ago. We were a bit disappointed to see what looks like the same clamshell transmitter form factor as the Enlite and Sof-sensor - this is obviously a logical choice for backwards compatibility and manufacturing simplicity, but from a patient perspective, the form factor of this transmitter has some key disadvantages relative to Dexcom's G4 Platinum transmitter (e.g., shorter transmission range, more finicky connectivity [e.g., LOST SENSOR], and more likely to flop around and dislodge).

- **In terms of "future disruptive innovation" in CGM, Medtronic has four goals:** redundant sensing, "fail safe" accuracy, connectivity enhancements, and patient experience. None were a surprise based on what we know about Medtronic's CGM pipeline from various conferences and earnings call (see table below). Management boldly claimed, "From a technology perspective, if you look at our innovation, we can drive sensor technology in a way that others can't. And we're committed to that." Through all of the independent investigator studies, Dexcom and Abbott sensors have outperformed Medtronic sensors to date; it remains to be seen how products beyond the original Enlite will stack up against other sensors.
- **The CGM review reminded listeners of two other recent developments regarding the Enlite Enhanced and MiniMed Duo.** As a reminder, the former launched in Europe at ATTD and is 80% smaller than the Enlite (no accuracy data has been shared to date, but the slide claimed "improved accuracy and consistency"). The other reminder was on the MiniMed Duo, which just obtained a CE Mark this week ([read our detailed report](#)) - the product will launch in the UK first and will subsequently become available in select European countries over the next few months (pending local approvals).

**10. Medtronic's goal is to launch a new pump and CGM product every 12-18 months** - management framed this as a "more regular cadence of product launches" on both of the company's platforms (i.e., pumps and CGM). Certainly, this would be very welcome from a patient perspective, given the delay in new products between the Revel and the Veo/MiniMed 530G. In a word - ambitious. In another word - aspirational!

## PIPELINE SUMMARY

| Pipeline Product  | Latest Timeline   |
|---|---|
| MiniMed 620G (sensor-augmented)<br>MiniMed 630G (low glucose suspend)<br>MiniMed 640G (predictive low glucose management) | <a href="#">Ongoing user evaluations in Europe</a><br>Unclear if still in the pipeline<br>Obtained CE Mark; <a href="#">Ongoing user evaluations in Europe</a> ; European launch in FY15 (i.e., by April 2015).<br><a href="#">In-clinic study</a> in US starting this month. |
| MiniMed 670G (hybrid closed-loop)   | No official timeline.   |
| MiniMed Flex<br><i>"Hybrid pump" with a smaller footprint and ability to wear on or off the body</i>                      | No official timeline.   |
| Enhanced Enlite CGM sensor (Enlite 2)   | Launched in six European countries; additional Western European launches were expected throughout 2014.   |
| Enlite 3 CGM sensor<br><i>"Intelligent diagnostics" and "improved accuracy &amp; comfort"</i>                             | Will be evaluated in MiniMed 640G in-clinic US study ( <a href="#">ClinicalTrials.gov Identifier: NCT02130284</a> ).  |
| MiniMed Duo<br><i>Integrated sensor and infusion set</i>  | Launching UK and subsequently in select European countries in 2H14 (pending local approvals). Data presented at <a href="#">AAACE 2014 Day #3</a> .   |
| Connected Care<br><i>Remote monitoring of insulin pump/CGM via smartphone app</i>   | On display in the EASD 2013 Exhibit Hall; EU feasibility study presented at <a href="#">DTM 2013</a> .  |
| Redundant glucose oxidase sensor system<br><i>Multiple glucose sensing elements and a Bluetooth LE transmitter</i>        | No official timeline; discussed by Dr. Fran Kaufman at <a href="#">DTM 2013</a>   |
| Orthogonally redundant CGM<br><i>Glucose oxidase and optical sensing</i>  | First-in human data <a href="#">shared at ATTD 2014</a> ; study ongoing.  |
| Medtronic Sentrino Critical Care CGM  | CE Marked in December 2012; controlled EU launch started in Germany and UK  |
| Overnight Closed Loop   | ??? - May 2016+ (2012 Analyst Day Timeline)   |
| Fingerstick Replacement   | ??? - May 2016+ (2012 Analyst Day Timeline)   |
| Patch Pump  | DISCONTINUED  |

## QUESTIONS AND ANSWERS

**Q: Mr. Hakami, we didn't get to ask you questions, so I wanted to ask about a couple different products. What is the MiniMed Flex - you said it's a hybrid device? It wasn't clear to everybody what that was.**



Mr. Hakami: The Flex is essentially a hybrid pump. It's going to have smaller footprint than a traditional pump. The footprint will allow you to wear on your body if you choose, or off the body if you choose. What we've seen is that patients want flexibility, and that pump is designed with that flexibility in mind.

**Q: So not a disposable product - it's a durable product?**

A: Yes, it's a durable pump.

**Q: And then the Enlite 3 you suggested improved accuracy, can you flesh that out?**

A: Like I said, I'm going to have to get back to you

**Q: You don't know yet? [Laughter]**

Mr. Omar Ishrak: It's better. [Laughter] More accuracy and a little more comfort. More accuracy.

Mr. Hakami: But I can get you specifics.

**Q: You talked a year ago about more opportunity in diabetes, and more opportunity in restorative therapies. How are you thinking in terms of Medtronic's relevance in all these categories? What does that mean in terms of where you need to take the company?**

Mr. Ishrak: The strategy around growth in that sense is first to fill these categories out...In Diabetes, we only touch a fraction of the population in diabetes. And we don't have to go all the way to prediabetes to start with. But we can inch our way to going to lesser and lesser acute levels of diabetes. And we can create significant business models out of that. The one point I do want to make, is the biggest opportunity long-term - is taking these therapies we are familiar with and looking at the post-acute state. Any patient that has device goes home. Although that patient is cured to a certain degree, that patient requires management. And if that management is not adhered to, it's inefficient and wasted. There is an opportunity there that we can fill out. We take patients without therapies and figure out business models for long-term support. That's adding value to the system and making sure the promised benefit of the system is fulfilled. Emerging market is an obvious area as well.

**Q: In diabetes, there were no timelines on the products you highlighted. Is that because they are further out?**

Mr. Hakami: You've got to give me some latitude - I haven't done a single program review with the team. Before I come out here and commit to timelines, I need to do that.

**Q: On diabetes, in the past, there was a traditional patch pump on the roadmap. Is that no longer in development?**

Mr. Hakami: It's not on the roadmap.

**Q: Okay, so that's a product that was on the roadmap that has now been taken out.**

Mr. Hakami: Right.

## APPENDIX - SELECTED SLIDES

### Figure 1 - MiniMed 640G Picture



Figure 2 - Product Roadmap on Therapy Ease/Therapy Impact Graph



Figure 3 - Medtronic Type 2 Diabetes Strategy



# SCALE AND LEAD IN THE TYPE 2 SEGMENT

Providing Solutions Along the Diabetes Continuum of Care

Insulin Pumps  
1M

Intensive Insulin

Oral Meds & MDI  
~20M

Oral Meds & Basal/Pre-Mix Insulin  
~25M

Non-Intensive On Insulin

Diet & Exercise, Oral Meds, & Injectables  
300M+

Non-Intensive Not On Insulin

## Type 2 Strategy

- 1 Created new Type 2 business unit
- 2 Launch Type 2 technology platform
- 3 Establish Type 2 ecosystem

## ADA 2014

OpT2mise Trial: Pumps vs. MDI in T2

New Partnership

--by Adam Brown and Kelly Close