Business Model Innovation for Health Technology

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Why Healthcare Innovation is Tricky

Imagine you walk into a bar and somebody orders you a beer without first obtaining your consent or asking for your taste preferences, somebody else then tells you how quickly and at which table you get to drink that beer, somebody else again is paying an undisclosed price for your beer – likely involving a substantial government subsidy - and at the end of the day yet another person is going to rate the establishment based on criteria that may or may not have anything to do with why you went to that bar in the first place - Congratulations, you have arrived in the healthcare industry.

The Low-Hanging Fruit Illusion

While Amazon, Apple, and Co's efforts to disrupt healthcare remain yet to be judged, I have encountered a number of well-funded healthcare and MedTech innovations that spectacularly failed to gain traction by focusing on the quality of care, improving outcomes, or process and infrastructure enhancements without anticipating the complex scattered and siloed landscape of healthcare.

This approach is doomed to fail. The vast majority of healthcare service providers are required to perform defined procedures in a certain way and are then allowed to bill the insurance company a predetermined amount for that procedure. If the outcome of the procedure is enhanced, if the person administering the procedure can make more informed clinical decisions, if the procedure can be performed faster or safer – all these improvements may not even enter the hospital's value creation equation.

Hate The Sin, Love The Sinner

Healthcare service providers optimize the following four problems:

- What procedures do we perform
- What does each procedure cost
- What revenue does each procedure yield
- How many procedures can be executed per day/month/year

Thus, improvements in the patient's well-being only provide value to her or his healthcare service provider if they allow it to perform additional or more procedures, decrease costs, or increase revenues. Based on my own experience and that of many startups I have worked with and followed, I sincerely advise healthcare and MedTech innovators to not spend precious time and energy getting frustrated about the strange incentives created by this system (unless, of course, they are 100% sure to chase that one 'leaving no stone left unturned' disruptive innovation and can raise an appropriate financial war chest to do so, or if they are looking to enter the domain of politics).
Instead, I would strongly advise aspiring entrepreneurs to invest significant time and energy in the design of a business model that works, and if in any way possible without major changes to the current standard of care.

Overview of Business Models for Medical Technology Innovators

Based on my experience, I have compiled some examples of healthcare business model innovations that I find compelling and are much more likely to gain traction compared to purely outcome / quality-of-care-based improvements:

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1. Increase procedure turnover:

- Some high-value procedures – i.e. most types of surgery – cost over CHF 100.00 per minute. If a hospital can shave a few minutes off per procedure with the same DRG, this may translate into a six-figure amount per year.
- If a doctor sees 20 patients a day and explains the same procedure to all of them, having more informed patients, to begin with, may allow him to see (and bill for) a few more.
- Hospitals are complex organizations, designed to run like clockwork. If an innovation allows hospitals to reduce wait or transfer times, this may free up precious time of scarce clinical staff.

Some examples: Ophthorobotics' automated eye injection for wet AMD (**https://www.ophthorobotics.com/**), Augmedix's full-service automation of medical documentation (**https://www.augmedix.com/**), Doctena's appointment-booking platform for smaller outpatient centers (**https://en.doctena.lu/**).

2. Open up new reimbursement opportunities

- Depending on each procedure and country, patients expect full, partial, or no insurance coverage for each procedure. Hence, adding communicable value to a procedure or offering new treatment options may offer the tremendous upselling potential to clinicians.
- If an innovation provides significant benefits to patients, but cannot be reimbursed in the current scheme, it has to undergo a lengthy, cumbersome, and very costly process of changing the current billing code. This is an endeavor to be undertaken separately for each country and involves substantial investment into clinical research and lobbying. Caveat: In many cases, this means adding at least 3 years in time-to-market and investing a medium seven-figure amount or more into clinical research – per country!

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Examples of companies and procedures with this value proposition: HUR enables senior living facilities to run a profitable gym (**https://hurusa.com/**), Flow opens provides new depression treatment options that are – for now – tapping into the self-payer market (**https://flowneuroscience.com/**) - and don't forget: larger MedTech companies would never develop and launch a new product or service without a clear pathway to reimbursement!

3. Reduce risks of adverse events and complications

- As health systems are slowly moving towards value-based care, more and more countries introduce penalties for early readmissions or relapses. Furthermore, in the DRG world, complications and extensions in patients' required length of stay are most likely paid for by the hospital. Reducing such risks is not just great for patients, but also provides value to hospitals.
- Clinicians are people. People make mistakes: wrong medication or dose, wrong diagnosis, late detection of a disease requiring more risky/complex treatment options, inadequate instructions reducing patients' compliance with the intervention... in healthcare, mistakes can be fatal, exposing patients, relatives, and clinicians to avoidable hardship. Innovations that reduce clinical risks can thus provide tremendous value to everybody.

Some examples: AOTs bone-cutting laser (**https://aot.swiss/en/**), Medisafes medication compliance platform (**https://www.medisafe.com/**), Dividats fall-prevention technology for SNFs (**https://dividat.com/**).

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4. Reduce business/compliance risks

- Hospitals are audited internally and externally to comply with a number of codes and regulations. How do they make sure that all of their physicians have the right training to perform a procedure with a complex new device? How do they make sure that each post-surgical evaluation is executed and stored according to protocol? Who makes sure that doctors are not using Whatsapp to exchange sensitive patient data? Providing solutions that mitigate business risks has great potential in healthcare.

Examples: Komed Healths safe and encrypted "Slack for Doctors" (**https://komed-health.com/**), Protenus compliance and risk reduction service (**https://www.protenus.com/**), and many more.

5. Decrease costs

- This seems to be a no-brainer. Any innovation that saves costs has a great chance of gaining traction. In healthcare organizations, saving costs is often the single most important goal. However, if a business model hinges on doing something more cost-effectively, it often has to mitigate the great skepticism of clinicians. In that case, its acceptance MUST be built on solid proof that the new way of doing things is at least as good as the old one, just DIFFERENT and – by all means – that its changeover costs are more than made up for by its savings.
- Healthcare innovators often omit non-clinical stakeholders, which may involve administrators, accountants, IT, building maintenance and service, cleaning staff, and others and make up for a significant amount of a clinic's overall spending. Creating solutions to use non-clinical resources more effectively can be a great strategy to launch medical products or services.

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- Some innovations allow for medical procedures to be performed and/or evaluated involving fewer or less qualified staff (i.e. simplified/automated diagnostic tests, standardized assessment performed by a nurse instead of a physician, etc.). If the reimbursement of the procedure allows for such a change in the current standard of care, this can be a very profitable endeavor.

Examples: Histryx Medical automates hospitals' procurement process (https://www.hystrixmedical.com/), and most rehabilitation technology companies are looking at replacing 1:1 physical therapy with group therapy in some way (you'll find numerous examples of this value proposition in my report on the rehab technology industry).

6. Attract new patients

- This is a tricky one. Referrals from one healthcare organization to another (i.e. clinic -> outpatient care, GP -> specialist, HMO -> GM, etc.) are – at least in Switzerland – very heterogeneous. Hence, any business model relying on acquiring new patients for the hospital has to take the specifics of its current patient inflow generation into account.
- However, there is a huge potential to create value in healthcare by stimulating demand for walk-in procedures, as the increased presence of doctors in stations and central city locations with extended opening hours shows.

We would be very curious to hear about your business model validation and implementation experience.

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