

Increasing waiting room efficiency

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**Problem**

Are you tired of filling out forms every time you go to the hospital? In order to ensure that their records are up to date, hospitals will often ask you the same questions at each visit. As a result, regardless of whether you are a regular or not, you will experience some kind of inconvenience. This process is time consuming, causes inefficiencies to occur, and increases operational costs. At Stanford Medical Center, the estimated check-in time is 15 minutes (“Arrival and Checking In”, 2017). This process includes:

* Reviewing insurance information
* Verifying photo ID
* Updating records if necessary
* Collecting copay or deductible
* Completing regulatory forms (terms and conditions of service and privacy notice)

With the growing number of self-service options in other industries, people expect fast service everywhere. It is time to apply the success of self-service to hospitals to provide seamless service.

**Value Proposition**

Our team is developing a product that is **available on tablet systems**, for both **patients and hospitals**, that solves the problem of **poor hospital efficiency** by enabling quick self-check in.

Our product is a combination of hardware and cross platform software. The hardware, which includes the tablet stand, ID/credit card scanner, and keyboard, will be located at the front desk of the hospital. When patients arrive, they will have the option check-in either digitally on Hero’s tablets, or physically with the front desk employee. By allowing Hero to process all of the simple check-ins, Hospitals can reduce the average wait time from 15 minutes to a matter of seconds! Hero will allow patients to perform routine actions such as verification of photo ID, collection of copay, and completion of forms. The software application, which operates on tablets, will allow users to check-in once they are within the hospital, removing the need to go to the front desk for routine check-ins. The software will also allow registration of new users.

**Management Team**

Hero’s team is made up of individuals a wide range of specialties, and is focused on solving the problem of hospital inefficiencies. They use different perspectives to tackle problems.

Rahul Singal is the Chief Technical Officer of Hero Health, and a junior Computer Science student at Washington University. Led customer support and day to day logistics at a startup.

Alexa Simons is the Chief Marketing Officer of Hero Health, and a junior in bioengineering at Washington State University with a minor in entrepreneurship. She has background in marketing classes and through her work in the service industry, she interacted with upwards of 200 people in a night which gave her the experience of interacting with people.

Alex Rodriguez is the Chief Strategic Officer of Hero Health, and a junior Mechanical Engineer at Washington State University, with a minor in Computer Science. He has personal experience forming his own startup creative media company. Over the past year, Alex has been on a team developing steerable water jet needles for medical use in tumor removal and other precise operations. From laboratory work and extracurricular projects, he is experienced in creative prototype design, fabrication, and testing, as well as marketing, advertising, and strategizing.

Kathleen Garde, MD. was previously the Chief Medical Officer at Island Hospital, located in Anacortes Washington. She provides our team with real-world medical and financial advice, and gives us an inside view into hospital management.

Dr. Howard Davis is the director of the Harold Frank Institute for Engineering Entrepreneurship. He provides our team with insight and experience from his personal involvement in startup situations.

**Market Opportunity**

Hero will target patients, hospitals, and clinics who are looking to increase their waiting room efficiency. Initially, we will target three hospitals in the state of Washington.

The following are hospitals that we are currently sampling data from:

* Island hospital, located in Anacortes, receiving approximately 30,000 check-ins annually (Island Hospital, 2018).
* Whidbey Health Medical Center, located in Coupeville, receiving approximately 27,000 check-ins annually (Whidbey, 2018).
* Swedish Hospital, located in Seattle, receiving approximately 69,000 check-ins annually (Swedish, 2018).

According to the CDC, approximately 200 million people have visited the doctor’s office at least once in the year of 2015 (US Department…, 2015). Based on this number we estimate that our product will reach an exposure of 0.06% of the market, or approximately 120,000 patients (calculated by averaging the check-ins from our three sample hospitals above).

Hero recommends that the Hospital needs 1 Hero system for every 40,000-annual check-ins. This is equivalent to a Hero self-check-in every 6 minutes during regular operating hours. We will charge hospitals an annual subscription fee (to cover maintenance and upgrades) of $20,000 per Hero system. Combined with our initial market reach (120,000 check-ins), this translates into a total profit of $60,000 across three systems annually (more description on our revenue model below).

By charging an additional administrative fee to the patients, the hospital can turn the Hero system into a revenue stream. This will offset the cost of the subscription so that hospitals can implement the Hero system without financial stress.

Finally, the market opportunity is growing. In the U.S., the elderly population will increase from 48 to 88 million by 2050 (National Institutes of Health, 2018). More elderly people equates to more hospital visits. This shows that there will be continual growth in our market sector, leading to new expansion opportunities. Hero will capitalize on this growth by expanding into 5 new hospitals per year.

**Revenue Model**

Our revenue model is as follows. The fixed cost of a Hero tablet will cost the company $2000 and is broken down as follows:

* $500 for the tablet
* $500 for Photo-ID Scanner
* $400 Credit-Card Scanner
* $100 for Keyboard
* $500 for Manufacturing and Materials

Hero will make money by charging hospitals an annual subscription cost of $20,000 per tablet. As iterated in the previous section, we recommend that the hospital has one tablet per 40,000 annual check ins, resulting in $20,000 of revenue per 40,000 check ins.

The three trial hospitals will each receive 40,000 check-ins, resulting in 120,000 total check-ins. With 1 tablet at each hospital, we will generate 3 X $20,000 = $60,000 of revenue in the first year.

Hero will also have a fixed cost of $2,000 per tablet (for manufacturing and labor), and a recurring annual cost of $1000 per tablet (for maintenance and upgrades). Hero will expand by 5 hospitals each successive year. We will assume that each successive hospital will have approximately 40,000 check ins a year which will result in $20,000 revenue per hospital.

Our financials are shown below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Year 1 | Year 2 | Year 3 | Year 4 |
| Number of Hospitals using Hero’s system | 3 | 8 | 13 | 18 |
| Avg. Total Patients | 120,000 | 320,000 | 520,000 | 720,000 |
| Avg. Tablet Check-ins (50%) | 60,000 | 160,000 | 260,000 | 360,000 |
| Number of Tablets required | 6 | 16 | 26 | 36 |
| Subscription Revenue ($20,000 per tablet) | $60,000 | $160,000 | $260,000 | $360,000 |
| New Tablet Cost | ($6,000) | ($20,000) | ($20,000) | ($20,000) |
| Maintenance | ($3,000) | ($8,000) | ($13,000) | ($18,000) |
| Net Yearly Profit | $51,000 | $132,00 | $227,000 | $322,000 |

**Competitive Strategy**

Hero Health is creating a product that will save people time and make going to healthcare clinics or hospitals more convenient. Self-service kiosks have proven beneficial in many other industries such as grocery store self-checkouts, banks, and even fast food restaurants.

Our competitors consist of companies who are selling healthcare clinic kiosks. Our main competition in this market is Clear Wave (Healthcare Kiosk Patient Check-in Clearwave Corp., n.d.). Another competitor, who is a non-direct competitor, is HealthAsyst. They are a leading healthcare IT company that works on software to solve challenges in healthcare (The Innovative Healthcare IT Company, HealthAsyst, n.d.).

Hero is superior to the competition because we are combining a software with a tablet in order to offer a more affordable system to healthcare clinics and hospitals. They are able to use our check-in system as opposed to a kiosk which is beneficial because the hardware that the kiosk consists of can cost up to $60,000 (“Telemedicine Kiosks: The Future of Health Care?”, 2016). By creating a software that runs on a tablet, hospitals receive the benefit of a cheaper solution, as well as a system that allows patients to check-in in a timely manner.

Kiosks are also harder to maintain than tablet based systems. When something goes wrong, Hospitals must wait for a maintenance professional to fix the problem. Clinics and hospitals could wait for days before an IT professional has time to fix the system.

With Hero’s software based system, there is a decrease in software problems because the system could automatically update when a new update becomes available. The price of our system which consists of software, tablet, photo ID scanner, credit card scanner, and keyboard will cost the hospitals $20,000 annually, which is a third of the price of kiosk based competitors. At this reduced price, our check in system will still offer all of the benefits, while also eliminating human error, and decreasing patient check in time.

**Go to Market Strategy**

Hero will reach its initial customer through a combination of networking and marketing presentations. Initially, all of our sales will be done through our marketing team. In order to develop future sales, we will demo a prototype to prospective hospitals, showing them the successes we have in other hospitals. Once our sales begin to grow, we will pursue SEO optimization for our website in order to funnel more hospitals into our customer channel.

In order to keep Hero’s team on track, we have outlined milestones that will serve as indicators of our company’s progress. Our milestones are as follows:

1. (Month 0) Develop contact with Hospital Management
2. (Month 3) Program Hero application for use on tablets
3. (Month 6) Fabricate working prototype (with ID scanner, keyboard, etc)
4. (Month 9) Find three pilot hospital/clinics as our initial customers
5. (Month 12) Fix issues with prototype and release a finished product
6. (Month 18) Expand into 5 new hospitals every consecutive year.

For milestone 1 we will create a list of potential hospital partners and narrow them down based on relationships we form. In order to reach milestone 2 and 3, we will need to estimate the cost of producing a technological solution. Our CTO will lead the requirements engineering. Through the requirements a design architecture will be formed and implemented with a team of developers. For milestone 4 we will need to build relationships with a clinic or add someone who has relationships. For milestone 5 we will need our CTO to lead the final development of the software. For milestone 6 our CSO and CMO will lead the marketing and sales teams to reach more hospitals.

**Traction**

We have begun our prototyping and customer discovery. Our prototyping consists of tablet screens to prove the functionality of our solution. We have used our discussions with industry professionals to guide us in creating the most viable solution. As stated in our Go-to-Market strategy we will follow our milestones and add experience as needed.

**Financials**

We have attached our projected five-year income sheet, balance sheet, and cash flow projections in the appendix. In the following paragraph, we will be referencing these documents.

Hero’s income statement details how Hero will sell three system subscriptions in the first year, and grow by five subscriptions over the next four years. This yields a revenue of $60,000 for our initial year, with our revenue growing by $100,000 each year for the next four years. The costs of goods sold and maintenance will be $3,000 for the first three hospital subscriptions and will be an additional $5,000 for every five subscriptions sold. Maintenance costs go towards IT support, installation, and replacement of old systems. Since our maintenance costs are inexpensive compared to the revenue generated from the subscription, our gross margin percent for the first four years is 95% and the fifth year gives us a gross margin percent of 96%. Our operation expenses for employment will start out at $20,000 as the company starts out and will increase by $20,000 each of the following four years. These are employee related expenses. The facility expenses are estimated at $10,000 a year for each year. This price is low because Hero doesn’t plan to move into an office building right away in order to save on costs. Our advertising and “other” operating expenses are blank at the moment as we have not set a budget yet. Our company's fixed costs are the costs of the new Hero Systems which is $6,000 for the first year ($2,000 per system). We intend to spend $10,000 each of the following years for the five new systems. This brings our total expenses to $120,000 by the fifth year which gives us a net income of $415,000.

On our balance sheet we anticipated our cash and accounts receivable to each be 50% of our net income in order to account for people who will pay with credit as well. Our fixed assets will consist of our tablets that we are loaning. We anticipate that our tablets will last five years so they will depreciate by 20% each year. Our liabilities start out as $20,000 because we will obtain a loan in order to cover initial costs.

Our cash flow statement demonstrates the flow of cash in our company for the first five years. It takes into account the flow of cash within the current assets, fixed assets, current liabilities, and funding.

**Appendix**

Income Statement:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Year | Year | Year | Year | Year |
|  | 1 | 2 | 3 | 4 | 5 |
|  |  |  |  |  |  |
| **REVENUE** |  |  |  |  |  |
| Hero System First 3 Hospital Subscriptions | 60,000 | 60,000 | 60,000 | 60,000 | 60,000 |
| Hero System Next 5 Hospital Subscriptions | - | 100,000 | 100,000 | 100,000 | 100,000 |
| Hero System Next 5 Hospital Subscriptions | - | - | 100,000 | 100,000 | 100,000 |
| Hero System Next 5 Hospital Subscriptions | - | - | - | 100,000 | 100,000 |
| Hero System Next 5 Hospital Subscriptions | - | - | - | - | 100,000 |
| Total Revenue | 60,000 | 160,000 | 260,000 | 360,000 | 560,000 |
|  |  |  |  |  |  |
| **COST OF GOODS SOLD** |  |  |  |  |  |
| First 3 Hospital Subscriptions Maintenance | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |
| Next 5 Hospital Subscriptions Maintenance | - | 5,000 | 5,000 | 5,000 | 5,000 |
| Next 5 Hospital Subscriptions Maintenance | - | - | 5,000 | 5,000 | 5,000 |
| Next 5 Hospital Subscriptions Maintenance | - | - | - | 5,000 | 5,000 |
| Next 5 Hospital Subscriptions Maintenance | - | - | - | - | 5,000 |
| Total Cost of Goods Sold | 3,000 | 8,000 | 13,000 | 18,000 | 23,000 |
|  |  |  |  |  |  |
| **GROSS MARGIN** | 57,000 | 152,000 | 247,000 | 342,000 | 537,000 |
| Gross Margin % | 95% | 95% | 95% | 95% | 96% |
|  |  |  |  |  |  |
| **OPERATING EXPENSES** |  |  |  |  |  |
| Employee Related | 20,000 | 40,000 | 60,000 | 80,000 | 100,000 |
| Facilities (Rent, etc...) | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| Other | - | - | - | - | - |
|  |  |  |  |  |  |
| FIXED COSTS |  |  |  |  |  |
| Cost of New Tablets | 6,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| Total Expenses | 36,000 | 60,000 | 80,000 | 100,000 | 120,000 |
|  |  |  |  |  |  |
| Operating Income | 21,000 | 92,000 | 167,000 | 242,000 | 417,000 |
| Net Margin % (Income/Revenue) | 35% | 58% | 64% | 67% | 74% |
|  |  |  |  |  |  |
| Depreciation | 1,200 | 2,000 | 2,000 | 2,000 | 2,000 |
|  |  |  |  |  |  |
| Net Income | 19,800 | 90,000 | 165,000 | 240,000 | 415,000 |

Balance Sheet:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Year | Year | Year | Year | Year |
|  | 1 | 2 | 3 | 4 | 5 |
|  |  |  |  |  |  |
| **ASSETS** |  |  |  |  |  |
| CURRENT ASSETS |  |  |  |  |  |
| Cash | 29,900 | 64,800 | 192,300 | 394,800 | 722,300 |
| Accounts Receivables | 9,900 | 45,000 | 82,500 | 120,000 | 207,500 |
| Inventory (Tablets) | 6,000 | 16,000 | 26,000 | 36,000 | 46,000 |
| Deposits | - |  |  |  |  |
| Total Current Assets | 45,800 | 125,800 | 300,800 | 550,800 | 975,800 |
|  |  |  |  |  |  |
| FIXED ASSETS |  |  |  |  |  |
| Rental Equipment | 6000 | 16,000 | 26,000 | 36,000 | 46,000 |
| Other | - | - | - | - | - |
| Accum. Depreciation | 1,200 | 3,200 | 5,200 | 7,200 | 9,200 |
| Total Fixed Assets | 7200 | 19200 | 31200 | 43200 | 55200 |
|  |  |  |  |  |  |
| Total Assets | 53,000 | 145,000 | 332,000 | 594,000 | 1,031,000 |
|  |  |  |  |  |  |
| **LIABILITIES** | - | - | - | - | - |
| Accounts Payable | 20,000 | -20,000 |  |  |  |
| **EQUITY** | 33,200 | 165,000 | 332,000 | 594,000 | 1,031,000 |

Cash Flow Projections:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Year | Year | Year | Year | Year |
|  | 1 | 2 | 3 | 4 | 5 |
|  |  |  |  |  |  |
| Net Income (Loss) | 19,800 | 90,000 | 165,000 | 240,000 | 415,000 |
|  |  |  |  |  |  |
| Add Back: Depreciation | 1,200 | 2,000 | 2,000 | 2,000 | 2,000 |
|  |  |  |  |  |  |
| **Changes in Working Capital** |  |  |  |  |  |
| Current Assets | 0 | -100,000 | -175,000 | -250,000 | -425,000 |
| Fixed Assets | 0 | -12,000 | -12,000 | -12,000 | -12,000 |
| Current Liabilities | 0 | -20,000 | 0 | 0 | 0 |
| Funding | 20,000 | 0 | 0 | 0 | 0 |

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