



'Double-Checking' Injectable Medications with Computer Vision

# **DIGITAL HOSPITAL, Inc.**

## **PRIVATE PLACEMENT MEMORANDUM**

### **DRAFT**



Securities are offered through Digital Hospital, Inc., a Delaware corporation. This private placement memorandum is subject to modifications and updates. Newer versions of this PPM will be available to investors upon request and will be identified by a subsequent date on the cover.

**\$25,000.00 Minimum Investment**

**For more information, please contact:**

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**June 11, 2023**

## FORWARD LOOKING STATEMENTS

This offering memorandum contains forward-looking statements within the meaning of the Securities Litigation Reform Act of 1995. These statements refer to future plans, objectives, expectations and intentions of Digital Hospital, Inc., a Delaware corporation ("the Company"). Words such as "intend", "anticipate", "believe", "estimate", "plan", "expect", "will", "may", "might" and variations of these words, as well as similar expressions, identify these forward-looking statements. All statements other than statements of historical facts contained in this offering memorandum, including statements regarding the Company's future business strategy and plans and objectives of the Company, are forward-looking statements.

Management expresses its expectations, beliefs and projections in good faith and believes that the expectations reflected in these forward-looking statements are based on reasonable assumptions; however, management cannot assure prospective investors that these expectations, beliefs and projections will prove to have been correct. Such forward-looking statements reflect the current views of management with respect to the Company and anticipated future events, and are subject to the many risks, uncertainties, assumptions and factors relating to the Company's proposed operations. Such factors include, among others, the following: general economic and business conditions, both national and in the region in which the Company will invest, existing laws and government regulations and changes in, or failure to comply with, such laws and regulations; competition of such entities, changes in business strategy or development plans; the ability to attract and retain qualified personnel for the Company; the availability and terms of obtaining capital to fund the Company's business; and other factors referenced in this offering memorandum.

Management cautions prospective investors that such forward-looking statements, including without limitation those relating to the prospects of the Company's future, whether they occur in this offering memorandum or in other statements attributable to management, are necessarily estimates reflecting the best judgment of management, and involve a number of risks and uncertainties that could cause actual results to differ materially from those suggested by the forward-looking statements. Should one or more of these risks or uncertainties materialize or should management's underlying assumptions prove to be incorrect, the Company's actual results may vary significantly from those anticipated, believed, estimated, expected, intended, or planned. In light of these risks, uncertainties and assumptions, any favorable forward-looking events discussed in this offering memorandum might not occur. Management undertakes no obligation to update or revise these forward-looking statements, whether as a result of new information, future events or otherwise.

THE SECURITIES DESCRIBED HEREIN HAVE NOT BEEN REGISTERED PURSUANT TO THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), NOR HAVE THEY BEEN REGISTERED UNDER THE SECURITIES ACT OF ANY STATE.

**THESE SECURITIES ARE BEING OFFERED AND SOLD IN RELIANCE ON EXEMPTIONS FROM THE REGISTRATION REQUIREMENTS OF SUCH SECURITIES ACTS. THE SECURITIES AND EXCHANGE COMMISSION DOES NOT PASS UPON THE MERITS OF ANY SECURITIES AND NEITHER IT NOR ANY STATE REGULATORY AGENCY HAS EXAMINED, REVIEWED, APPROVED OR DISAPPROVED THE SECURITIES DESCRIBED HEREIN OR PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PRIVATE PLACEMENT MEMORANDUM. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.**

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NO DEALER, SALESMAN OR ANY OTHER PERSON HAS BEEN AUTHORIZED TO GIVE ANY INFORMATION OR TO MAKE ANY REPRESENTATION RELATED TO THIS OFFERING OTHER THAN AS SET FORTH IN THIS PRIVATE PLACEMENT MEMORANDUM. WE RESERVE THE RIGHT TO WITHDRAW OR MODIFY THIS OFFERING AND RETURN AMOUNTS TENDERED AT ANY TIME PRIOR TO THE COMPLETION OF THE OFFERING.

THE STATEMENTS CONTAINED IN THIS PRIVATE PLACEMENT MEMORANDUM CONCERNING THE COMPANY, THE RIGHTS, INTERESTS AND OBLIGATIONS OF THE INVESTORS, AND THE VARIOUS DOCUMENTS RELATING THERETO ARE MERELY A SUMMARY AND DO NOT PURPORT TO BE COMPLETE. DURING THE COURSE OF THE OFFERING, EACH OFFEREE AND HIS PURCHASER REPRESENTATIVE, IF ANY, ARE INVITED TO ASK QUESTIONS OF, AND OBTAIN ADDITIONAL INFORMATION FROM, THE COMPANY CONCERNING THE TERMS AND CONDITIONS OF THE OFFERING AND THE COMPANY.

THE SECURITIES WILL NOT BE OFFERED TO ANY INVESTOR UNLESS HIS ATTORNEY, OR HIS CERTIFIED PUBLIC ACCOUNTANT, REPRESENTS IN WRITING, AMONG OTHER THINGS, THAT HE IS AN "ACCREDITED INVESTOR" AS SUCH TERM IS DEFINED IN RULE 501(a) OF REGULATION D PROMULGATED BY THE SECURITIES AND EXCHANGE COMMISSION, AND THAT THE AMOUNT OF HIS TOTAL INVESTMENT DOES NOT EXCEED TWENTY PERCENT (20%) OF THE INVESTOR'S NET WORTH AT THE TIME OF SALE.

For more information, please contact:

Phil Wyman [wyman@DIGITALHOSPITALinc.com](mailto:wyman@DIGITALHOSPITALinc.com)

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## The Opportunity

The opportunity is a preferred stock offering from Digital Hospital, Inc. ("Digital Hospital" or the "Company"), a Delaware C-corporation ([www.DIGITALHOSPITALinc.com](http://www.DIGITALHOSPITALinc.com)). The preferred shares are available to be purchased at \$1.00 per share. This opportunity will allow for purchases of a minimum \$25,000 of preferred shares in the Company at \$1.00 per share. Each preferred share is non-dilutive and convertible 2-1 into common stock shares.

The current "Milestone Investment Campaign" seeks \$375,000 in order to apply the funds to a "Real-World Installation", where our system will be installed and used in a hospital. This milestone attempts to finalize our development with the goal of market readiness for sales to hospitals. The main expenses for this milestone will be product development, marketing, and administration.

If you are a larger scale investor or fund, there are 5-10 million preferred shares available (10-20% of Company). When this range of funding is reached, the company will be considered Post-Money. Forecasts for Post-Money show profitability in three years and a 10X "Return On Investment" in seven years.

To review the paperwork to purchase shares, please read the three documents available at:

**[bit.ly/investdh](http://bit.ly/investdh)**

or go to the website **DIGITALHOSPITALinc.com** and click on "**Investing**" in the menu.

For more information, email or call:

Phil Wyman

[stock@DIGITALHOSPITALinc.com](mailto:stock@DIGITALHOSPITALinc.com)

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## Company Overview

Imagine virtually eliminating human error when administering injectable medications in hospitals.

Digital Hospital has a team of brilliant, world-class, award winning experts on hospital pharmacy, hospital engineering, system engineering, product development, corporate development, quality, and safety.

Digital Hospital's system verifies that the healthcare practitioner has correctly followed the prescribing physician's medication order before the medication is administered to patients.

The Company's approach is to connect to a real-time feed from the Electronic Health Record (EHR) to assure the latest patient data, then using computer vision technology in order to give a truly independent double-check, or "second look", to the healthcare professional's medication preparation.

## ROI Projected Multiple Y7

**Post Money (\$5mm)**



### ***Potential Return on Investment (ROI)***

The projected Return on Investment post money of \$5mm is 10x in seven years, assuming a merger or acquisition (M&A) after Y7 post money.

See Appendix Area for financial projections post money Y1 - Y7.

## Business Model



## Business Model



- We sell in-patient medication safety device systems.
- Hospitals buy our product to save money and improve patient safety.
- Competitive advantage = 1) Measure small syringe volumes.  
2) Capability to measure syringe volumes quickly.
- Profit projected for Q2 of Year 3 post money:
  - 24 sites installed in Y3 via direct sales.
  - Average \$248,046 sales per site, average fees of \$9,086/site/year.
  - Marketing cost \$ 5,417 per customer acquired.
  - Manufacturing and installation cost \$ 78,772 per customer.
- Year 3 revenue run rate is projected to be \$ 5,953,125.



## Value Proposition

We're the best way to improve insulin safety and reduce insulin expense in hospitals using one vial per patient or pens, where we can provide a 100% return on investment (ROI), sometimes in as little as one year.

We help hospitals independently doublecheck their injectable medications by providing an intelligent device that prints a barcode label if the injectable complies with what the doctor ordered.



## Value Proposition for Key Hospital Stakeholders:

### "Insulin Double-Check" Safety System:

#### Director of Pharmacy:

- 1\_ True independent doublecheck for insulin dosages.
- 2\_ Insulin budget is reduced in hospitals currently using patient specific insulin vials or pens. This enables the system to pay for itself in as little as 12 months.
- 3\_ Creates accurate verified data for further research into improved insulin order set management.

#### Chief of Nursing:

- 1\_ Time savings of 6 minutes per doublecheck compared to a human doublecheck.
- 2\_ Visual proof and EHR verification data of what dose was given (to adjudicate errors.)
- 3\_ Aligns with current best practices for the nurse workflow of insulin administration.
- 4\_ No calibration needed.

#### CFO:

- 1\_ Insulin cost savings in hospitals currently using patient specific vials or pens, which enables the system to pay for itself within as little as 12 months.

#### Insurance Companies:

- 1\_ Liability protection by having confirmation data of actual dosage given to patient.
- 2\_ Device software does not write data to Electronic Health Record (EHR).
- 3\_ Fewer insulin dosage errors resulting in fewer expensive adverse reactions related to hypo- or hyperglycemia.

#### Information Technology (IT) Department:

- 1\_ Less than one hundred (100) hours of IT needed to install software.
- 2\_ Install requires only normal tasks that IT does every day.
- 3\_ Uses any port feed of LAB, medication orders, and ADT to virtual Digital Hospital, Inc.'s servers within hospital firewall.

#### Quality and Patient Safety Officers:

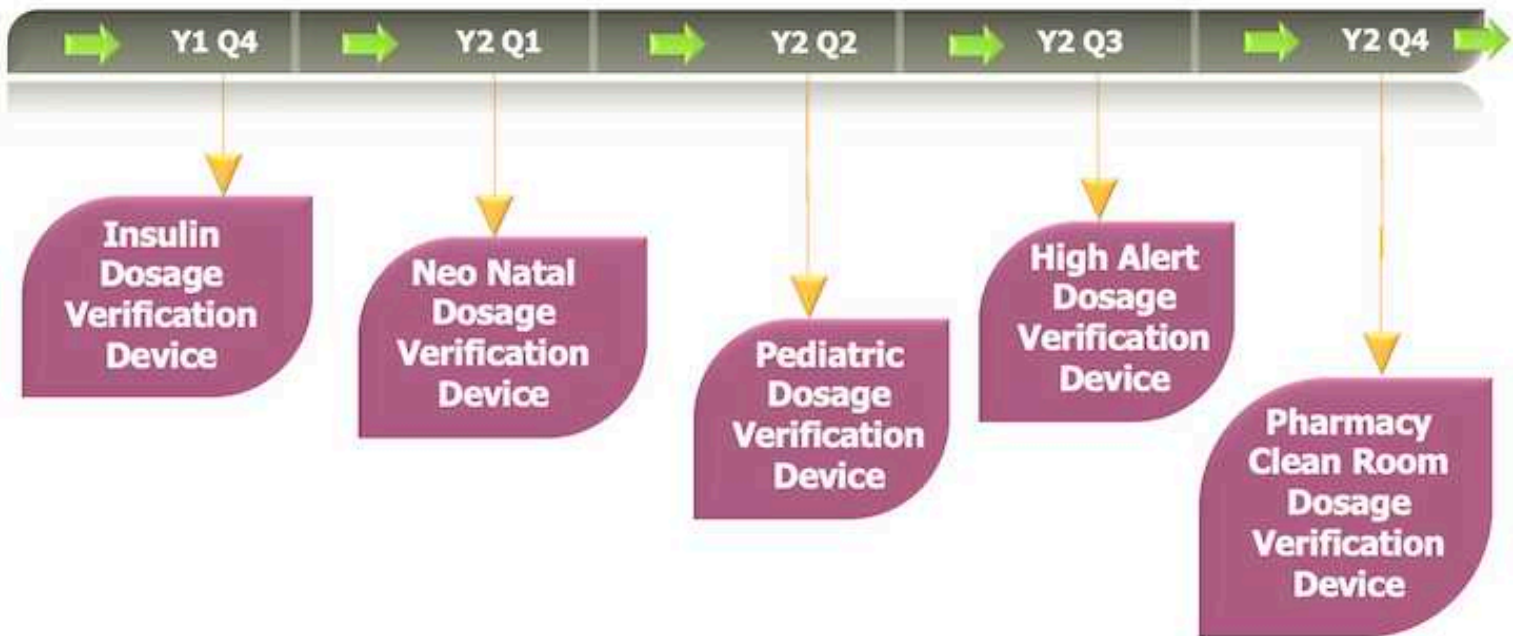
- 1\_ Eliminates human data entry for dose of insulin.
- 2\_ True independent doublechecks of insulin.
- 3\_ Visual proof and EHR verification data of what dose was given (to adjudicate errors.)

#### Sustainability Manager:

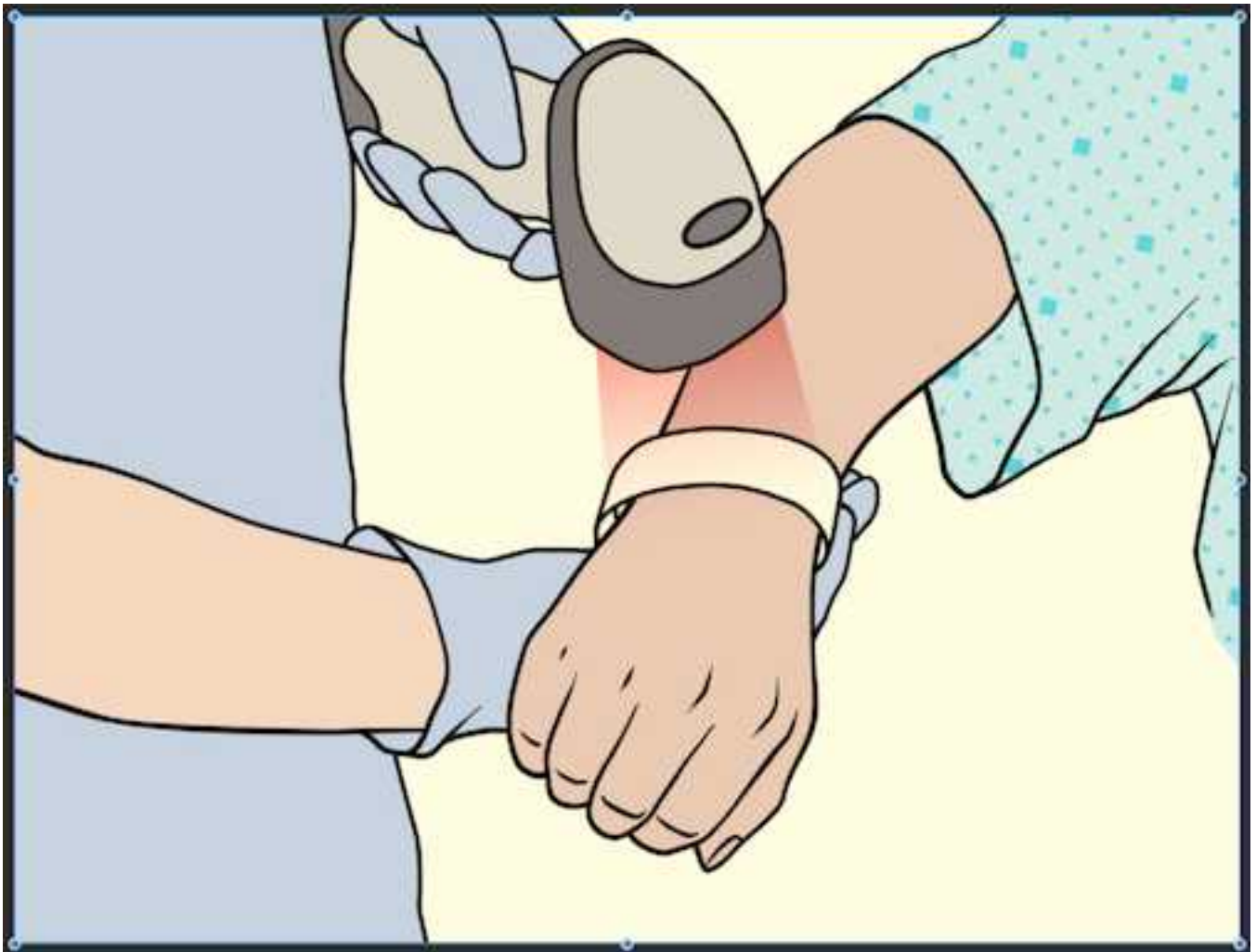
- 1\_ Insulin (Hazardous RCRA) waste reduced in hospitals currently using patient specific vials or pens.
- 2\_ Glass vial waste lessened in hospitals currently using patient specific vials.

## Product Roadmap Post Money (\$5mm)

### Product Roadmap



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Next page is page 23.





## Funding Roadmap



**(Please see Appendix Area  
for how these figures were calculated.)**

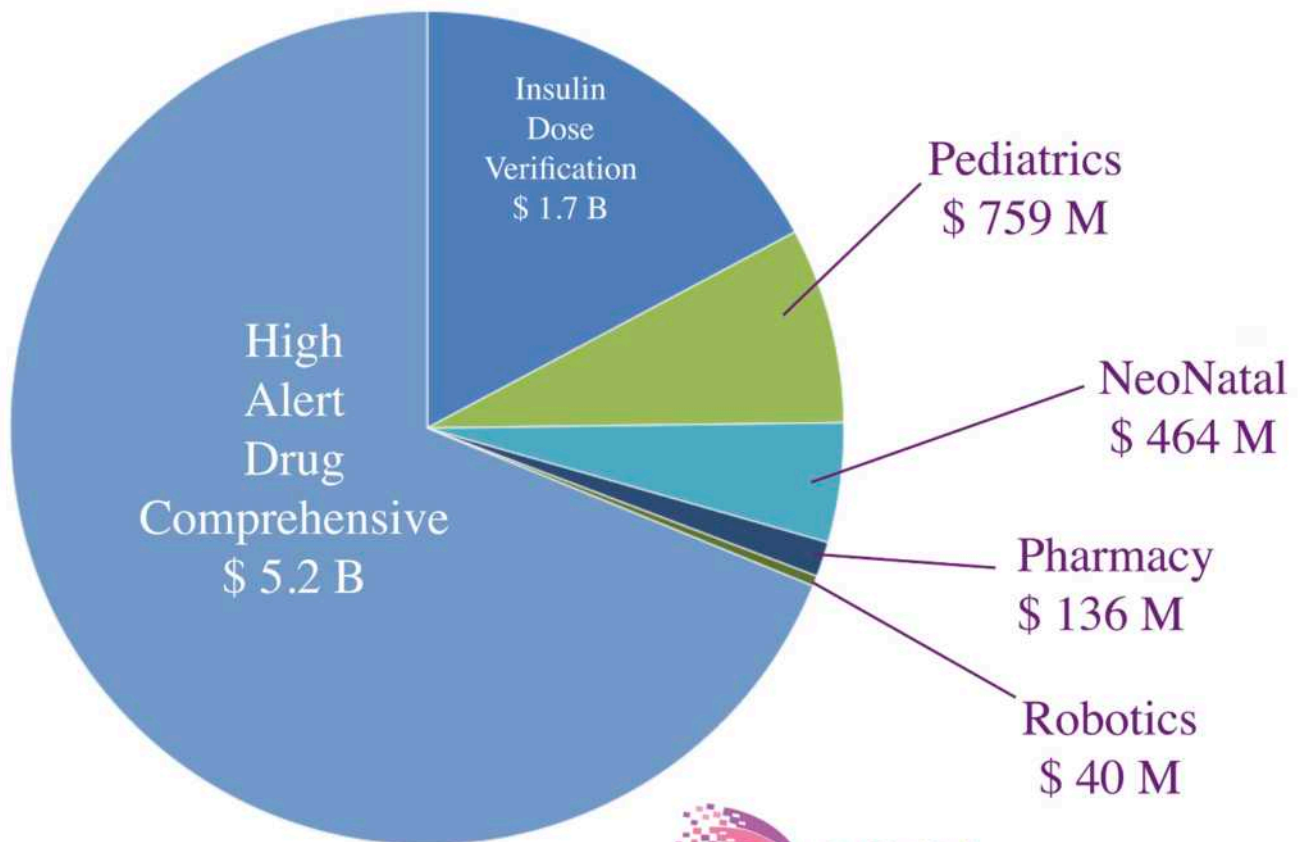


## Funding By Quarter



## Addressable Markets

Addressable New Sales Markets Created: **\$8 Billion**

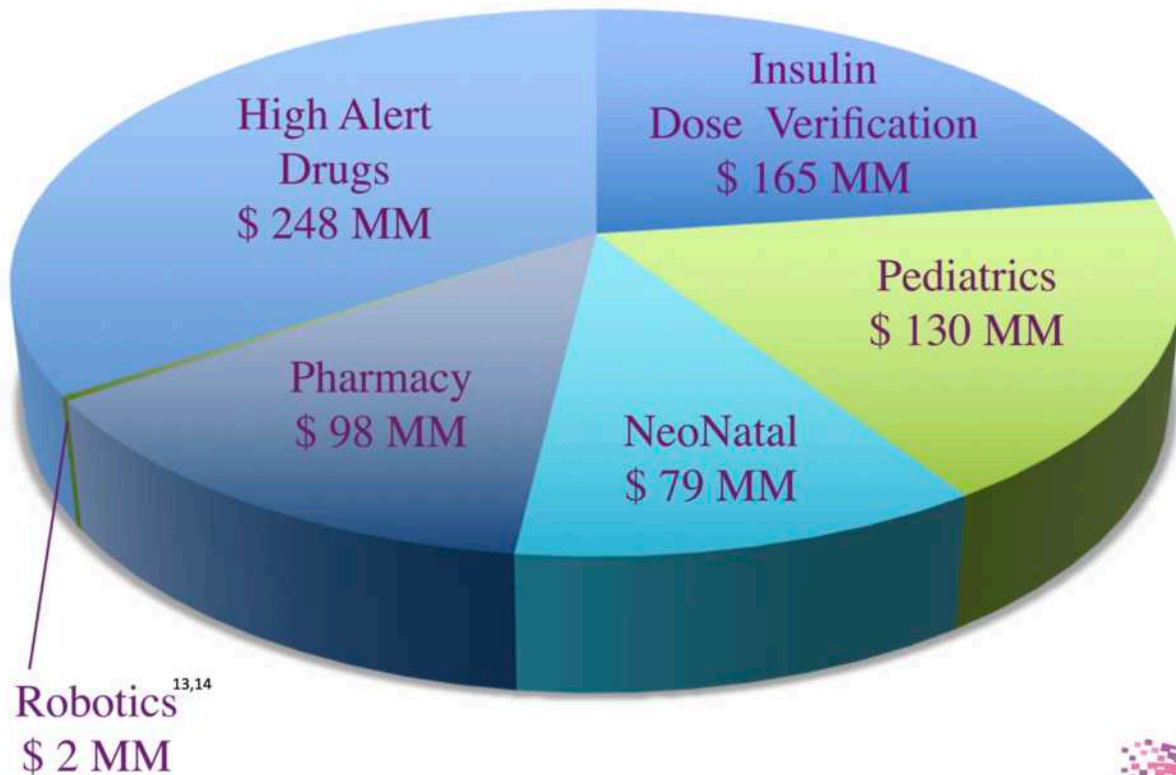


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See Appendices for calculations leading to the above totals for addressable new sales markets created by our patented technology.

## Addressable Market for Recurring Yearly Fees:

Addressable Recurring Yearly Fees Created : \$ 722 MM



See Appendices for calculations of Addressable Market for Recurring Yearly Fees of each product.

# TEAM



## KEVIN BROWN



### VISIONARY, FOUNDER and INVENTOR

Kevin Brown was the Director of Pharmacy for a 533 bed metropolitan Medical Center from 2004-2017. Kevin has imagined Digital Hospital's product line for double-checking injectable medications including devices for insulin, neo-natal, pediatrics, comprehensive high alert drugs, as well as the pharmacy clean room. Kevin wanted to name his company "Digital Hospital" because our goal is to "digitize" all areas of the hospital currently relying on the "honor" system, in which a nurse enters the dose manually into the EHR. Medication quality control, and therefore medication safety, is compromised by the use of an "honor system." Wherever the honor system exists in hospitals, it should be "digitized" to improve medication safety.

At the time of Kevin's retirement, the department consisted of 130 pharmacists and technicians serving patients between 500 grams and 500 kilos, with a \$60 million annual operating budget and \$400 million in gross revenue. The facility delivered more than 6000 babies per year, performed 700 joint replacements, 600 open heart surgeries and both solid organ and bone marrow transplants as well as advanced heart therapies such as TAVR and VAD. The organization is among Hospital and Healthcare's "Most Wired" healthcare organizations with a comprehensive EHR including CPOE and BBCMA. Prior to this role, he served as the Pharmacy Clinical Coordinator at the same facility from 1994 till 2004, and the Assistant Director of Pharmacy Services from 1989 till 1994. Kevin received his Pharm.D. from the University of California, San Francisco and a B.A. in Psychology from Stanford University.

Kevin won awards from the American Society of Health System Pharmacists in 2005, for his work on the use of vasoactive medications in emergency settings, and again in 2007 for improving the quality of patient care by creating a single database using information from existing hospital computer systems to identify patients with potential core measure diagnoses.

## MARK LARRABEE

### SENIOR ENGINEER AND PHARMACIST

Mark Larrabee is one of the rarest of medical talents: He is a pharmacist who is also a senior hospital software engineer. This combination has made for a career of creating a greater quality of patient care for many hospitals. It is time now to bring his remarkable talents to a global audience in order to help patients throughout the world. Every health system deserves his expertise, and Digital Hospital, Inc. is committed to being the vehicle to distribute his genius to the patients who need it. Mark is programming our interfaces to the EHR, as well as programming our User Interface (UI).

---

#### ***Kevin Brown, Pharm D.'s and Mark Larrabee R.Ph.'s 2005 American Society of Health System Pharmicists Finalist Award:***

The initiative undertaken at Sutter Medical Center, Sacramento, in California, focused on the use of vasoactive medications in emergency settings. A new comprehensive system for the use of these drugs included standardized concentrations for all patients, a new software program that produced emergency drug sheets according to an approved protocol and associated smart pump technology incorporating the standardized concentrations and protocol. The protocol applies to the use of vasoactive medications for all patients regardless of patient age, size or location in the hospitals.

The protocol was developed in a comprehensive manner gaining full support of many practitioners by meeting the dosing ranges, fluid needs and pump rates of each patient. The implementation team was led by the pediatric pharmacist and pediatric clinical nurse specialist. All clinicians use the system in the main hospital, two sister hospitals and is requested by area facilities. The most important aspect of the project that was cited by the selection panel was the extent to which the implementation team gained consensus from all groups at the main hospital and sister hospitals. Sutter also concentrated on spreading their success story by developing a tool kit for others to use in implementation of similar projects.

Reference - <http://www.ashpfoundation.org/MainMenuCategories/Awards/AwardforExcellenceinMedicationUseSafety/2005AwardRecipients.aspx>

*Kevin Brown, Pharm D. and Mark Larrabee, R.Ph.*

*2007 American Society of Health System Pharmacists Award:*

ASHP  
BEST PRACTICES  
AWARD  
In Health-System  
Pharmacy

A blue and white icon of a mortar and pestle, set against a black square background. The mortar is a blue bowl with a white rim, and the pestle is a blue rod with a white handle.

**A<sup>3</sup> = I—The Appropriate Alert  
to the Appropriate Clinician  
at the Appropriate Time =  
Improved Quality of Care**

Please see Appendix area of this document for full text of Kevin Brown and Mark Larrabee's "2007 American Society of Health System Pharmacists Best Practices Award."

URL for reference: <https://www.ashp.org/about-ashp/awards/leadership-awards/ashp-best-practices-award/past-recipients?loginreturnUrl=SSOCheckOnly>

## DIRECTOR



## of ENGINEERING

Phil Curtis has spent 35 years in the computer industry as an engineer and project manager. After obtaining a degree in Electrical and Computer Engineering at the University of Michigan, Phil joined Hewlett-Packard where he developed disk controllers, data communications hardware, computer processor designs, and led teams in processor and system verification. He then joined Intel and led pre-silicon validation teams for both chipsets and processors.

Phil Curtis was at Hewlett-Packard and Intel where he developed disk controllers, data communications hardware, and computer designs. Phil C. created the hardware architecture needed to support our medical devices. He also invented our now patented software and hardware that measures the dosage of the medication in the syringe.

## Inder Singh



Inder Singh has brought a leading software and services company to a successful M&A exit. He has extensive knowledge of corporate development, new ventures, R&D management, analyst relations and marketing, broadly in the tech sector.

## BOARD MEMBER



### BRAD ADAMS

Brad Adams is a member of the Board of Directors at Digital Hospital, Inc. Brad is a safety expert, having made his career in the nuclear industry. Brad said, "I just don't understand the errors in the medical industry. In my industry, if there is a mistake made in the morning, it is fixed by the afternoon, and it never happens again."

Brad Adams just retired from being Vice President of Technical Compliance for Southern Nuclear at Plant Vogtle, Units 3 & 4. Prior to this role, Brad served as engineering vice president for Southern Nuclear Operating Company. He is a member of the Southern Nuclear management council.

Brad began his nuclear career in 1983 as a design engineer for Commonwealth Edison's nuclear fuel services group and progressed to design group leader. He transferred to Byron Station in 1995 and held managerial positions in regulatory assurance, system engineering and work management before being named Byron's site engineering director. In 2007, Brad transferred to Quad Cities Nuclear Station as site engineering director. He returned to Byron Station in 2008 as plant manager, a position he held until joining Southern Nuclear in 2011 as fleet operations support vice president. In 2013, Brad assumed his previous position as fleet engineering vice president.

Brad was co-chair of an industry working group comprised of nuclear experts who in April 2016 submitted the report, Research Development and Demonstration Needs for Light Water Reactor Technologies, to the Reactor Technology Subcommittee of the Nuclear Energy Advisory Committee, Office of Nuclear Energy, U.S. Department of Energy. He's the current chairman of the University of Tennessee Nuclear Engineering Board of Advisors, an executive sponsor of the EPRI Materials Reliability Program and a member of EPRI's Pressurized Water Reactor Owner's Group executive committee. He led Southern Nuclear's fleet digitalization initiative and has been considered an industry leader – along with executives at Exelon, Duke and Dominion – in the move to digitalize nuclear plants throughout the United States. Brad was inducted as an American Nuclear Society (ANS) Fellow in 2021, a prestigious honor recognizing outstanding accomplishment in advancing the science or art of nuclear technology. Induction as an ANS Fellow is the highest membership grade awarded by the Society. Brad is a graduate of the University of Illinois where he earned bachelor's and master's degrees in nuclear engineering. He received his NRC Senior Reactor Operator certification in 1999.

## CEO



## and PRESIDENT

Phil Wyman worked at the first electronic spreadsheet company, Visicorp, on the team developing an automated test program for their data base software. He moved on to Apple to help ensure their pre-market Apple IIe was compatible with the software available for the precursor Apple II currently on the market. After that project, he tested a relational database for Apple, and then was on the Hypercard team where he developed a "Test Engine" for Hypercard that ran for hours to ensure every feature was working as expected. Hypercard was included for free with every Mac. Invited to join General Magic as employee #22, Phil left Apple in order to test the new "Magic Link" device. For those who have never heard of General Magic, the splendid story can be viewed by going to [generalmagicthemovie.com](http://generalmagicthemovie.com).

After General Magic, Phil owned and operated his own digital marketing company for many years. Kevin Brown and Phil have been friends since college, so when Kevin mentioned he had an idea to create a brand new medical device, Phil said "I can build it! Or at least I know people who could build it." And Digital Hospital, Inc. was born.

## DIRECTOR OF OPERATIONS



Spanning a career that covers nearly 30 years in high-tech start-ups here in Silicon Valley, Stacey Chaney has been instrumental in several high-tech start-ups such as: Catapult Entertainment, WebTV, Moxi Digital, Intreon, Rearden Studios, Rocket Fuel, Mevicon, Got Vibes and Made in Space. Recently, Stacey was honored as the 2016 Los Altos Volunteer of the Year Award...

## Jeremy Dittrich

### SOFTWARE ENGINEER

Jeremy D. is a brilliant computer programmer who maintains our JAVA code as well as adding new features as needed. He has earned his B.S. in Computer Programming.

## Robert Thai

### ILLUSTRATOR and TECHNICAL SUPPORT

Robert has created all our illustrations which have been so helpful in getting our ideas across to others. He brought the nurse "Mathilda" to life. Robert is also on a continuous learning curve in order to be in place to be our customer's technical support.



## **SENIOR**



## **ENGINEER**

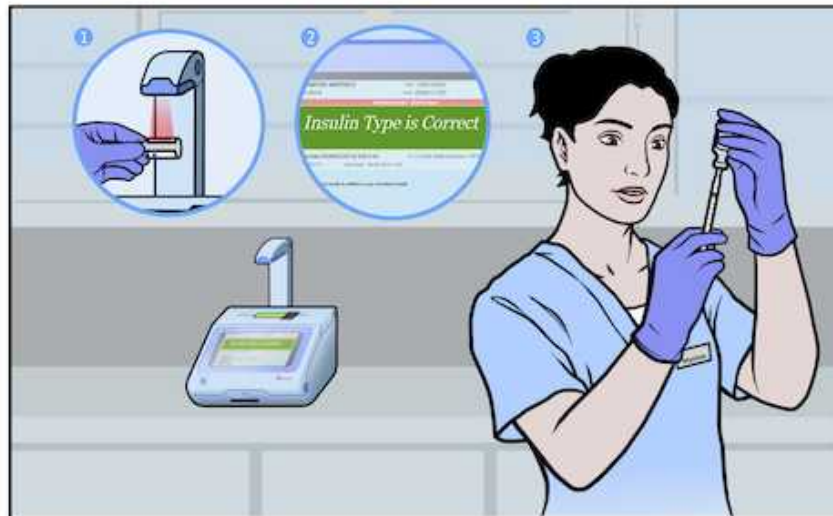
Don Williamson has engineering degrees from CWRU, the University of Illinois, and Stanford. He worked for 35 years at HP and Intel, designing and testing boards, software and chips. Career highlights include the HP1000 A900 computer and the Intel Jaketown CPU. Don holds 2 patents.



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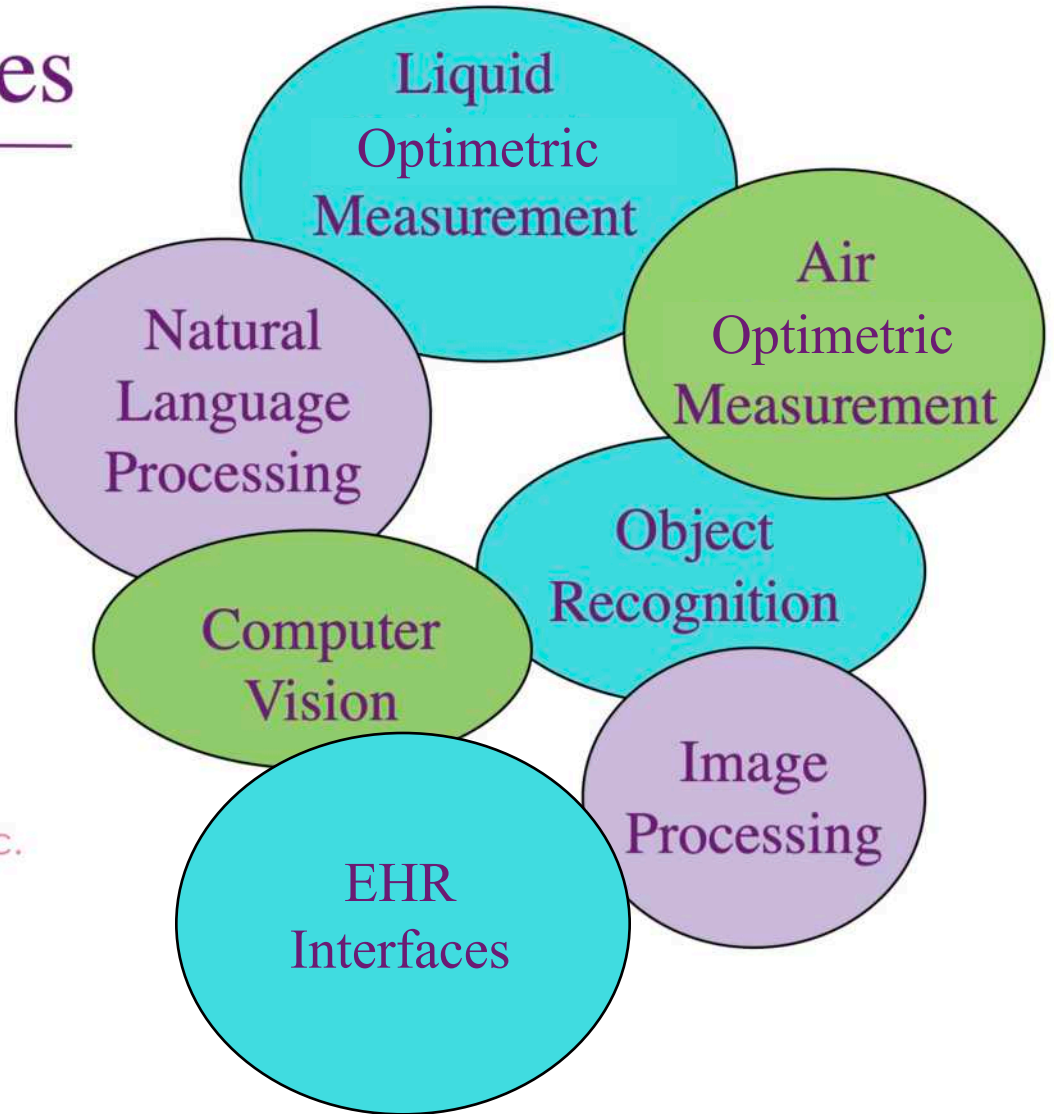
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Med Room



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# Capabilities



## *Closing Electronic Health Records' Safety Gaps: Quality Control for Injectable Medication Doses*

Electronic Health Records (EHRs) have the ability to prevent many types of medication errors. The EHR can facilitate adherence to the “Five Rights” of medication safety: right patient; right drug; right time; right dose; right route.<sup>1</sup> Since the EHR has the needed adherence information, health caretakers can insure they are following the “Five Rights” by interacting with the EHR before administering a drug to a patient. To protect the patients from harm, the EHR can create a “hard stop” before the medication is administered when any of the five rights is not fulfilled.

Award winning pharmacist<sup>2</sup> and Digital Hospital, Inc. co-founder Kevin Brown has recognized that there are what he has called “black holes” for insulin doses in the EHR. These “black holes” lack the needed “hard stop” adherence information for insulin doses which are about to be administered improperly.

The absence of proper adherence data that can facilitate "hard stops" in the EHR is caused by unclosed loop problems (ULPs). ULPs occur when critical safety data is missing. ULPs occur at the intersection of medication administration and the electronic health record system.

ULPs are especially concerning when the medication is a high alert medication such as insulin. High alert medications are those that can cause morbidity and even death when given to the patient in error.

The following is an example of a proper closed loop (PCL) with a simple aspirin tablet. This type of a PCL exists in EHR systems today and is considered a standard of care. PCLs show the tremendous power and potential of the EHR to enhance medication quality control and patient safety.

### Proper Closed Loop (PCL):

- 1) Doctor writes prescription for 325 mg of aspirin.
- 2) Nurse comes to the patient’s bedside with an aspirin tablet.
- 3) The barcode on the aspirin tablet includes the actual dose in mg of aspirin in the pill.
- 4) The nurse scans the barcode on the patient’s wristband.
- 5) Nurse scans the barcode on the aspirin.
- 6) The EHR system determines whether the dose of aspirin matches the doctor’s order.

In contrast, the following loop, showing insulin administration, is an example of an Unclosed Loop Problem (ULP) in the EHR.

Unclosed Loop Problem (ULP):

- 1) Doctor writes prescription for 10 UNITS of insulin.
- 2) Nurse draws up the insulin into a syringe.
- 3) Nurse puts pre-made pharmacy barcode onto syringe identifying the type of insulin.
- 4) Nurse comes to the patient's bedside with the syringe.
- 5) **The barcode on the syringe does not include the dose inside the syringe.**
- 6) The nurse scans the barcode on the patient's wristband.
- 7) Nurse scans the barcode on the syringe.
- 8) The EHR system determines whether the type of insulin matches the doctor's order.
- 9) **The nurse enters the dosage (number of units) of insulin by hand into the EHR.**

The insulin loop is an unclosed loop problem (ULP) since the insulin dose is not verified before the insulin is actually administered. When the nurse enters the dose manually into the EHR in a ULP, this human data entry is called the "honor" system. Medication quality control, and therefore medication safety, is compromised by the use of an "honor system." Wherever the honor system exists in hospitals, it should be replaced by a Proper Closed Loop (PCL).

A "Proper Closed Loop" would be as follows:

- 1) Doctor writes prescription for 10 UNITS of bolus insulin.
- 2) Nurse scans the barcode on the insulin vial she is going to use, to verify the correct type of medication.
- 3) Nurse draws the insulin into a syringe.
- 4) Nurse scans the filled syringe to verify the correct dose of medication.
- 5) A barcode label is produced with the dose and type of medication.
- 6) Nurse attaches label to syringe.
- 7) Nurse comes to the patient's bedside with the syringe.
- 8) The nurse scans the barcode on the patient's wristband.
- 9) Nurse scans the barcode on the syringe.
- 10) The EHR system determines whether the type and dose of insulin matches the doctor's order.

Solving the unclosed loop problem (ULP) for insulin and other high-alert injectable drugs is the mission of San Jose, California based medical device manufacturer Digital Hospital, Inc. Properly conducted independent doublechecks<sup>3</sup> have been shown to decrease errors by 95%.<sup>4</sup> In the busy hospital inpatient environment, independent doublechecks by a second nurse are not effective. One study found that properly conducted independent double checks took seven minutes each.<sup>6</sup> But in a nursing unit with several diabetic patients this could require up to two hours of nursing time dedicated just to double checking insulin doses. Due to the time required, and the fact that a truly independent doublecheck by a second nurse rarely occurs in the real world, many hospitals have abandoned the practice.

An independent double check by a co-worker was proven beneficial in theory, but did not work in practice. To provide a truly "independent" double check for doses of high alert drugs, Digital Hospital's team had to create a device to provide the same function at a level of accuracy equal to or better than a second nurse's verification.

To accomplish this mission, Digital Hospital found a way had to quickly, accurately, and easily verify minute doses of medication in a syringe. Medical device manufacturers use gravimetric methods to verify doses greater than 1 ml.<sup>7</sup> But gravimetric systems are unable to weigh minute doses of high alert drugs or small volume medications for neo-natal and pediatric patients.<sup>8</sup>

Digital Hospital created a computer vision solution to the high alert drug "unclosed loop problem" in the EHR. Digital Hospital's medical device fits into the normal medication preparation and administration workflow, with the additional step of scanning the syringe on the device in order to doublecheck the dose.

The device uses computer vision to verify the dose. If the dose is accurate according to the doctor's order in the EHR, a barcoded label is printed by the device. The nurse then attaches the label to the syringe so the it can be scanned into the EHR on administration. The "loop" is now closed, since the EHR can confirm the dose to be administered is correct. Medication dosage quality and safety is thus assured.



Digital Hospital’s technology for measuring small amounts of medication opens up new areas in the hospital where unclosed loop problems (ULPs) exist, such as Neo-Natal and Pediatrics.

## Reference Notes:

- 1 Medication Errors (2nd edition) by Michael R. Cohen and the American Pharmacists Association 2007
- 2 American Society of Health-System Pharmacists (ASHP) Best Practices Award in Health-System Pharmacy 2005 & 2007
- 3 “To Err Is Human: Building a Safer Health System (Quality Chasm)” by Institute of Medicine
- 4 Independent Double Checks: Undervalued and Misused: Selective Use of This Strategy Can Play an Important Role in Medication Safety. June 13, 2013 ISMP Safety Alert. <https://www.ismp.org/resources/independent-double-checks-undervalued-and-misused-selective-use-strategy-can-play>
- 5 Using process control charts to monitor dispensing and checking errors. Campbell GM1, Facchinetti NJ. Am J Health Syst Pharm. 1998 May 1;55(9):946-52.
- 6 The Journal of Nursing Administration, March 2016, Mary Beth Modic, DNP, RN, CDE
- 7 Leading Gravimetric-based Pharmacy Medication Workflow Solution, BD Cato™. Bio IT World May 1, 2015. [https://www.bio-itworld.com/pressreleases/2015/05/01/leading-gravimetric-based-pharmacy-medication-workflow-solution-bd-cato-now-available-with-visual-documentation-hardware-\(vdh\)-camera](https://www.bio-itworld.com/pressreleases/2015/05/01/leading-gravimetric-based-pharmacy-medication-workflow-solution-bd-cato-now-available-with-visual-documentation-hardware-(vdh)-camera)
- 8 Evaluation of a gravimetric-based technology-assisted workflow system on hazardous sterile product preparation. Patricia A. Roberts et al. AM J HEALTH-SYST PHARM | VOLUME 75 | NUMBER 17 | SEPTEMBER 1, 2018

Relevant excerpt: "It was noted that compounded sterile products (CSPs) prepared from volumes of components measuring less than 5 mL had a greater spread of percent difference for both the gravimetric and volumetric preparations. Doses of <1 mL were removed from production through the gravimetric-based TAWF system during the course of this study at day 83. These doses were removed due to repeated triggers of hard stops that inappropriate quantities of drug components were being used during preparation. These hard stops required substantial rework and manipulation by the technicians preparing doses. It is hypothesized that the component quantity discrepancies were caused by the closed-system transfer device retaining an excessive volume (0.1–0.2 mL per CSP) or due to  $\pm 25\%$  of a total dose of <1 mL being so small that the technician struggled to visually identify the volume differences. This change influenced 7 days of data collected postimplementation. Additional investigation into the use of a gravimetric-based TAWF for the preparation of CSPs with a final volume of <1 mL is recommended as such doses potentially pose the greatest risk of percent variance with volumetric preparation.

Page 58-59 intentionally left blank.

Next page is page 60.





## **UC Davis Medical Center Study on Error Rate**

The company's first product, a computer vision insulin double-check system, has been used non-clinically at U.C. Davis Medical Center to study the dosage error rate at which nurses draw up insulin syringes. The study is entitled "Use of Computer Vision to Identify the Frequency and Magnitude of Insulin Syringe Preparation Errors."

The UC Davis study was published in the peer-reviewed "Journal of Diabetes Science and Technology" (August 5, 2020).



Please see the Appendix area for the full text of the study.

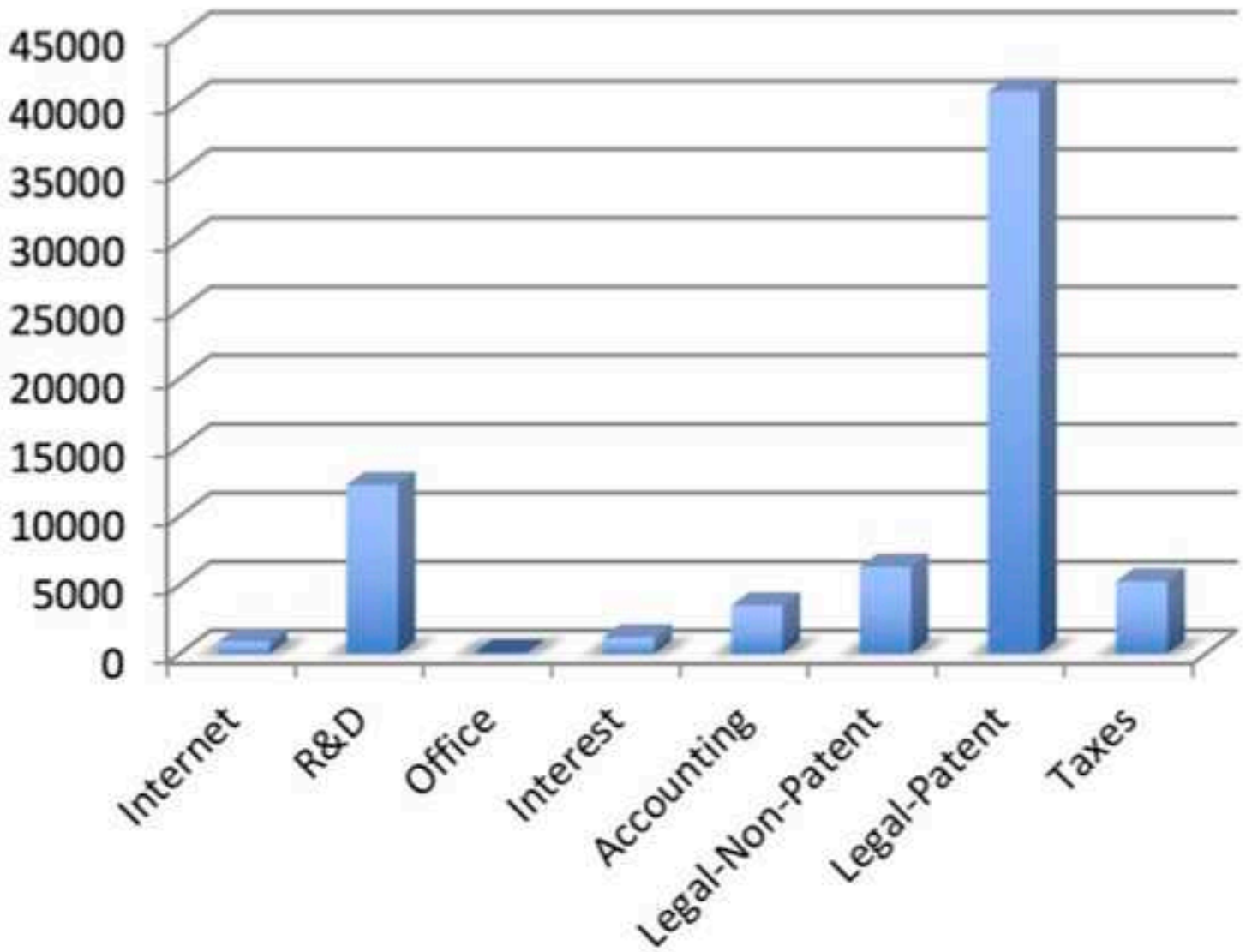
## Balance Sheet

# Digital Hospital, Inc.

## Balance Sheet

	FY-2015	FY-2016	FY-2017	FY-2018	FY-2019	FY-2020	FY-2021
<b>Current Assets</b>							
Cash	655	6,931	5,073	3,012	1,033	17,896	16,796
Patents and Other Assets	13,915	125,202	150,848	238,124	260,905	296,145	362,307
Inventories							
Accounts receivable							
Pre-paid expenses							
Other	153		(1)				
<b>Total</b>	<b>14,723</b>	<b>132,133</b>	<b>155,920</b>	<b>241,136</b>	<b>261,938</b>	<b>314,041</b>	<b>379,103</b>
<b>Current Liabilities</b>							
Accounts payable	15,108	47,747	45,874	73,164	70,905	77,126	78,804
Loans from Stockholders	26,000	58,500	88,500	149,000	170,500	219,500	286,850
Stock	660	60,660	60,660	60,660	65,660	65,660	65,660
Unappropriated Retained Earnings	(27,045)	(34,774)	(39,114)	(41,688)	(45,127)	(48,245)	(52,211)
Unearned revenue							
Other							
<b>Total</b>	<b>14,723</b>	<b>132,133</b>	<b>155,920</b>	<b>241,136</b>	<b>261,938</b>	<b>314,041</b>	<b>379,103</b>

## Chart of Expenses 2021 Q1-Q3



The above 2021 Q1-Q3 chart is a typical distribution of our expenses each year so far since 2015.

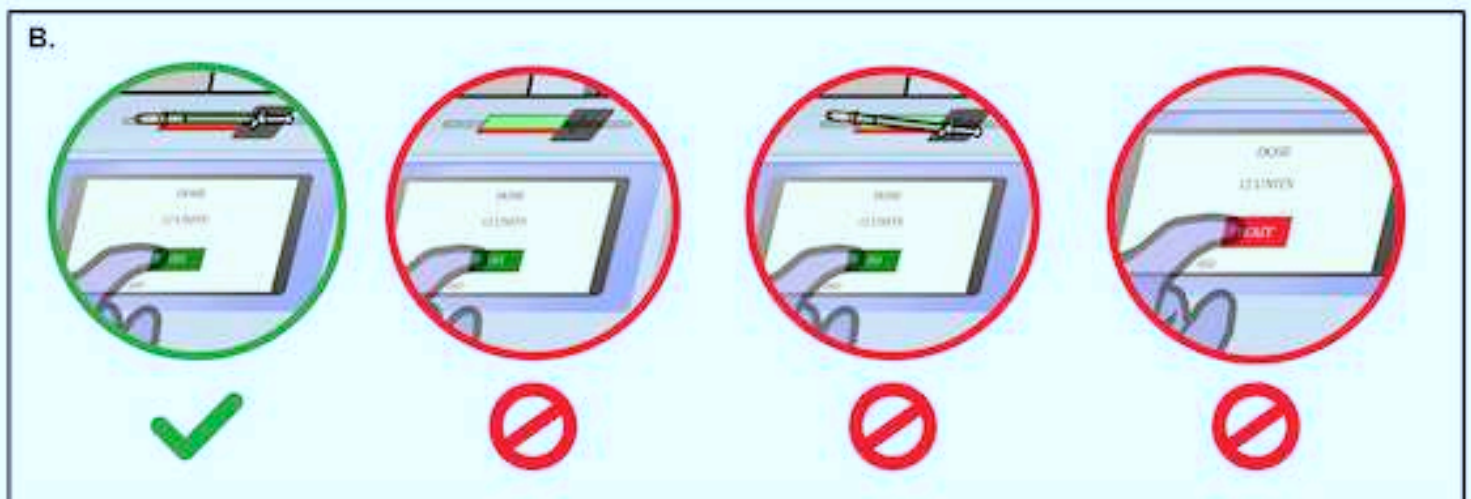
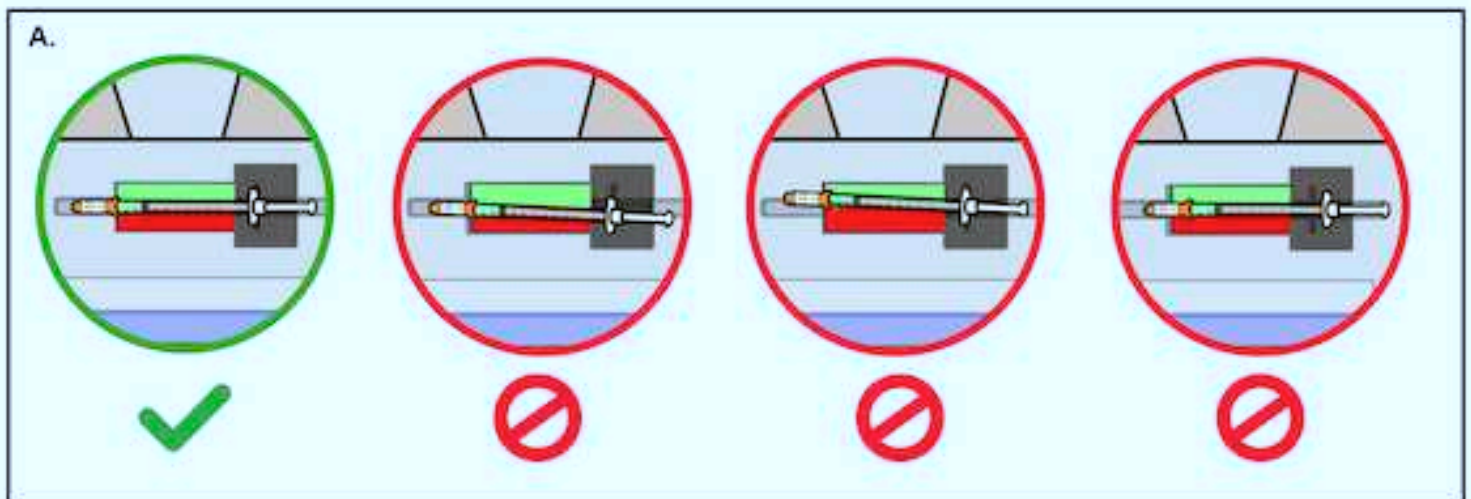
## **Regulatory Matters (FDA)**

The company is in the process of seeking Federal Drug Administration (FDA) approval for the use of our insulin system in hospitals.

## **Patents**

The company's technology to discern air and liquid in a syringe has been patented in the United States of America. Patents have been our largest expense as a company by far.

Pages 65-67 intentionally left blank.  
The next page is page 68.



## SUITABILITY STANDARDS

The purchase of the preferred shares of Digital Hospital, Inc. involves a substantial degree of risk and is suitable only for persons with adequate means who have no need for liquidity in their investments. The membership interests will not be registered under the Securities Act of 1933 as amended (the “1933 Act”), or any state securities laws.

The offering is being made pursuant to limited or private offering exemptions from registration provided by section 4(2) under the 1933 Act and applicable state securities laws, which permit partnership interests to be sold to an unlimited number of “accredited investors.” The preferred shares of the Company will be sold to investors who are purchasing the preferred shares of the Company for their own accounts for investment, and not with the intention to resell or other distribution thereof, and who immediately prior to a purchase of a preferred equity (1) are accredited investors; or (2) are able to bear the economic risk of such an investment. Investors must make representations to such effect in addition to other written representations by the investor's accountant or lawyer.

Generally, an “accredited investor” is either (1) an individual with individual income of \$200,000, or joint income with the investor’s spouse of \$300,000, in each of the most recent two years and who reasonably expects individual income of \$200,000 or joint income of \$300,000, as the case may be, during the current year OR (2) and individual whose combined net worth with the investor’s spouse (including home, furnishings and automobiles) exceeds \$1,000,000 at the time of purchase. Because the preferred shares will not be registered pursuant to the 1933 Act or applicable state securities laws, they will constitute restricted securities and will not be freely transferable. No market will exist for the equities. Therefore, the purchase of the membership interests is not suitable for investors desiring investment liquidity or investors who cannot bear the economic risk of investing in the membership interests for an extended and indefinite period of time without return and possibly even the risk of loss of the entire investment.

The Company will rely upon the accuracy of each prospective investor’s representations regarding the foregoing matters and all other statements set forth in the subscription agreement and the subscriber questionnaire. The investor suitability standards described herein also apply to any prospective purchaser of any equities on transfer, assuming such transfer is otherwise permitted.

**THE FACT THAT A PROSPECTIVE INVESTOR MEETS THE SUITABILITY STANDARDS DESCRIBED ABOVE DOES NOT NECESSARILY MEAN THAT THE PREFERRED SHARES ARE A SUITABLE INVESTMENT FOR THE INVESTOR.**

## RISK FACTORS

### RISKS ASSOCIATED WITH INVESTMENT IN THE OFFERING.

**THIS INVESTMENT INVOLVES A HIGH DEGREE OF RISK FOR INVESTORS AND IS SUITABLE ONLY FOR PERSONS WHO HAVE SUBSTANTIAL FINANCIAL RESOURCES AND WHO UNDERSTAND OR HAVE BEEN ADVISED ABOUT THE TAX CONSEQUENCES AND OTHER RISKS OF THIS INVESTMENT. CERTAIN OF THESE RISKS ARE DESCRIBED IN THIS OFFERING MEMORANDUM, INCLUDING THE FOLLOWING:**

#### *Risks Related to Digital Hospital's Business:*

##### ***Adoption Risk***

The Company's software and hardware is new and unproven. Although the **UC Davis Medical Center study** does demonstrate that there is a need, and the **Institute of Safe Medical Practices' Insulin Guidelines 2017** point to factors that the Company's system could be valuable to many potential customers, that software and hardware is currently not installed or running on a hospital's Electronic Health Record. There is no guarantee that the software and hardware will be purchased by customers.

The Company's sales efforts involve substantial education of its current and prospective customers about the use and benefits of the Company's products and services, including their technical merits and capabilities and potential cost savings to the organization as compared to the incumbent solutions or other solutions that the Company's customers or prospective customers may be considering. This education process can be extremely time consuming and typically involves a significant product or service evaluation process. Despite the substantial time and money that the Company plans to invest in its sales efforts, the Company cannot assure investors or potential investors that these efforts will produce any sales or profits. In addition, purchases by the Company's prospective customers are frequently subject to their budget constraints, lengthy approval processes, and a variety of unpredictable administrative, processing and other delays. The Company's sales cycle may prevent the Company from recognizing revenue in a particular period, is relatively long and costly, and may not produce any sales, which may cause operating results to fluctuate and harm the business.

##### ***Research and Development Risk***

The Company plans to partially use capital raised in this Offering to finish the development of software and hardware products for which there is no proven market. If no market develops, the costs associated with research and development of these software products could have to be borne by cash flows from the Company, which are currently insufficient to support the business.

##### ***Financial Risks***

Lower than expected financial return could occur if the Company misses revenue projections or experiences higher expenses than previously estimated. Financial disaster could also come from disadvantaged contracts that could be very detrimental to the business. No one can predict the future; historic performance cannot represent the future. The Company cannot assure investors that it will achieve profitability or liquidity in the future.

##### ***Risks Related to the Volatility of Operating Performance***

The Company's annual and quarterly operating results may fluctuate significantly in the future due to a variety of factors, many of which are outside of the Company's control. Numerous factors may limit management's visibility with respect to future business activity, revenues, and operating results, and any forecasts that management may provide of future financial performance will be subject to substantial risks and uncertainties.

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The Company's annual and quarterly operating results may fluctuate significantly in the future due to a variety of factors, many of which are outside of the Company's control. Numerous factors may limit management's visibility with respect to future business activity, revenues, and operating results, and any forecasts that management may provide of future financial performance will be subject to substantial risks and uncertainties.

For example, the latest general economic downturn has had an adverse effect on management's visibility as customers reevaluated capital spending budgets in light of the adverse economic conditions and their own financial circumstances.

The timing of orders and the Company's ability to recognize revenue under generally accepted accounting principles can also influence management's visibility with respect to operating results. Some orders are conditional upon customer acceptance criteria or successful testing of the Company's products and services, and orders placed with many of the Company's customers may generally be terminated unilaterally or may be subject to additional conditions. As a result, predicting when orders will translate to revenue, and consequently predicting future operating results, is extremely difficult. In addition, quarterly and annual expenses as a percentage of the Company's revenue may be significantly different from historical or projected rates, and operating results in the future may fall below expectations.

In any period, a substantial portion of revenue may be largely attributable to orders from a limited number of customers. For this reason, comparing operating results, particularly gross profit margins, on a period-to-period basis may not be meaningful. Investors should not rely on past results as an indication of future performance. In addition to other risk factors, factors that may affect or result in period-to-period variability in operating results include:

- Reductions in customers' budgets for infrastructure purchases and indefinite delays in their budgeting and purchasing cycles, especially given a general economic downturn, could have an adverse effect on the Company's business and operating results because the purchase of its products and services requires customers to make strategic and capital investment decisions about their data infrastructures;
- Aggressive pricing tactics by the Company's competitors could adversely affect operating results because the Company may offer its products at a discount to win new business and maintain existing customers, which could decrease gross margins;
- The length of time between accepting a new customer and the recognition of revenue from that customer, which can be several quarters because orders may contain terms that do not permit the Company to recognize revenue until certain conditions have been satisfied;
- The Company's ability to develop and introduce in a timely manner new services, products and product enhancements that meet customer requirements; and
- The timing of product releases or upgrades by the Company or by its partners or competitors, which could have an adverse effect on revenue if customers delay orders pending the new release or upgrade.

The Company's quarterly revenue and operating results may fluctuate in the future due to a number of factors. The Company believes its periodic revenue and operating results may vary significantly in the future. As a result, investors should not rely on the results of any one period as an indication of future performance and period-to-period comparisons of its revenue and operating results may not be meaningful.

The Company's quarterly results of operations may fluctuate as a result of a variety of factors, including, but not limited to, those listed below, many of which are outside of the Company's control:

- Ability to maintain and increase sales to existing customers and to attract new customers;
- General economic, industry and market conditions that impact expenditures for medical devices in the United States and other countries;
- Decline in maintenance and support renewals;
- Ability to generate a significant volume of qualified sales leads;
- Ability to convert qualified sales leads into new software license and service sales;
- Amount and timing of operating expenses and capital expenditures related to the expansion of operations and infrastructure and customer acquisition;
- Failure to achieve the growth rate anticipated in setting operating and capital expense budgets;

- The timing of revenue and expenses related to the development or acquisition of technologies, products or businesses;
- Potential goodwill and intangible asset impairment charges and amortization associated with acquired businesses;
- Potential foreign exchange gains and losses related to expenses and sales denominated in currencies other than the functional currency of an associated entity;
- The timing and success of new product introductions by the Company, its partners, or its competitors;
- Changes in the Company's pricing policies or those of its partners, or competitors;
- Occasional large customer orders;
- Unpredictability and timing of buying decisions by large customers; and
- Changes in tax rates in jurisdictions in which the Company operates.

Fluctuations in the Company's periodic operating results might lead to changes in the valuation of the Company's securities, including those to be sold in this Offering. As a result, the valuation of those securities could decline rapidly and the Company could face costly securities class action suits or other unanticipated issues.

### ***Quality and Other Risks Related to Reputation***

The Company's ability to sell its products and services is highly dependent on the quality of its customer support and services, and any failure to offer high-quality support and services would harm the business, operating results and financial condition.

Once the Company's products and services are purchased, customers depend on the Company's support organization to resolve any issues relating to those products and services.

The Company's products and services sometimes provide mission-critical services to its customers and a high level of customer support is necessary to maintain customer relationships. As the Company grows its business, its ability to provide effective customer support and services will continue to be largely dependent on its ability to attract, train and retain qualified direct customer service and delivery personnel.

As the Company continues to expand its operations internationally, its support organization will face additional challenges, including those associated with delivering support, training and documentation in languages other than English.

In addition, the Company's sales process can be dependent on strong referrals from its current or past customers. The Company believes that communication among its customers and potential customers is both rapid and frequent. Any failure to maintain high-quality customer support and services, or a market perception that the Company does not maintain high-quality customer support and services, could harm the Company's reputation, adversely affect its ability to sell its products and services to existing and prospective customers, and could harm the business, operating results, and financial condition.

If the Company is unable to sell products to new customers or to sell additional products, services, or upgrades to its existing customers, the Company's revenue growth will be adversely affected and operating losses could increase.

To increase revenue, the Company must regularly add new customers and/or sell additional products, services, or upgrades to existing customers. Even if the Company generates a significant volume of leads from its marketing activities, it must be able to sell products to a sufficient number of these new sales leads in order to achieve its expected revenue growth.

The Company expects to incur significant additional expenses in expanding its sales personnel and international operations in order to convert leads into sales. If the Company is unable to sell products and services to new customers and additional products, services, or upgrades to its existing customers as a result of these expenditures, the Company may be unable to grow its revenue and its operating results may be adversely affected.

## ***Risks Related to Expectations***

From time to time, the Company may provide information regarding its financial outlook that represents management's estimates. This information regarding financial outlook, which includes forward-looking statements, will be based on projections, including those related to certain of the factors listed herein, prepared by management. Neither our independent registered public accounting firm nor any other independent expert or outside party will compile or examine the projections nor, accordingly, will any such person express any opinion or any other form of assurance with respect thereto.

These projections will be based upon a number of assumptions and estimates that, while presented with numerical specificity, will be inherently subject to significant business, economic and competitive uncertainties and contingencies, many of which will be beyond the Company's control, and will also be based upon specific assumptions with respect to future business decisions, some of which will change.

To the extent that the Company recognizes revenue from project-based transactions during a specific period, actual operating results may differ significantly from information the Company may have provided regarding its financial outlook. Where the Company states possible outcomes as high and low ranges, those ranges are intended to provide a sensitivity analysis as variables are changed but are not intended to represent that actual results could not fall outside of those suggested ranges. The principal reason that the Company releases such information is to provide a basis for management to discuss its business outlook with investors and potential investors.

Information regarding the Company's financial outlook is necessarily speculative in nature, and it can be expected that some or all of the assumptions underlying such information furnished by management will not materialize or will vary significantly from actual results. Accordingly, information that management provides regarding its financial outlook will only be an estimate of what management believes is realizable as of the date of release. Actual results will vary from that financial outlook, and the variations may be material and adverse. In light of the foregoing, investors are urged to consider these factors, not to rely exclusively upon information provided regarding the financial outlook in making an investment decision regarding this Offering, and to take such information into consideration only in connection with other information included in this private placement memorandum, including risk factors such as this one.

Any failure to implement management's operating strategy successfully or the occurrence of any of the events or circumstances set forth under the risk factors in this private placement memorandum, in addition to the occurrence of events not contemplated in this private placement memorandum, could result in the Company's actual operating results being different from information provided regarding the Company's financial outlook, and those differences might be adverse and material. The Company's sales cycle can be long and unpredictable, and its sales efforts require considerable time and expense.

## ***Macroeconomic Risk***

The macro economy will have a direct impact on the business. During an economic downturn, business investment in software and information technology services decreases, the demand for such software and services slows down, and the Company would likely be negatively impacted.

In general, demand for the Company's products and services is highly correlated with general economic conditions. Declines in economic conditions in the US or in other countries in which the Company operates may adversely affect consolidated financial results. Because such declines in demand are difficult to predict, the Company or the industry may have increased excess capacity as a result. An increase in excess capacity may result in declines in prices for products and services.

Global economic conditions continue to be challenging for government and enterprise software and services markets, as economic growth in the US and many other countries has remained low, unemployment rates have remained high, credit markets have remained tight for certain of our counterparties and corporate capital spending has been reduced. In addition, conflicts in the Middle East and elsewhere have created many economic and political uncertainties that have affected worldwide markets. The length of time these adverse economic and political conditions may persist is unknown.

These global economic and political conditions have impacted and could continue to impact the Company's business in a number of ways, including: i) Challenges in budgeting and forecasting: It is difficult to estimate changes in various parts of the US and world economy, including the markets in which we participate. Components of the Company's budgeting and forecasting are dependent upon estimates of demand for the Company's products and services, the prevailing economic uncertainties render estimates of future income and expenditures challenging. ii) Potential deferment or cancellation of purchases and orders by customers: Uncertainty about current and future global economic conditions may cause, and in some cases has caused businesses and in some cases governments to defer or cancel purchases in response to tighter credit and decreased cash availability and declining consumer confidence. If future demand for the Company's products and services declines due to economic conditions, it will negatively affect financial results

The Company's ability to grow or maintain its business may be adversely affected by sustained economic weakness and uncertainty, including the effect of wavering consumer confidence, continued high unemployment and other factors that may adversely affect the hardware, software and information technology products and services industries. Higher customer acquisition and retention costs could result, and the Company's profits may be adversely affected by the increased customer acquisition and retention costs necessary to attract and maintain customers during a period of economic weakness.

### ***Interest Rate Risk***

The Company may want or need to seek additional credit in the market. Any increase in interest rates in the United States could increase the monthly payments required to service a new loan, note, debenture, or other credit facility, decreasing cash flow and negatively impacting the Company's liquidity. Interest rate decreases could also negatively impact the Company in the event that the Company is unable to refinance existing debt at the new, lower rates, because the Company's competitors could obtain less costly capital.

### ***Regulation Risk***

Hardware, software, and services companies are, and in the future will be, affected by European Union laws as well as multiple federal, state, and local laws and regulations and other political developments, such as licensing requirements and environmental protection regulations. These regulations and changes in regulations could have a material adverse effect upon the Company.

### ***Country Risk***

The Company intends to have offices and personnel in multiple countries and customers in more. While the Company may derive some benefits from diversification of risk by operating in multiple countries, these benefits may be outweighed by the number and volatility of the risks involved. Political risk includes the risk that instability or government policies could result in a loss of business, a loss of capital, or a complete loss of the Company's operations in that country.

The risks of doing business in a country other than the United States, where this Offering is being made, include sovereign risk and transfer risk, or the risk that some of the Company's capital could be appropriated by the government or otherwise seized, frozen, or locked up.

### ***Exchange Rate Risk***

The Company intends to both accept and make payments in various other currencies. While all of the Company's current long term debt obligations, including those to be issued in this Offering, are issued in United States dollars. The Company does not engage in hedging operations, and changes in currency exchange rates could severely impact the Company's financial situation.

### **Competitive Risks and Risks Related to the Development of New Technologies**

The Company operates in a highly competitive, and rapidly changing environment. Success is, to a large extent, dependent on the ability to acquire, develop, adopt, upgrade and exploit new and existing technologies to address consumers' changing demands and distinguish its services from those of its competitors. The Company may not be able to accurately predict technological trends or the success of new products and services.

If it chooses technologies or equipment that are less effective, cost-efficient or attractive to customers than those chosen by competitors, or if it offers services that fail to appeal to customers, are not available at competitive prices or that do not function as expected, the Company's competitive position could deteriorate, and its business and financial results could suffer.

The ability of some of the Company's competitors to introduce new technologies, products and services more quickly than the Company may adversely affect the Company's competitive position. Furthermore, advances in technology, decreases in the cost of existing technologies or changes in competitors' product and service offerings may require the Company in the future to make additional research and development expenditures or to offer at no additional charge or at a lower price certain products and services currently offered to customers separately or at a premium. In addition, the uncertainty of the Company's ability and the costs to obtain intellectual property rights from third parties could affect the Company's ability to respond to technological advances in a timely and effective manner.

The Company's research, development and other investments in new technologies, products or services may not succeed due to, among others: improvements in alternate technologies in ways that reduce the advantages the Company anticipates from its investments; competitors' products or services being more cost effective, having more capabilities or fewer limitations or being brought to market faster than the Company's new products and services; and competitors having longer operating histories in industry segments that are new to the Company, particularly software development. The Company may also underestimate the costs of or overestimate the future operating income and/or margins that could result from these investments; and these investments may not, or may take many years to, generate material returns. If the Company's new technologies, products or services are not successful, or are not successful in the time frame anticipated, the Company may incur significant costs and/or asset impairments, our business may not grow as anticipated, our margins may be negatively impacted and/or the Company's reputation may be harmed.

Current or potential competitors may also offer bundled arrangements that include information technology solutions that the Company does not currently offer, but that may be desirable and beneficial features for the Company's current and prospective customers.

The Company could have some competitors that have developed competing technologies. The Company expects their competitors to continue to improve the performance of their current products, reduce their prices and introduce new services and technologies that may offer greater performance and improved pricing compared to the Company's products, any of which could harm the Company's business. In addition, the Company's competitors may develop enhancements to, or future generations of, competitive products and services that may render the Company's products and services obsolete or uncompetitive. These and other competitive pressures may prevent the Company from competing successfully against current or future competitors.

Many of the Company's established competitors have long-standing relationships with key decision makers at many of the Company's current and prospective customers. As a result, the Company may not be able to compete effectively and maintain or increase its market share. Many of the Company's competitors benefit from established brand awareness and long-standing relationships with key decision makers at many of the Company's current and prospective customers. The Company expects that its competitors will seek to leverage these existing relationships to discourage customers from purchasing the Company's products and services.

### ***Research and Development Risks***

The Company has invested extensively in research and development and may not generate positive returns on its research and development investments. Developing the Company's products and services has been expensive and will continue to require significant investment. The Company's future plans include significant investments in research and development and related product opportunities. The Company believes that it must continue to dedicate a significant amount of resources to research and development efforts to maintain and enhance its competitive position. However, the Company's ability to generate positive returns on these investments may take several years, if it is able to do so at all.

If the Company does not successfully anticipate market needs and develop products, services, and product enhancements that meet those needs, or if those products do not gain market acceptance, the Company's business, operating results, and financial condition could be adversely affected.

The Company competes in a market characterized by rapid technological change, frequent new product introductions, evolving industry standards and changing customer needs. The Company cannot assure investors or potential investors that it will be able to anticipate future market needs or be able to develop new products, services, or product enhancements to meet those needs in a timely manner, or at all. For example, the Company's failure to develop additional features that its competitors are able to provide could adversely affect the Company's business. In addition, any new products, services, or product enhancements that it develops may not achieve widespread market acceptance. As competition increases in the information technology industry, it may become even more difficult for the Company to stay abreast of technological changes, develop new technologies, or introduce new products or services as quickly as its competitors, many of which have substantially greater financial and engineering resources than the Company does. Additionally, risks associated with the introduction of new products, services, or product enhancements include difficulty in predicting customer needs or preferences and transitioning existing products to incorporate new technologies. If the Company is unable to keep pace with rapid industry, technological, or market changes or effectively manage the transitions to new products or new technologies, it could harm the Company's business, operating results and financial condition.

The Company must respond to rapid technological changes to be competitive. The market for the Company's products is characterized by rapid technological change, evolving industry standards in computer hardware and software technology, changes in customer requirements, and frequent new product introductions and enhancements. The introduction of products embodying new technologies and the emergence of new industry standards can render existing products obsolete and unmarketable. As a result, the Company's future success will depend, in part, upon its ability to continue to enhance existing products and services and develop and introduce in a timely manner or acquire new products that keep pace with technological developments, satisfy increasingly sophisticated customer requirements, and achieve market acceptance.

The Company cannot assure investors or potential investors that it will successfully identify new product opportunities and develop and bring new products to market in a timely and cost-effective manner. Further, the Company cannot assure investors or potential investors that the products, capabilities, or technologies developed by others will not render its products or technologies obsolete or noncompetitive.

If the Company is unable to develop or acquire on a timely and cost-effective basis new hardware and software products or enhancements to existing products or services, or if such new products, services, or enhancements do not achieve market acceptance, the Company's business, operating results, and financial condition may be materially adversely affected.

### ***Risks Related to the Company's Software***

Errors and defects in the Company's hardware and software could affect sales. The hardware and software products the Company offers may contain undetected errors, defects, or failures when first introduced or as new versions are released. Testing of hardware and software products presents many challenges since it is difficult to anticipate and simulate the wide range of software computing environments in which the Company's customers use these products. While we test the Company's products extensively, from time-to-time, the Company may discover errors or defects in our products. These defects and errors may result in any of the following:

- Delays in the release of the Company's new products, versions, and upgrades
- Increased costs to fix such defects and errors, in turn leading to a strain on the Company's software development resources
- Design modifications of the product
- A decrease in customer satisfaction with the products and a decrease in sales, and a loss of existing and potential customers

Even after the Company's products are tested internally, and by either current or prospective customers, errors and defects may be discovered after the commercial release has commenced, which may result in loss of or delay in market acceptance, which could have a material adverse impact upon the Company's business, operating results, and financial condition.

The Company's hardware and software products are complex and the Company runs the risk of errors or defects with new product introductions or enhancements. Hardware and software products as complex as those developed by the Company may contain errors or defects, especially when first introduced or when new versions or enhancements are released. The Company cannot assure investors or potential investors that material defects and errors will not be found after commencement of product delivery. Any such defects could result in loss of revenues or delayed market acceptance.

The Company's agreements with its customers may contain provisions designed to limit the Company's exposure to potential liability claims. It is possible, however, that the Company may not always be able to negotiate such provisions in its contracts with customers or that the limitation of liability provisions contained in the Company's agreements may not be effective as a result of existing or future federal, state, or local laws, ordinances, or judicial decisions. Although the Company intends to maintain errors and omissions and general liability insurance, and tries to structure its contracts to include limitations on liability, the Company cannot assure investors or potential investors that a successful claim could not be made or would not have a material adverse effect on the Company's business, financial condition, and results of operations.

### ***Risks Related to Provisioning Hardware, or Software, or Services to Customers***

If the Company fails to satisfy its customers' expectations regarding the Company's solutions, or if the Company fails to timely deliver its solutions to its customers, the Company may be required to pay penalties, contracts may be cancelled, and the Company may be the subject of damages claims.

In the event that the Company fails to satisfy its customers' expectations from the results of the implementation of the Company's solutions, or if the Company fails to timely deliver its solutions to its customers, these customers may suffer damages. When and if this occurs, the Company may be required under the customer agreement to pay penalties to its customers or pay their expenses and the Company's customers may have the ability to cancel their contracts. Payments of penalties or cancellations of contracts could cause the Company to suffer damages. In addition, the Company might not be paid for costs that the Company incurred in performing services prior to the date of cancellation. In addition, from time to time the Company may be subject to claims as a result of not delivering its products or services on time or in a satisfactory manner. Such disputes or others may lead to material damages.

### ***Labor and Employment Risks***

The Company relies heavily on its employees and on contractors to provide the service levels that enable its success. Retaining skilled employees in sales, service delivery, and supporting roles is crucial, and none of the Company's employees are under contract. There is a risk that the Company could lose talented employees and contractors and find it difficult or expensive to replace them.

The Company's ability to increase revenue and improve operating performance will depend substantially on its ability to attract and retain sales, management and other key personnel, and any failure to attract and retain these employees could harm the Company's future revenues, business, operating results and financial condition. In particular, the Company anticipates attracting and retaining sales and other key employees. These positions require candidates with specific backgrounds in the industry, and competition for employees with this expertise can be intense. In addition, the Company believes that there are only a limited number of individuals with the specific skills required for many of its sales and other key positions. The Company may be unable to identify, hire, or retain qualified individuals.



To the extent that the Company is successful in hiring new employees to fill open and new positions, the Company needs a significant amount of time to train the new employees before they can become effective and efficient in performing their jobs.

As a result of the difficulty and expense involved in finding and training qualified candidates, it is critical for the Company to retain the individuals who fill these positions. In particular, because competition for highly skilled sales and engineering employees can be intense in this industry, recruitment practices can be aggressive.

Substantial groups of the Company's employees in key functional areas such as sales and systems engineering may be targets of aggressive recruiting efforts, which could reoccur and result in a loss of key employees. Many of the employers with whom the Company will compete for talent, or who may target the Company's talent base, are larger and have substantially greater resources than the Company, and may be able to offer compensation packages or other benefits that the Company does not provide or that are substantially more lucrative than the Company's operating budgets permit. Any loss of the Company's existing or future sales or other key personnel could harm the business, operating results, and financial condition.

The Company's future success depends on its ability to attract and retain key management personnel or to quickly fill any management vacancies that may arise. The Company's business could suffer if it is unable to replace any departing management personnel or other key personnel. The Company's future success is also dependent upon our ability to attract additional personnel for all other areas of the organization, including the delivery and installation departments. Competition for qualified personnel is intense, and the Company may not be successful in attracting and retaining such personnel on a timely basis, on competitive terms, or at all. If the Company is unable to attract and retain the necessary technical, sales, and other personnel on a cost-effective basis, the Company may be unable to grow its business, increase its revenue, and be profitable.

### **Intellectual Property Risks**

The Company has spent extensive time and effort on the development of software that is intellectual property. Although the Company does not believe that it has infringed on any existing intellectual property rights, it could be accused of doing so, and may incur legal costs in defending against such allegations. The Company may find it necessary to incur significant legal expenses in the defense of its intellectual property.

The Company relies on its patents, copyrights, trademarks and trade secrets, as well as licenses and other agreements with vendors and other parties, to use technologies, conduct operations and sell products and services. Legal challenges to the Company's intellectual property rights and claims of intellectual property infringement by third parties could require that the Company enter into royalty or licensing agreements on unfavorable terms, incur substantial monetary liability or be enjoined preliminarily or permanently from further use of the intellectual property in question or from the continuation of the Company's businesses as currently conducted, which could require the Company to change its business practices or limit its ability to compete effectively or could have an adverse effect on the results of operations. Even if the Company believes any such challenges or claims are without merit, they can be time-consuming and costly to defend and divert management's attention and resources away from our business. Moreover, because of the rapid pace of technological change, the Company relies on technologies developed or licensed by third parties, particularly SAP and its other partners, and if the Company is unable to obtain or continue to obtain licenses from these third parties on reasonable terms, the Company's business, financial condition and results of operations could be adversely affected.

From time to time, companies may assert patent, copyright, and other intellectual property rights against the Company's services or products. These claims may result in the Company's involvement in litigation. The Company may not prevail in such litigation given the complex technical issues and inherent uncertainties in intellectual property litigation. If any of the Company's products were found to infringe on another company's intellectual property rights, the Company could be subject to an injunction or required to redesign its products, which could be costly, or to license such rights and/or pay damages or other compensation to such other company.

If the Company were unable to redesign its products, license such intellectual property rights used in its products or otherwise distribute its products through a licensed supplier, the Company could be prohibited from making and selling such products. In any potential dispute involving other companies' patents or other intellectual property could also become the targets of litigation. The Company is contingently liable under certain product sales, services, license and other agreements to indemnify certain customers against certain types of liability and/or damages arising from qualifying claims of patent infringement by products or services sold or provided by the Company. Reimbursements under indemnification arrangements could have an adverse effect on the Company's results of operations. Any claims, regardless of their merit, could be time consuming to address, result in costly litigation, divert the efforts of technical and management personnel or cause product release delays, any of which could have an adverse effect upon operating results.

If the Company is unable to protect its intellectual property rights, the Company's competitive position could be harmed and it could be required to incur significant expenses to enforce its rights. The Company depends on its ability to protect its proprietary technology. It relies on trade secret, patent, copyright and trademark laws and confidentiality agreements with future employees and third parties, all of which offer only limited protection. Despite the Company's efforts, the steps it has taken to protect its proprietary rights may not be adequate to preclude misappropriation of its proprietary information or infringement of its intellectual property rights, particularly outside of the United States. Further, the rights granted under any of the Company's issued patents or patents that may be issued in the future may not provide the Company with proprietary protection or competitive advantages, and, as with any technology, competitors may be able to develop similar or superior technologies to the Company's own now or in the future. Protecting against the unauthorized use of the Company's products, trademarks, and other proprietary rights is expensive, difficult and, in some cases, impossible. Litigation may be necessary in the future to enforce or defend the Company's intellectual property rights, to protect its trade secrets, or to determine the validity and scope of the proprietary rights of others. This litigation could result in substantial costs and diversion of management resources, either of which could harm the Company's business. Furthermore, many of the Company's current and potential competitors, as well as "patent trolls", have the ability to dedicate substantially greater resources to enforce their intellectual property rights than does the Company. Accordingly, despite the Company's efforts, the Company may not be able to prevent third parties from infringing upon or misappropriating the Company's intellectual property.

Claims by others that the Company infringes their proprietary rights could harm the business. Third parties could claim that the Company's products or technology infringe their proprietary rights. In addition, the Company has in the past and may in the future be contacted by third parties suggesting that the Company seek a license to certain of their intellectual property rights that they may believe the Company is infringing. The Company expects that infringement claims against it may increase as the number of products, services, and competitors in these markets increase and overlaps occur. In addition, to the extent that the Company gains greater visibility, the Company believes that it will face a higher risk of being the subject of intellectual property infringement claims.

Any claim of infringement by a third party, even those without merit, could cause the Company to incur substantial costs defending against the claim, and could distract management from the business. Furthermore, a party making such a claim, if successful, could secure a judgment that requires the Company to pay substantial damages. A judgment against the Company could also include an injunction or other court order that could prevent the Company from offering its products or services. In addition, the Company might be required to seek a license for the use of such intellectual property, which may not be available on commercially reasonable terms, or at all. Alternatively, the Company may be required to develop non-infringing technology, which could require significant effort and expense and may ultimately not be successful. Any of these events could seriously harm the business.

Third parties may also assert infringement claims against the Company's customers, resellers, partners and authorized service providers. Any such claims may require the Company to initiate or defend protracted and costly litigation on their behalf, regardless of the merits of these claims. If any of these claims succeed, the Company may be forced to pay damages on behalf of its customers, resellers, partners, and authorized service providers.

## Information Security and Piracy Risks

The capacity, reliability and security of information technology hardware and software infrastructure, including our billing systems, are important to the operation of the business, which would suffer in the event of system failures or cyber-attack. Likewise, the Company's ability to expand and update its information technology infrastructure in response to growth and changing needs is important to the continued implementation of new product or service offering initiatives. Inability to expand or upgrade technology infrastructure could have adverse consequences, which could include the delayed implementation of new product or service offerings, product or service or billing interruptions, and the diversion of development resources.

The Company is relying on third parties for developing key components of these systems and ongoing service after their implementation. Third parties may experience errors, cyber-attacks or disruptions that could adversely affect the Company and over which the Company may have limited control. Interruption and/or failure of any of these new systems could disrupt operations and damage the Company's reputation, thus adversely affecting the Company's ability to provide services, retain current customers and attract new customers. In addition, although the Company takes protective measures and endeavors to modify them as circumstances warrant, its information technology hardware and software infrastructure may be vulnerable to cyber-attacks including, among other things, unauthorized access, misuse, computer viruses or other malicious code, computer denial of service attacks and other events that could have a security impact. If one or more of such events occur, this potentially could jeopardize customer and other information processed and stored in, and transmitted through, the Company's information technology hardware and software infrastructure, or otherwise cause interruptions or malfunctions in operations, which could result in significant losses or reputational damage. The Company may be required to expend significant additional resources to modify its protective measures or to investigate and remediate vulnerabilities or other exposures, and the Company may be subject to litigation and financial losses.

The Company seeks to limit the threat of content piracy; however, policing unauthorized use of its products and services and related intellectual property is often difficult and the steps it takes may not in every case prevent infringement by unauthorized third parties. Developments in technology increase the threat of content piracy by making it easier to duplicate and widely distribute pirated material. The Company has taken, and will continue to take, a variety of actions to combat piracy, both individually and, in some instances, together with industry associations. However, protection of intellectual property rights is dependent on the scope and duration of the Company's rights as defined by applicable laws in the US and abroad and the manner in which those laws are construed. If those laws are drafted or interpreted in ways that limit the extent or duration of rights, or if existing laws are changed, the Company's ability to generate revenue from intellectual property may decrease, or the cost of obtaining and maintaining rights may increase. There can be no assurance that the Company's efforts to enforce its rights and protect its products, services and intellectual property will be successful in preventing content piracy. The Company has in place layered and multi-threaded security systems designed to protect against intentional or unintentional disruption, failure, misappropriation or corruption of our network and information systems. A problem of this type might be caused by events such as computer hacking, computer viruses, worms and other destructive or disruptive software, cyber-attacks, and other malicious activity, as well as natural disasters, power outages, terrorist attacks and similar events. Such events could have an adverse impact on the Company and on its customers, including degradation of service, service disruption, excessive call volume to call centers, and damage to equipment and data.

In addition, the Company's future results could be adversely affected due to the theft, destruction, loss, misappropriation or release of confidential customer data or intellectual property.

Operational or business delays may result from the disruption of network or information systems and the subsequent remediation activities. Moreover, these events may create negative publicity resulting in reputation or brand damage with customers. The Company has expended, and expects to continue to spend in the future, significant amounts to protect its network and information systems; however, there can be no assurance that these efforts will prevent any of the problems identified above.

## ***Uninsured and Underinsured Losses***

TPEG Utopia Investors, LLC will not bear direct liabilities for any loss suffered by Utopia, but could be impacted indirectly. Certain losses from significant unexpected events that could damage Utopia either are uninsurable or not economically feasible to insure. Should Utopia incur a loss from such an uninsured event, it could sustain a significant loss, which would affect its ability to repay the Secured Note, the senior subordinated secured notes, or the Silicon Valley Bank line of credit, all of which are senior to the Company's equity. In addition, certain losses incurred, although generally coverable under one of the Company's insurance policies, may exceed the value of the applicable insurance policy. In either such event, the Company's assets could be negatively affected.

## ***Tax Risk***

No assurance can be given that the tax positions described in this section would be sustained by a court, if contested, or that legislative or administrative changes or court decisions will not be forthcoming that would significantly modify the statements and opinions expressed herein. Any such changes may or may not be retroactive with respect to transactions prior to the date of such changes.

The discussion of the tax aspects contained in this private placement memorandum is based on law presently in effect. Nonetheless, investors should be aware that new legislative, administrative or judicial action could significantly change the tax aspects of the Company. Congress is currently analyzing and reviewing proposed changes to the federal income tax laws. The extent and effect of any such changes, if any, is uncertain. As of the date of this private placement memorandum, the legislative climate is volatile and there are a variety of proposals to amend the Internal Revenue Code. It is impractical to attempt to list them or to predict which may be enacted into law, and prospective investors are cautioned to consult their own tax advisors on specific questions concerning pending or proposed legislation. This pertains to, among other things, the tax rates attributable to ordinary and capital gain. For that reason, we do not discuss the topic.

The federal income tax returns of the Company may be audited by the IRS and such an audit may result in adjustments to the various items reported by the Company. For example, various deductions claimed by the Company on its returns of income could be disallowed in whole or in part on audit, thereby resulting in an increase in the profits or a reduction in the losses of the Company. The disallowance of such deductions in whole or in part could increase a member's taxable income without the receipt of any additional cash distributions from the Company. The IRS has shifted the focus of its audits from the partner level to the Company level. Members may be bound by actions taken by the managers at the Company level during the course of an audit.

## ***Allocations of Profits and Losses***

Profits and losses will be allocated as set forth in the operating agreement. Although such allocations are permitted under partnership law, the code and treasury regulations require that such allocations satisfy certain requirements. Section 702 of the code provides that, in determining income tax, a partner must take into income his or her "distributive share" of the Company's income, gain, loss, deduction or credit. The partners may specially allocate their distributive shares of such profits and losses, thus redistributing tax liability, by provision in the operating agreement. However, the IRS will disregard such an allocation

## ***Risks Related to Management***

The performance of the Company depends to a degree on successful execution of the Company's strategy by management. If anything should happen to key members of management, or if they should leave the Company, performance could be negatively impacted.

## ***The Company Has No Operating History***

The Company has no operating history on which prospective investors may base an evaluation of likely performance. There is no assurance that the Company will achieve its objective of obtaining an attractive rate of, or any, return for investors. Investors must be able to bear both the economic and the emotional risks of losing their entire investment.

THE FOREGOING RISK FACTORS ARE NOT A COMPLETE EXPLANATION OF ALL OF THE RISKS INVOLVED IN THIS OFFERING OR AN INVESTMENT IN THE COMPANY. YOU SHOULD READ THIS MEMORANDUM AND ITS APPENDICES IN THEIR ENTIRETY BEFORE DETERMINING WHETHER TO SUBSCRIBE.

#### ADDITIONAL QUALIFICATIONS TO THIS MEMORANDUM

1. NO ASSURANCES CAN BE GIVEN THAT THE COMPANY WILL GENERATE SUFFICIENT CASH FLOW TO ALLOW THE COMPANY TO MAKE INTEREST PAYMENTS OR OTHER DISTRIBUTIONS.
2. THE PREFERRED STOCK ARE NOT FREELY TRANSFERABLE AND NO PUBLIC MARKET FOR THE PREFERRED STOCK PRESENTLY EXISTS. THE PREFERRED STOCK SHOULD BE PURCHASED ONLY AS A LONG TERM INVESTMENT SINCE INVESTORS MAY NOT BE ABLE TO LIQUIDATE THEIR INVESTMENT IN THE EVENT OF EMERGENCY OR FOR ANY OTHER REASON.

THE OBLIGATIONS OF THE PARTIES WITH RESPECT TO THE TRANSACTIONS CONTEMPLATED HEREIN ARE SET FORTH IN AND WILL BE GOVERNED BY THE DOCUMENTS INCLUDED AS APPENDICES TO THIS OFFERING MEMORANDUM OR DESCRIBED HEREIN AND ALL OF THE STATEMENTS AND INFORMATION CONTAINED IN THIS OFFERING MEMORANDUM ARE QUALIFIED IN THEIR ENTIRETY BY SUCH DOCUMENTS. CONSEQUENTLY, EACH PROSPECTIVE INVESTOR IS URGED TO READ CAREFULLY THE DOCUMENTS ATTACHED HERETO OR REFERRED TO HEREIN BECAUSE THEY FORM AN INTEGRAL PART OF THIS OFFERING MEMORANDUM AND ARE INCORPORATED HEREIN BY REFERENCE FOR ALL PURPOSES.

PROSPECTIVE INVESTORS ARE NOT TO CONSTRUE THE CONTENTS OF THIS OFFERING MEMORANDUM OR ANY PRIOR, CONTEMPORANEOUS OR SUBSEQUENT COMMUNICATIONS FROM THE COMPANY AS LEGAL OR TAX ADVICE. EACH PROSPECTIVE INVESTOR SHOULD CONSULT THE INVESTOR'S OWN INVESTMENT ADVISOR, COUNSEL AND ACCOUNTANT AS TO TAX AND RELATED MATTERS CONCERNING THIS INVESTMENT.

UPON REQUEST BY A PROSPECTIVE INVESTOR OR THE INVESTOR'S REPRESENTATIVE, OR BOTH, MANAGEMENT WILL, PRIOR TO THE CONSUMMATION OF THE TRANSACTIONS CONTEMPLATED HEREIN, ANSWER QUESTIONS CONCERNING THE COMPANY AND THE TERMS AND CONDITIONS OF THIS OFFERING AND PROVIDE ANY ADDITIONAL INFORMATION THAT IS REASONABLY REQUESTED.

THE PREFERRED STOCK IS BEING OFFERED PURSUANT TO EXEMPTIONS FROM THE SECURITIES ACT OF 1933 AND PURSUANT TO THE JOBS ACT OF 2012 THERE WILL BE PUBLIC SOLICITATION OR ADVERTISEMENT IN CONNECTION WITH THE SALE OF THE PREFERRED STOCK. THE PREFERRED STOCK MUST BE PURCHASED FOR AN INVESTOR'S OWN ACCOUNT SOLELY FOR INVESTMENT AND NOT FOR DISTRIBUTION OR RESALE TO OTHERS.

THE PREFERRED STOCK HAS NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION, ANY STATE SECURITIES COMMISSION OR OTHER REGULATORY AUTHORITY, NOR HAVE ANY OF THE FOREGOING AUTHORITIES PASSED UPON OR ENDORSED THE MERITS OF THE OFFERING OR THE ACCURACY OR ADEQUACY OF THIS OFFERING MEMORANDUM.

THE TRANSFERABILITY AND SALE OF THE PREFERRED STOCK OFFERED HEREBY ARE SUBJECT TO THE RESTRICTIONS SET FORTH IN THIS OFFERING MEMORANDUM AND THE COMPANY AGREEMENT.

ALL DOCUMENTS REFERRED TO IN THIS MEMORANDUM BUT NOT ATTACHED TO THIS MEMORANDUM ARE AVAILABLE FROM MANAGEMENT.

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# Appendix A - Addressable Markets for Digital Hospital's Product Line

## Appendix A: Addressable Market Calculations of Sales and Recurring Fees for the Insulin Dosage Device



### Addressable Market for "Hospital Insulin Dosage Verification Device"

11/28/18

	Hospital Beds	EHR * Adoption	Footnote Reference	Beds with EHR *	Beds per Device	Number of Devices	Cost per Device	Addressable Sales	Yearly Fees
Japan	1,818,750	81%	2,3,6,16	1,473,188	7	210,455	\$2,500	\$526,138,392.86	\$50,509,286
USA	1,078,330	96%	1,2,3,16	1,035,197	7	147,885	\$2,500	\$369,713,143	\$35,492,462
Germany	734,412	82%	2,3,4,16	602,218	7	86,031	\$2,500	\$215,077,800	\$20,647,469
France	502,296	67%	2,3,4,16	336,538	7	48,077	\$2,500	\$120,192,257	\$11,538,457
United Kingdom	279,609	97%	2,3,4,16	271,221	7	38,746	\$2,500	\$96,864,546	\$9,298,996
Italy	260,880	98%	2,3,4,16	255,662	7	36,523	\$2,500	\$91,308,000	\$8,765,568
South Korea	363,267	58%	2,3,6,16	210,695	7	30,099	\$2,500	\$75,248,164	\$7,223,824
Australia	183,315	92%	2,3,4,5,16	168,650	7	24,093	\$2,500	\$60,232,071	\$5,782,279
Taiwan	143,112	70%	2,3,7,16	100,178	7	14,311	\$2,500	\$35,778,000	\$3,434,688
Netherlands	80,297	98%	2,3,5,16	78,691	7	11,242	\$2,500	\$28,103,950	\$2,697,979
Canada	136,729	56%	2,3,4,16	76,568	7	10,938	\$2,500	\$27,345,800	\$2,625,197
New Zealand	57,658	97%	2,3,4,16	55,928	7	7,990	\$2,500	\$19,974,379	\$1,917,540
Israel	51,562	90%	2,3,8,16	46,406	7	6,629	\$2,500	\$16,573,500	\$1,591,056
UAE	44,941	100%	2,3,7,16	44,941	7	6,420	\$2,500	\$16,050,357	\$1,540,834
Norway	40,376	98%	2,3,4,16	39,568	7	5,653	\$2,500	\$14,131,600	\$1,356,634
Switzerland	51,264	41%	2,3,4,16	21,018	7	3,003	\$2,500	\$7,506,514	\$720,625
<b>Total:</b>						<b>688,095</b>		<b>\$1,720,238,475</b>	<b>\$165,142,894</b>



# Addressable Market Calculations of Sales and Recurring Fees for the High Alert Drug Verification Device



## Addressable Market for "Hospital High Alert Drug Verification Device"

11/26/18

	Hospital Beds	EHR* Adoption	Footnote Reference	Beds with EHR*	Beds per Device	Number of Devices	Cost per Device	Addressable Sales	Yearly Fees
Japan	1,818,750	81%	2,3,6,17	1,473,188	7	210,455	\$7,500	\$1,578,415,179	\$75,763,929
USA	1,078,330	96%	1,2,3,17	1,035,197	7	147,885	\$7,500	\$1,109,139,429	\$53,238,693
Germany	734,412	82%	2,3,4,17	602,218	7	86,031	\$7,500	\$645,233,400	\$30,971,203
France	502,296	67%	2,3,4,17	336,538	7	48,077	\$7,500	\$360,576,771	\$17,307,685
United Kingdom	279,609	97%	2,3,4,17	271,221	7	38,746	\$7,500	\$290,593,639	\$13,948,495
Italy	260,880	98%	2,3,4,17	255,662	7	36,523	\$7,500	\$273,924,000	\$13,148,352
South Korea	363,267	58%	2,3,6,17	210,695	7	30,099	\$7,500	\$225,744,493	\$10,835,736
Australia	183,315	92%	2,3,4,5,17	168,650	7	24,093	\$7,500	\$180,696,214	\$8,673,418
Taiwan	143,112	70%	2,3,7,17	100,178	7	14,311	\$7,500	\$107,334,000	\$5,152,032
Netherlands	80,297	98%	2,3,5,17	78,691	7	11,242	\$7,500	\$84,311,850	\$4,046,969
Canada	136,729	56%	2,3,4,17	76,568	7	10,938	\$7,500	\$82,037,400	\$3,937,795
New Zealand	57,658	97%	2,3,4,17	55,928	7	7,990	\$7,500	\$59,923,136	\$2,876,311
Israel	51,562	90%	2,3,8,17	46,406	7	6,629	\$7,500	\$49,720,500	\$2,386,584
UAE	44,941	100%	2,3,7,17	44,941	7	6,420	\$7,500	\$48,151,071	\$2,311,251
Norway	40,376	98%	2,3,4,17	39,568	7	5,653	\$7,500	\$42,394,800	\$2,034,950
Switzerland	51,264	41%	2,3,4,17	21,018	7	3,003	\$7,500	\$22,519,543	\$1,080,938
<b>Total:</b>						<b>688,095</b>		<b>\$5,160,715,425</b>	<b>\$247,714,340</b>

# Addressable Market Calculations of Sales and Recurring Fees for the Neo Natal Dosage Verification Device



## NEO Addressable Market for "Hospital Neo Natal Dosage Verification Devices"

11/26/18

	Hospital Beds	EHR* Adoption	Footnote Reference	Beds with EHR*	Percentage of Peds and Neo Nates	Beeds per Device	Number of Devices	Cost per Device	Addressable Sales	Yearly Fees
Japan	1,818,750	81%	2,3,6,9,10,20	1,473,188	11%	4	40,513	\$3,500	\$141,794,296.88	\$24,307,594
USA	1,078,330	96%	1,2,3,9,10,20	1,035,197	11%	4	28,468	\$3,500	\$99,637,692	\$17,080,747
Germany	734,412	82%	2,3,4,9,10,20	602,218	11%	4	16,561	\$3,500	\$57,963,467	\$9,936,594
France	502,296	67%	2,3,4,9,10,20	336,538	11%	4	9,255	\$3,500	\$32,391,813	\$5,552,882
United Kingdom	279,609	97%	2,3,4,9,10,20	271,221	11%	4	7,459	\$3,500	\$26,104,995	\$4,475,142
Italy	260,880	98%	2,3,4,9,10,20	255,662	11%	4	7,031	\$3,500	\$24,607,506	\$4,218,430
South Korea	363,267	58%	2,3,6,9,10,20	210,695	11%	4	5,794	\$3,500	\$20,279,380	\$3,476,465
Australia	183,315	92%	2,3,4,5,9,10,20	168,650	11%	4	4,638	\$3,500	\$16,232,543	\$2,782,722
Taiwan	143,112	70%	2,1,7,9,10,20	100,178	11%	4	2,755	\$3,500	\$9,642,171	\$1,652,944
Netherlands	80,297	98%	2,3,5,9,10,20	78,691	11%	4	2,164	\$3,500	\$7,574,015	\$1,298,402
Canada	136,729	56%	2,3,4,9,10,20	76,568	11%	4	2,106	\$3,500	\$7,369,693	\$1,263,376
New Zealand	57,658	97%	2,3,4,9,10,20	55,928	11%	4	1,538	\$3,500	\$5,383,095	\$922,816
Israel	51,562	90%	2,3,8,9,10,20	46,406	11%	4	1,276	\$3,500	\$4,466,558	\$765,696
UAE	44,941	100%	2,3,7,9,10,20	44,941	11%	4	1,236	\$3,500	\$4,325,571	\$741,527
Norway	40,376	98%	2,3,4,9,10,20	39,568	11%	4	1,088	\$3,500	\$3,808,466	\$652,880
Switzerland	51,264	41%	2,3,4,9,10,20	21,018	11%	4	578	\$3,500	\$2,023,006	\$346,801
<b>Total:</b>							<b>132,458</b>		<b>\$463,604,269</b>	<b>\$79,475,018</b>

# Addressable Market Calculations of Sales and Recurring Fees for the Pediatric Dosage Verification Device



## PEDS Addressable Market for "Hospital Pediatric Dosage Verification Devices"

11/26/18

	Hospital Beds	EHR* Adoption	Footnote Reference	Beds with EHR*	Percentage of Beds and Neo Notes	Number of Devices	Cost per Device	Addressable Sales	Yearly Fees
Japan	1,818,750	81%	23,69,10,11,12,15,20	1,473,188	18%	66,293	\$3,500	\$232,027,031	\$39,776,063
USA	1,078,330	96%	12,39,10,11,12,15,20	1,035,197	18%	46,584	\$3,500	\$163,043,496	\$27,950,314
Germany	734,412	82%	23,49,10,11,12,15,20	602,218	18%	27,100	\$3,500	\$94,849,310	\$16,259,882
France	502,296	67%	23,49,10,11,12,15,20	336,538	18%	15,144	\$3,500	\$53,004,785	\$9,086,535
United Kingdom	279,609	97%	23,49,10,11,12,15,20	271,221	18%	12,205	\$3,500	\$42,717,265	\$7,322,960
Italy	260,880	98%	23,49,10,11,12,15,20	255,662	18%	11,505	\$3,500	\$40,266,828	\$6,902,885
South Korea	363,267	58%	23,69,10,11,12,15,20	210,695	18%	9,481	\$3,500	\$33,184,440	\$5,688,761
Australia	183,315	92%	23,45,9,10,11,12,15,20	168,650	18%	7,589	\$3,500	\$26,562,344	\$4,553,545
Taiwan	143,112	70%	23,79,10,11,12,15,20	100,178	18%	4,508	\$3,500	\$15,778,098	\$2,704,817
Netherlands	80,297	98%	23,59,10,11,12,15,20	78,691	18%	3,541	\$3,500	\$12,393,842	\$2,124,659
Canada	136,729	56%	23,49,10,11,12,15,20	76,568	18%	3,446	\$3,500	\$12,059,498	\$2,067,342
New Zealand	57,658	97%	23,49,10,11,12,15,20	55,928	18%	2,517	\$3,500	\$8,808,701	\$1,510,063
Israel	51,562	90%	23,89,10,11,12,15,20	46,406	18%	2,088	\$3,500	\$7,308,914	\$1,252,957
UAE	44,941	100%	23,79,10,11,12,15,20	44,941	18%	2,022	\$3,500	\$7,078,208	\$1,213,407
Norway	40,376	98%	23,49,10,11,12,15,20	39,568	18%	1,781	\$3,500	\$6,232,036	\$1,068,349
Switzerland	51,264	41%	23,49,10,11,12,15,20	21,018	18%	946	\$3,500	\$3,310,373	\$567,492
<b>Total:</b>				<b>216,750</b>				<b>\$758,625,167</b>	<b>\$130,050,029</b>

# Addressable Market Calculations of Sales and Recurring Fees for the Hospital Pharmacy Dosage Verification Device



## HOSPITAL PHARMACY Addressable Market

11/20/18

	Hospital Beds	EMR* Adoption	Footnote Reference	Beds with EMR*	Beds per Device	Number of Devices	Cost per Device	Addressable Sales	Yearly Fees
Japan	1,818,750	81%	23,619	1,473,188	178	8,300	\$5,000	\$41,498,239	\$29,878,732
USA	1,078,330	96%	12,319	1,035,197	178	5,832	\$5,000	\$29,160,473	\$20,995,541
Germany	734,412	82%	23,419	602,218	178	3,393	\$5,000	\$16,963,883	\$12,213,996
France	502,296	67%	23,419	336,538	178	1,896	\$5,000	\$9,479,953	\$6,825,566
United Kingdom	279,609	97%	23,419	271,221	178	1,528	\$5,000	\$7,640,021	\$5,500,815
Italy	260,880	98%	23,419	255,662	178	1,440	\$5,000	\$7,201,758	\$5,185,266
South Korea	363,267	58%	23,619	210,695	178	1,187	\$5,000	\$5,935,066	\$4,273,248
Australia	183,315	92%	23,45,19	168,650	178	950	\$5,000	\$4,750,699	\$3,420,503
Taiwan	143,112	70%	23,719	100,178	178	564	\$5,000	\$2,821,927	\$2,031,787
Netherlands	80,297	98%	23,45,19	78,691	178	443	\$5,000	\$2,216,650	\$1,595,988
Canada	136,729	56%	23,419	76,568	178	431	\$5,000	\$2,156,852	\$1,552,933
New Zealand	57,658	97%	23,419	55,928	178	315	\$5,000	\$1,575,444	\$1,134,320
Israel	51,562	90%	23,819	46,406	178	261	\$5,000	\$1,307,206	\$941,188
UAE	44,941	100%	23,719	44,941	178	253	\$5,000	\$1,265,944	\$911,479
Norway	40,376	98%	23,419	39,568	178	223	\$5,000	\$1,114,605	\$802,516
Switzerland	51,264	41%	23,419	21,018	178	118	\$5,000	\$592,063	\$426,285
<b>Total:</b>						<b>27,136</b>		<b>\$135,680,781</b>	<b>\$97,690,162</b>

## **Appendix A: Addressable Market Calculations for Pharmacy Robotics**

Robotics market :

100 million existent in USA.

We could provide 10 million extra in sales.

Multiply that by 4 for a rough global estimate and you get 40m.

Recurring robotic licensing fees:

Fees were estimated at 500,000 for the USA, and a rough global estimate was 4 times that amount or 2M.

## *Footnotes for Section on Addressable Markets*

### Footnotes I

- \* EHR=Electronic Health Record
- 1) Source of USA Certified EHR percentage: Office of National Coordinator for Health Information Technology, Data Brief 35, May, 2016 by
- JaWanna Henry, MPH; Yuriy Pylypchuk, PhD; Talisha Searcy, MPA, MA; Vaishali Patel, PhD MPH
- 2) <http://www.worldometers.info/world-population/population-by-country/>
- 3) <http://www.nationmaster.com/country-info/stats/Health/Hospital-beds/Per-1%2C000-people>
- 4) <https://www.quora.com/Which-country-is-the-leader-for-electronic-health-record-systems>
- 5) <http://journal.ahima.org/2012/11/28/study-us-lagging-behind-other-developed-countries-in-ehr-adoption/>
- 6) Rate of electronic health record adoption in South Korea: A nation-wide survey  
Young-Gun Kim, Kyoungwon Jung, Young-Taek Park, Dahye Shin, Soo Yeon Cho, Dukyong Yoon, Rae Woong Park
- [https://www.researchgate.net/publication/315373436\\_Rate\\_of\\_electronic\\_health\\_record\\_adoption\\_in\\_South\\_Korea\\_A\\_nation-wide\\_survey](https://www.researchgate.net/publication/315373436_Rate_of_electronic_health_record_adoption_in_South_Korea_A_nation-wide_survey)
- 7) Feasibility of extracting data from electronic medical records for research: an international comparative study  
Michelle Helena van Velthoven, Nikolaos Mastellos, Azeem Majeed, John O'Donoghue, and Josip Car
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4944506/>
- Additional file 2 Adoption of EMR and quality of their data

## *Footnotes for Section on Addressable Markets*

### Footnotes II

- 8) <https://www.ncbi.nlm.nih.gov/pubmed/15473582>
- 9) [https://www.hcup-us.ahrq.gov/reports/statbriefs/sb187-Hospital-  
Stays-Children-2012.pdf](https://www.hcup-us.ahrq.gov/reports/statbriefs/sb187-Hospital-Stays-Children-2012.pdf)
- file=DHI\_Addressable Market Tool Neos 9-20-18
- DigitalHospitalinc.com
- 10) Assumptions: one device per four beds of neo-nates or peds.
- 11) <http://www.checksutterfirst.org/children/services/nicu/> 61 bed  
NICU 0.10990991
- 12) <http://www.suttermedicalcenter.org/services/pediatrics.html>  
0.18018018 21 bed PICU 100 bed Peds
- 13) Robotics market : 100 million existent in USA, we could provide 10  
million extra in sales. Multiply that by 4 for a rough global estimate  
and you get 40m.

## *Footnotes for Section on Addressable Markets*

### Footnotes III

- 14) Recurring robotic licensing fees were estimated at 500,000 for the USA, and a rough global estimate was 4 times that amount or 2M.
- 15) Neo Natal and Pediatrics and High Alert drug verification does not require additional hardware purchases by the hospital. Only software updates.
- 16) Recurring monthly service charge per insulin verification device is \$20.
- 17) Estimating \$7,500 per device for software updates for High Alert Drug verifications. Recurring monthly service charges rise to \$50 per month.
- 18) Intentionally left blank.
- 19) Recurring monthly service charge per Under the Hood Pharmacy device is \$300.
- 20) Recurring monthly service charge per Neo Natal device and per Ped device is \$50.



**Appendix B -**

**See page 578**

**Pages 515-577 intentionally left blank.**

# Appendix B - Financial Projections Y1 - Y7 Post Money

for

# Digital Hospital's Product Line



First Year Projections	Totals
<b>General Expenses:</b>	
Conference Costs <sup>1</sup>	\$102,500
Legal - Patents <sup>2,3</sup>	\$18,000
Legal - non Patent <sup>3,39</sup>	\$41,000
Legal - FDA <sup>4</sup>	\$20,000
Accountant <sup>3</sup>	\$9,000
General Administration <sup>3,5</sup>	\$15,000
Office/Lab <sup>32</sup>	\$54,000
Clinical Testing <sup>6</sup>	\$45,450
<b>Total General Expenses</b>	<b>\$304,950</b>
<b>Design Phases</b>	
Industrial Design <sup>7,9,10,14</sup>	\$94,000
Electrical Engineering <sup>7,8,12,14</sup>	\$75,000
Mechanical Engineering <sup>7,11,13,14</sup>	\$81,500
Materials	
<b>Total Design and Engineering Costs</b>	<b>\$250,500</b>

Payroll	
HL7 Software Engineer	\$195,000
Java Engineer	\$195,000
Junior Software Engineer	\$75,000
Hardware Engineer	\$195,000
CEO/President	\$195,000
Corporate Development Vice President	\$195,000
Sales Manager	\$75,000
Operations Manager/HR	\$50,004
Tech Support / Documentation	\$50,004
Quality Assurance Engineer	\$50,004
35 Percent Salary Overhead	\$446,254
<b>Total Payroll</b>	<b>\$1,721,266</b>
<b>First Year Funding Required :</b>	<b>\$2,279,966</b>



Second Year Projections	Totals
<b>New Sales to begin one-year Hospital Pay Cycle</b>	
New Hospital Site Sales <sup>15</sup>	24
New Insulin Unit Sales <sup>15</sup>	1230
New Neo Unit Sales <sup>15</sup>	283
New Ped Unit Sales <sup>15</sup>	226
New High Alert Unit Sales <sup>15</sup>	145
New Pharmacy Unit Sales <sup>15</sup>	2
<b>Total Number of All Types of Unit Sales</b>	<b>1,886</b>
<b>General Expenses:</b>	
Conference Costs <sup>1</sup>	\$130,000
Legal - Patents <sup>2,3</sup>	\$18,000
Legal - non Patent <sup>3</sup>	\$18,000
Legal - FDA <sup>4</sup>	\$60,000
Accountant <sup>3</sup>	\$9,000
General Administration <sup>3,5</sup>	\$5,000
Clinical Testing <sup>6</sup>	\$91,800
Office/Lab <sup>32</sup>	
<b>Totals General Costs</b>	<b>\$336,300</b>
<b>Payroll</b>	
HL7 Software Engineer	\$195,000

Java Engineer	\$195,000
Junior Software Engineer	\$75,000
Hardware Engineer	\$195,000
CEO/President	\$195,000
Corporate Development Vice President	\$195,000
Sales Manager	\$75,000
Operations Manager	\$50,004
Tech Support / Documentation	\$50,004
Quality Assurance Engineer	\$50,004
35 Percent Salary Overhead	\$446,254
<b>Total Payroll</b>	<b>\$1,721,266</b>
<b>Second Year Funding Required :</b>	<b>\$2,107,066</b>
<b>First and Second Year Funding Required :</b>	<b>\$4,387,032</b>

Digital Hospital, Inc.		Y3
<b>Third Year Projections</b>		<b>Totals</b>
<b>New Sales (begins one-year Hospital Pay Cycle)</b>		
New Hospital Site Sales <sup>15</sup>		46
New Insulin Unit Sales <sup>15,23</sup>		1820
New Neo Unit Sales <sup>15,23,24</sup>		455
New Ped Unit Sales <sup>15,23,25</sup>		455
New High Alert Unit Sales <sup>15,23,26</sup>		455
New Pharmacy Unit Sales <sup>15,23</sup>		46
<b>Total Number of All Types of Unit Sales</b>		<b>3,231</b>
<b>General Expenses:</b>		
Conference Costs <sup>1</sup>	\$130,000	
Legal - Patents <sup>2,3</sup>	\$18,000	
Legal - non Patent <sup>3</sup>	\$18,000	
Legal - FDA <sup>4</sup>	\$6,000	
Accountant <sup>3</sup>	\$9,000	
General Administration <sup>3,5</sup>	\$5,000	
Office Rent <sup>32</sup>	\$54,000	
Clinical Testing <sup>6</sup>	\$45,450	
<b>Totals: General Expenses</b>	<b>\$285,450</b>	
<b>Payroll</b>		
HL7 Software Engineer	\$195,000	
Java Engineer	\$195,000	
Junior Software Engineer	\$75,000	
Hardware Engineer	\$195,000	
CEO/President	\$195,000	
Corporate Development Vice President	\$195,000	
Sales Manager	\$75,000	
Operations Manager	\$50,004	
Tech Support / Documentation	\$50,004	
Quality Assurance Engineer	\$50,004	
Installation Engineer #1	\$75,000	
Installation Engineer #2	\$75,000	
35 Percent Salary Overhead	\$498,754	
<b>Total Payroll</b>	<b>\$1,923,766</b>	
<b>Third Year Install and Manufacturing Expense <sup>33</sup></b>		
Hospital Sites for Previous Year Sales <sup>25</sup>		24
Installation Expenses for Sites <sup>19</sup>	\$108,000	
Previous Year Insulin Unit Sales <sup>15</sup>		1230
Manufacturing Costs for Insulin Units <sup>18</sup>	\$1,162,350	

Previous Year Neo Unit Sales <sup>15</sup>	282.5
Manufacturing Costs for Neo Units <sup>18</sup>	\$266,963
Previous Year Ped Unit Sales <sup>15</sup>	226.25
Manufacturing Costs for Ped Units <sup>18</sup>	\$213,806
Previous Year High Alert Unit Sales <sup>15</sup>	145
Manufacturing Costs-High Alert Units <sup>18</sup>	\$137,025
Previous Year Pharmacy Unit Sales <sup>15</sup>	2
Manufacturing Costs-Pharmacy Units <sup>18</sup>	\$2,390
<b>Totals: Manufacture Expenses</b>	<b>\$1,782,534</b>
<b>Totals: Expenses -Install &amp; Manufacture</b>	<b>\$1,890,534</b>

<b>Third Year Revenue <sup>15</sup></b>	
Previous Year Insulin Unit Sales <sup>15</sup>	1230
Revenue from Insulin Device Sales <sup>16</sup>	\$3,075,000
Total Installed Insulin Units	1230
Revenue from Insulin Service Fees <sup>17</sup>	\$129,300
Previous Year Neo Unit Sales <sup>15</sup>	282.5
Revenue from Neo Device <sup>16</sup>	\$988,750
Total Installed Neo Devices	283
Revenue - Neo Device Service Fees <sup>17</sup>	\$66,438
Previous Year Ped Unit Sales <sup>15</sup>	226.25
Revenue from Ped Device <sup>16</sup>	\$791,875
Total Installed Ped Devices	226
Revenue - Ped Device Service Fees <sup>17</sup>	\$11,313
Previous Year High Alert Unit Sales <sup>15</sup>	145
Revenue from High Alert Device Sales <sup>16</sup>	\$1,087,500
Total Installed High Alert Devices	348
Revenue from High Alert Service Fees <sup>17</sup>	\$10,425
Previous Year Pharmacy Unit Sales <sup>15</sup>	2
Revenue from Pharmacy Device	\$10,000
Total Installed Pharmacy Devices	2
Revenue from Pharmacy Service Fees <sup>17</sup>	\$600
Revenue from monthly fees	\$218,075
Revenue from product sales	\$5,953,125
<b>Revenue Totals</b>	<b>\$6,171,200</b>
<b>Net Revenue <sup>31</sup> (EBIDTA <sup>30</sup>) :</b>	<b>\$2,071,450</b>

<b>Third Year Funding Required:</b>	<b>(\$256,305)</b>
First Quarter Funding Required :	
Second Quarter Funding Required :	
Third Quarter Funding Required :	
Fourth Quarter Funding Required :	
<b>Y1, Y2, &amp; Y3 Funding Required:</b>	<b>\$4,130,727</b>

<b>Total Installed Hospitals</b>	
Total Hospital Sites installed this year	24
Total Installed Hospital Sites Y3	24

	
Fourth Year Projections	Totals
<b>New Sales (begins one-year Hospital Pay Cycle)</b>	
New Hospital Site Sales <sup>15</sup>	54
New Insulin Unit Sales <sup>15,23</sup>	3,130
New Neo Unit Sales <sup>15,23,24</sup>	783
New Ped Unit Sales <sup>15,23,25</sup>	783
New High Alert Unit Sales <sup>15,23,26</sup>	783
New Pharmacy Unit Sales <sup>15,23</sup>	54
<b>Total Number of All Types of Unit Sales</b>	<b>5,532</b>

<b>General Expenses:</b>	
Conference Costs <sup>1</sup>	\$130,000
Legal - Patents <sup>2,3</sup>	\$18,000
Legal - non Patent <sup>3</sup>	\$18,000
Legal - FDA <sup>4</sup>	\$3,000
Accountant <sup>3</sup>	\$9,000
General Administration <sup>3,5</sup>	\$5,000
Office Rent <sup>32</sup>	\$54,000
Clinical Testing <sup>6</sup>	\$45,450
<b>Totals: General Expenses</b>	<b>\$282,450</b>

<b>Payroll</b>	
HL7 Software Engineer	\$195,000
Java Engineer	\$195,000
Junior Software Engineer	\$75,000
Hardware Engineer	\$195,000
CEO/President	\$195,000
Corporate Development Vice President	\$195,000
Sales Manager	\$75,000
Operations Manager/HR	\$50,004
Tech Support / Documentation	\$50,004
Quality Assurance Engineer	\$50,004
Installation Engineer #1	\$75,000
Installation Engineer #2	\$75,000
Installation Engineer #3	\$75,000
Installation Engineer #4	\$75,000
35 Percent Salary Overhead	\$551,254
<b>Total Payroll</b>	<b>\$2,126,266</b>

<b>Install and Manufacturing Expense <sup>33</sup></b>	
Hospital Sites for Previous Year Sales <sup>15</sup>	46
Installation Expenses for Sites <sup>19</sup>	\$207,000
Previous Year Insulin Unit Sales <sup>15</sup>	1820
Manufacturing Costs for Insulin Units <sup>18</sup>	\$1,719,900
Previous Year Neo Unit Sales <sup>15</sup>	455

Manufacturing Costs for Neo Units <sup>18</sup>	\$429,975
Previous Year Ped Unit Sales <sup>15</sup>	455
Manufacturing Costs for Ped Units <sup>18</sup>	\$429,975
Previous Year High Alert Unit Sales <sup>15</sup>	455
Manufacturing Costs-High Alert Units <sup>18</sup>	\$429,975
Previous Year Pharmacy Unit Sales <sup>15</sup>	46
Manufacturing Costs-Pharmacy Units <sup>18</sup>	\$43,470
<b>Totals: Manufacture Expenses</b>	<b>\$3,053,295</b>
<b>Totals: Expenses -Install &amp; Manufacture</b>	<b>\$3,260,295</b>

<b>Fourth Year Revenue <sup>15</sup></b>	
Previous Year Insulin Unit Sales <sup>15</sup>	1820
Revenue from Insulin Device Sales <sup>16</sup>	\$4,550,000
Total Installed Insulin Units	3050
Revenue from Insulin Device Service Fees	\$497,400
Previous Year Neo Unit Sales <sup>15</sup>	455
Revenue from Neo Device <sup>16</sup>	\$1,592,500
Total Installed Neo Devices	738
Revenue - Neo Device Service Fees <sup>17</sup>	\$295,875
Previous Year Ped Unit Sales <sup>15</sup>	455
Revenue from Ped Device <sup>16</sup>	\$1,592,500
Total Installed Ped Devices	681
Revenue - Ped Device Service Fees <sup>17</sup>	\$262,125
Previous Year High Alert Unit Sales <sup>15</sup>	455
Revenue from High Alert Device Sales <sup>16</sup>	\$3,412,500
Total Installed High Alert Devices	803
Revenue from High Alert Service Fees <sup>17</sup>	\$200,925
Previous Year Pharmacy Unit Sales <sup>15</sup>	46
Revenue from Pharmacy Device <sup>16</sup>	\$230,000
Total Installed Pharmacy Devices	48
Revenue from Pharmacy Service Fees <sup>17</sup>	\$93,900
Revenue from monthly fees	\$1,350,225
Revenue from product sales	\$11,377,500
<b>Gross Revenue</b>	<b>\$12,727,725</b>
<b>Net Revenue <sup>31</sup> (EBIDTA <sup>30</sup>) :</b>	<b>\$7,058,714</b>

<b>Fourth Year Funding Required:</b>	<b>\$0</b>
First Quarter Funding Required :	
Second Quarter Funding Required :	
Third Quarter Funding Required :	
Fourth Quarter Funding Required :	
<b>Y1, Y2, Y3 &amp; Y4 Funding Required:</b>	<b>\$0</b>

<b>Total Installed Hospitals</b>	
Total Hospital Sites installed this year	46
Total Installed Hospital Sites Y4	70

vs	
Fifth Year Projections	Totals
<b>New Sales (begins one-year Hospital Pay Cycle)</b>	
New Hospital Site Sales <sup>15</sup>	82
New Insulin Unit Sales <sup>15,23</sup>	3,980
New Neo Unit Sales <sup>15,23,24</sup>	995
New Ped Unit Sales <sup>15,23,25</sup>	995
New High Alert Unit Sales <sup>15,23,26</sup>	995
New Pharmacy Unit Sales <sup>15,23</sup>	82
<b>General Expenses:</b>	
Conference Costs <sup>1</sup>	\$130,000
Legal - Patents <sup>2,3</sup>	\$18,000
Legal - non Patent <sup>3</sup>	\$18,000
Legal - FDA <sup>4</sup>	\$2,400
Accountant <sup>3</sup>	\$9,000
General Administration <sup>3,5</sup>	\$5,000
Office Rent <sup>3,2</sup>	\$54,000
Clinical Testing <sup>6</sup>	\$45,450
<b>Totals: General Expenses</b>	<b>\$281,850</b>
<b>Payroll</b>	
HL7 Software Engineer	\$195,000
Java Engineer	\$195,000
Junior Software Engineer	\$75,000
Hardware Engineer	\$195,000
CEO/President	\$195,000
Corporate Development Vice President	\$195,000
Sales Manager	\$75,000
Operations Manager	\$50,004
Tech Support / Documentation	\$50,004
Quality Assurance Engineer	\$50,004
Installation Engineer #1	\$75,000
Installation Engineer #2	\$75,000
Installation Engineer #3	\$75,000
Installation Engineer #4	\$75,000
Installation Engineer #5	\$75,000
Installation Engineer #6	\$75,000
35 Percent Salary Overhead	\$603,754
<b>Total Payroll</b>	<b>\$2,328,766</b>
<b>Install and Manufacturing Expense <sup>33</sup></b>	
Hospital Sites for Previous Year Sales <sup>15</sup>	54
Installation Expenses for Sites <sup>19</sup>	\$243,000

Previous Year Insulin Unit Sales <sup>15</sup>	3130
Manufacturing Costs for Insulin Units <sup>18</sup>	\$2,957,850
Previous Year Neo Unit Sales <sup>15</sup>	783
Manufacturing Costs for Neo Units <sup>18</sup>	\$739,463
Previous Year Ped Unit Sales <sup>15</sup>	782.5
Manufacturing Costs for Ped Units <sup>18</sup>	\$739,463
Previous Year High Alert Unit Sales <sup>15</sup>	782.5
Manufacturing Costs-High Alert Units <sup>18</sup>	\$739,463
Previous Year Pharmacy Unit Sales <sup>15</sup>	54
Manufacturing Costs-Pharmacy Units <sup>18</sup>	\$64,530
<b>Totals: Manufacture Expenses</b>	<b>\$5,240,768</b>
<b>Totals: Expenses -Install &amp; Manufacture</b>	<b>\$5,483,768</b>

Fifth Year Revenue <sup>15</sup>	
Previous Year Insulin Unit Sales <sup>15</sup>	3130
Revenue from Insulin Device Sales <sup>16</sup>	\$7,825,000
Total Installed Insulin Units	6180
Revenue from Insulin Device Service Fees	\$1,105,200
Previous Year Neo Unit Sales <sup>15</sup>	782.5
Revenue from Neo Device <sup>16</sup>	\$2,738,750
Total Installed Neo Devices	1,520
Revenue - Neo Device Service Fees <sup>17</sup>	\$675,750
Previous Year Ped Unit Sales <sup>15</sup>	782.5
Revenue from Ped Device <sup>16</sup>	\$2,738,750
Total Installed Ped Devices	1,464
Revenue - Ped Device Service Fees <sup>17</sup>	\$642,000
Previous Year High Alert Unit Sales <sup>15</sup>	782.5
Revenue from High Alert Device Sales <sup>16</sup>	\$3,912,500
Total Installed High Alert Devices	1,585
Revenue from High Alert Service Fees <sup>17</sup>	\$428,850
Previous Year Pharmacy Unit Sales <sup>15</sup>	54
Revenue from Pharmacy Device <sup>16</sup>	\$270,000
Total Installed Pharmacy Devices	102
Revenue from Pharmacy Service Fees <sup>17</sup>	\$272,700
Revenue from monthly fees	\$3,124,500
Revenue from product sales	\$17,485,000
<b>Revenue Totals</b>	<b>\$20,609,500</b>
<b>Net Revenue <sup>31</sup> (EBIDTA <sup>30</sup>) :</b>	<b>\$12,515,116</b>

Fifth Year Funding Required: \$0

Total Installed Hospitals	
Total Hospital Sites installed this year	54
Total Installed Hospital Sites Y5	124

Sixth Year Projections		Totals
<b>New Sales (begins one-year Hospital Pay Cycle)</b>		
New Hospital Site Sales <sup>15</sup>		156
New Insulin Unit Sales <sup>15,23</sup>		8,100
New Neo Unit Sales <sup>15,23,24</sup>		2,025
New Ped Unit Sales <sup>15,23,25</sup>		2,025
New High Alert Unit Sales <sup>15,28,26</sup>		2,025
New Pharmacy Unit Sales <sup>15,23</sup>		156
Total number of units sold		14,331
<b>General Expenses:</b>		
Conference Costs <sup>1</sup>		\$130,000
Legal - Patents <sup>2,3</sup>		\$18,000
Legal - non Patent <sup>3</sup>		\$18,000
Legal - FDA <sup>4</sup>		\$1,800
Accountant <sup>1</sup>		\$9,000
General Administration <sup>3,5</sup>		\$5,000
Office Rent <sup>32</sup>		\$54,000
Clinical Testing <sup>6</sup>		\$45,450
Totals: General Expenses		\$281,250
<b>Payroll</b>		
HL7 Software Engineer		\$195,000
Java Engineer		\$195,000
Junior Software Engineer		\$75,000
Hardware Engineer		\$195,000
CEO/President		\$195,000
Corporate Development Vice President		\$195,000
Sales Manager		\$75,000
Operations Manager		\$50,004
Tech Support / Documentation		\$50,004
Quality Assurance Engineer		\$50,004
Installation Engineer #1		\$75,000
Installation Engineer #2		\$75,000
Installation Engineer #3		\$75,000
Installation Engineer #4		\$75,000
Installation Engineer #5		\$75,000
Installation Engineer #6		\$75,000
Installation Engineer #7		\$75,000
Installation Engineer #8		\$75,000
35 Percent Salary Overhead		\$656,254
Total Payroll		\$2,531,266

Install and Manufacturing Expense <sup>33</sup>	
Hospital Sites for Previous Year Sales <sup>15</sup>	82
Installation Expenses for Sites <sup>19</sup>	\$369,000
Previous Year Insulin Unit Sales <sup>15</sup>	3980
Manufacturing Costs for Insulin Units <sup>18</sup>	\$3,761,100
Previous Year Neo Unit Sales <sup>15</sup>	995
Manufacturing Costs for Neo Units <sup>18</sup>	\$940,275
Previous Year Ped Unit Sales <sup>15</sup>	995
Manufacturing Costs for Ped Units <sup>18</sup>	\$940,275
Previous Year High Alert Unit Sales <sup>15</sup>	995
Manufacturing Costs-High Alert Units <sup>18</sup>	\$940,275
Previous Year Pharmacy Unit Sales <sup>15</sup>	82
Manufacturing Costs-Pharmacy Units <sup>18</sup>	\$97,990
Totals: Manufacture Expenses	\$6,679,915
Totals: Expenses -Install & Manufacture	\$7,048,915

Sixth Year Revenue <sup>15</sup>	
Previous Year Insulin Unit Sales <sup>15</sup>	3980
Revenue from Insulin Device Sales <sup>16</sup>	\$9,950,000
Total Installed Insulin Units	10160
Revenue from Insulin Device Service Fees	\$1,957,000
Previous Year Neo Unit Sales <sup>15</sup>	995
Revenue from Neo Device <sup>16</sup>	\$3,482,500
Total Installed Neo Devices	2,515
Revenue - Neo Device Service Fees <sup>17</sup>	\$1,208,125
Previous Year Ped Unit Sales <sup>15</sup>	995
Revenue from Ped Device <sup>16</sup>	\$3,482,500
Total Installed Ped Devices	2,459
Revenue - Ped Device Service Fees <sup>17</sup>	\$1,174,375
Previous Year High Alert Unit Sales <sup>15</sup>	995
Revenue from High Alert Device Sales <sup>16</sup>	\$4,975,000
Total Installed High Alert Devices	2,580
Revenue from High Alert Service Fees <sup>17</sup>	\$748,275
Previous Year Pharmacy Unit Sales <sup>15</sup>	82
Revenue from Pharmacy Device <sup>16</sup>	\$410,000
Total Installed Pharmacy Devices	184
Revenue from Pharmacy Service Fees <sup>17</sup>	\$516,900
Revenue from monthly fees	\$5,604,675
Revenue from product sales	\$22,300,000
Revenue Totals	\$27,904,675
Net Revenue <sup>31</sup> (EBIDTA <sup>30</sup> ) :	\$18,043,244
Funding Required:	\$0
<b>Total Installed Hospitals</b>	
Total Hospital Sites installed this year	82
Total Installed Hospital Sites	206



v.12-27-18 Y7 9am	
Seventh Year Projections	Totals
<b>New Sales (begins one-year Hospital Pay Cycle)</b>	
New Hospital Site Sales <sup>15</sup>	220
New Insulin Unit Sales <sup>15,23</sup>	14,400
New Neo Unit Sales <sup>15,23,24</sup>	3,600
New Ped Unit Sales <sup>15,23,25</sup>	3,600
New High Alert Unit Sales <sup>15,23,26</sup>	3,600
New Pharmacy Unit Sales <sup>15,23</sup>	156
<b>Total number of units sold</b>	<b>25,356</b>
<b>General Expenses:</b>	
Conference Costs <sup>1</sup>	\$130,000
Legal - Patents <sup>2,3</sup>	\$18,000
Legal - non Patent <sup>3</sup>	\$18,000
Legal - FDA <sup>4</sup>	\$1,800
Accountant <sup>3</sup>	\$9,000
General Administration <sup>3,5</sup>	\$5,000
Office Rent <sup>32</sup>	\$54,000
Clinical Testing <sup>6</sup>	\$45,450
<b>Totals: General Expenses</b>	<b>\$281,250</b>
<b>Payroll</b>	
HL7 Software Engineer	\$195,000
Java Engineer	\$195,000
Junior Software Engineer	\$75,000
Hardware Engineer	\$195,000
CEO/President	\$195,000
Corporate Development Vice President	\$195,000
Sales Manager	\$75,000
Operations Manager	\$50,004
Tech Support / Documentation	\$50,004
Quality Assurance Engineer	\$50,004
Installation Engineer #1	\$75,000
Installation Engineer #2	\$75,000
Installation Engineer #3	\$75,000
Installation Engineer #4	\$75,000
Installation Engineer #5	\$75,000
Installation Engineer #6	\$75,000
Installation Engineer #7	\$75,000
Installation Engineer #8	\$75,000
Installation Engineer #9	\$75,000
Installation Engineer #10	\$75,000
35 Percent Salary Overhead	\$656,254
<b>Total Payroll</b>	<b>\$2,681,266</b>

<b>Install and Manufacturing Expense <sup>33</sup></b>	
Hospital Sites for Previous Year Sales <sup>15</sup>	82
Installation Expenses for Sites <sup>19</sup>	\$369,000
Previous Year Insulin Unit Sales <sup>15</sup>	8100
Manufacturing Costs for Insulin Units <sup>18</sup>	\$7,654,500
Previous Year Neo Unit Sales <sup>15</sup>	2025
Manufacturing Costs for Neo Units <sup>18</sup>	\$1,913,625
Previous Year Ped Unit Sales <sup>15</sup>	2,025
Manufacturing Costs for Ped Units <sup>18</sup>	\$1,913,625
Previous Year High Alert Unit Sales <sup>15</sup>	2,025
Manufacturing Costs-High Alert Units <sup>18</sup>	\$1,913,625
Previous Year Pharmacy Unit Sales <sup>15</sup>	156
Manufacturing Costs-Pharmacy Units <sup>18</sup>	\$186,420
<b>Totals: Manufacture Expenses</b>	<b>\$13,581,795</b>
<b>Totals: Expenses -Install &amp; Manufacture</b>	<b>\$13,950,795</b>

<b>Seventh Year Revenue <sup>15</sup></b>	
Previous Year Insulin Unit Sales <sup>15</sup>	8100
Revenue from Insulin Device Sales <sup>16</sup>	\$20,250,000
Total Installed Insulin Units	18,260
Revenue from Insulin Device Service Fees	\$3,398,400
Previous Year Neo Unit Sales <sup>15</sup>	2025
Revenue from Neo Device <sup>16</sup>	\$7,087,500
Total Installed Neo Devices	4,540
Revenue - Neo Device Service Fees <sup>17</sup>	\$2,109,000
Previous Year Ped Unit Sales <sup>15</sup>	995
Revenue from Ped Device <sup>16</sup>	\$3,482,500
Total Installed Ped Devices	3,454
Revenue - Ped Device Service Fees <sup>17</sup>	\$1,771,375
Previous Year High Alert Unit Sales <sup>15</sup>	4500
Revenue from High Alert Device Sales <sup>16</sup>	\$22,500,000
Total Installed High Alert Devices	7,080
Revenue from High Alert Service Fees <sup>17</sup>	\$2,548,800
Previous Year Pharmacy Unit Sales <sup>15</sup>	156
Revenue from Pharmacy Device <sup>16</sup>	\$780,000
Total Installed Pharmacy Devices	340
Revenue from Pharmacy Service Fees <sup>17</sup>	\$939,600
Revenue from monthly fees	\$10,767,175
Revenue from product sales	\$54,100,000
<b>Revenue Totals</b>	<b>\$64,867,175</b>
<b>Net Revenue <sup>31</sup> (EBIDTA <sup>30</sup>) :</b>	<b>\$47,953,864</b>

Funding Required: \$0

### Total Installed Hospitals

Total Hospital Sites installed this year	82
Total Installed Hospital Sites	288

## Financial Projections Footnotes pp1

Reference Notes (Financial Projections):

#1-13 v12-25-18 11am

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- 1) We are estimating to visit one small conference a month for marketing, using the site visit costs (see note 20) for three days. However, after the Beta prototypes are built in Y1Q3, ASHP will be our launch conference in December. Starting in Y2Q2 we will also have a booth at CSHP in June. Conference expenses are added to Customer Acquisition Costs (CAC).
- 2) Maintenance of our existing patent applications, plus expansion of patent applications into other countries, plus estimating 2 new patent applications per year.
- 3) Estimate based on previous years.
- 4) FDA lawyer has suggested we file a predicate exemption when we are ready to go to market.
- 5) General Administration includes expenses such as Internet; App Subscriptions; Storage; Phone; Supplies, and Bank Charges.
- 6) Clinical Testing costs are mainly the costs of devices needed, plus installation. Assume 10 devices. For installation costs see note 19. For device costs, see note 18. We will assume an additional installation cost (note 19) each month we are running the clinical trial, in other words 7 days on site. In the first year, from January to September, we will have non-patient studies requiring our laboratory prototypes, nurses, and insulin.
  - 7) Mighty Studios created these estimates for funding our project through Beta build.
  - 8) Year 1: Phase 1: Electrical Engineering Deliverables: Statement of Work with detailed schedule and costing; Detailed Requirements Document; Detailed Execution Plan.
  - 9) Year 1: Phase 1: Industrial Design Deliverables: Detailed System Architecture; Detailed Design Document.
  - 10) Year 1: Phase 2: Industrial Design Deliverables: Industrial Design CAD model (which will be handed off to Mechanical Engineering team) including: surface geometry (shape and form); suggested parts and materials; colors and textures; CAD surface database; Fabrication of full scale appearance model... painted and with surface finish, and logo placement); renderings; Color, Material and Finish (CMF) specification.
  - 11) Year 1: Phase 3: Deliverables: Mechanical Engineering: Detailed Mechanical Design including: Detailed component design allowing manufacturable components including fit,function,draft, wall thickness, assembly and serviceability; CAD databases released to Digital Hospital, Inc.; Specifications for all materials to be used in the prototypes; Proposed Manufacturing processes.
  - 12) Year 1: Phase 3: Deliverables: Electrical Engineering: Bill of Materials (BOM); Detailed schematics; 3D Solidworks model for functional prototype release; Produce 2 Alpha Prototypes; Preliminary 2D Documentation with XYZ and Critical To Function (CTF) dimensions; preliminary Bill of Materials (BOM) [Phase 3 Electrical Engineering estimates are less by half than those from our source, Mighty Studios, due to non-necessity of custom Printed Circuit Board (PCB) layout and manufacture.]
  - 13) Year 1: Phase 4: Deliverables: Mechanical Engineering: Iterate the design required for Beta; Fabrication and assembly of Three Beta units; release files to production vendor; revised CAD database; Production documentation released to selected vendor.

## Financial Projections Footnotes pp2

4) Here is an image of the Design Studio's estimates, upon which we are basing many of our design and prototype financial projections:



Reference Notes (Financial Projections): #14-14 v.12-25-18

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### Estimated Fees

The table below shows the estimated Time & Materials (T&M) budget for the phases of the project. The T&M estimates shown below are based on our current understanding of the project's content, complexity, and our experience with similar projects. The T&M estimates shown below are based on assumptions and understandings outlined in this proposal. Project needs often change during the course of a project and may affect the division of responsibilities or the project scope.

An estimated materials cost for each phase has also been provided for budgeting purposes. This estimate will be revised later in the project. We charge a 20% handling fee for materials, out of area travel expenses, and prototype purchases.

Description	Labor Estimates		Materials Estimates	Estimated Duration
	Low	High		
<b>Phase 0: Exploratory Research</b>				
Industrial Design	\$41,500	\$60,500	\$10,000	3 to 5 Weeks
Design Research	\$5,000	\$7,500	\$7,500	
Mechanical Engineering	\$25,000	\$35,000	\$2,500	
Electrical Engineering	\$1,500	\$3,000	\$0	
	\$10,000	\$15,000	\$0	
<b>Phase 1: Concept Exploration</b>				
Industrial Design	\$73,000	\$90,000	\$6,500	5 to 7 Weeks
Design Research	\$22,000	\$27,000	\$2,500	
Mechanical Engineering	\$25,000	\$30,000	\$4,000	
Electrical Engineering	\$3,500	\$5,500	\$0	
	\$22,500	\$27,500	\$0	
<b>Phase 2: Concept Refinement</b>				
Industrial Design	\$33,000	\$40,000	\$13,000	4 to 6 Weeks
Mechanical Engineering	\$25,500	\$27,500	\$4,000	
Electrical Engineering	\$5,000	\$7,500	\$4,000	
	\$2,500	\$5,000	\$5,000	
<b>Phase 3: Mechanical Design &amp; Alpha Build</b>				
Mechanical Engineering	\$95,500	\$110,500	\$15,500	6 to 8 Weeks
Industrial Design Oversight	\$22,500	\$25,500	\$8,000	
Electrical Engineering	\$3,000	\$5,000	\$0	
	\$70,000	\$80,000	\$7,500	
<b>Phase 4: Beta Prototypes &amp; Pilot Build</b>				
Mechanical Engineering	\$27,000	\$35,000	\$8,000	6 to 8 Weeks
Industrial Design Oversight	\$22,000	\$25,000	\$8,000	*Pilot Build Costs TBD
Electrical Engineering	\$2,500	\$5,000	\$0	
	\$2,500	\$5,000	\$0	
<b>Totals (Incl. Material Estimates)</b>	<b>Low</b>	<b>High</b>	<b>Materials Estimates</b>	<b>Duration</b>
	\$270,000	\$336,000	\$53,000	24 to 34 Weeks

## Financial Projections Footnotes pp3 Notes 15-22 12-25-2018



Confidential



15) Normal Hospital pay cycle is one year from actual sales date, or the end of their fiscal year if that comes sooner. We will estimate here for a one year pay cycle.

(Due to Previous Year Sales reaching end of one-year Hospital Pay Cycle. Since there is revenue from the previous year, we will manufacture and install this year.)

We estimate to install one year after actual Sales date, when we for certain have revenue in pocket.

16) Sales Prices:

Sales Price Insulin Device	\$2,500
Sales Price Neo Device	\$3,500
Sales Price Peds Device	\$3,500
Sales Price High Alert Drug Device	\$7,500
Sales Price Pharmacy Device	\$5,000

17) Monthly Service fee per unit:

Insulin Device monthly fee	\$20
Neo device monthly fee	\$50
Peds device monthly fee	\$50
High Alert Drug Device monthly fee	\$30
Pharmacy Device monthly fee	\$300

18) Manufacturing cost: \$945 Parts List

Computer	\$150	Board and other control electronics
Touch Screen:	\$100	
Camera:	\$50	
Printer	\$200	Pharmacy Unit requires exterior printer:
Illuminator	\$10	\$450
Power Supply	\$10	
Enclosure	\$150	Based on Aluminum housing prototype at \$500 per enclosure.

Assembly: \$200 Based on local Manufacturing Factory saying they could do the whole unit for less than \$1000.  
 Testing: \$25 Based on local Manufacturing Factory saying they could do the whole unit for less than \$1000.  
 Packaging: \$50 Based on local Manufacturing Factory saying they could do the whole unit for less than \$1000.

19) Installation Cost (per site): \$4,500 Installation Cost determined by per diem Site Visit(see note 20) times the number of days needed to install system.  
 Travel expense is only charged once per installation for estimating purposes.  
 Days required for Installation 7

20) One Site Visit Cost:

Travel	1000
Room&Board-per day	400
Car & misc: (per day)	100

21) Cost of Site visits per customer \$8,400 Days required for Acquisition 9 Number of visits requiring travel: 3  
 Acquisition Cost determined by per diem Site Visit (see note 20), times the number of days needed to acquire customer,

## Financial Projections Footnotes pp4 Notes 23-39 12-25-2018

Reference Notes (Financial Projections): #23-27 v.12-25-18

23) The hardware used for an insulin device is the same hardware for the neo, ped, and high alert.

Only a change in software is needed to manufacture these new devices.  
The pharmacy device will have a slight adaptation to the original hardware.

24) Neo units sales estimated at 25% of insulin units sales.

25) Ped units sales estimated at 25% of insulin units sales.

26) High Alert units sales estimated at 25% of insulin units sales.

27) Pharmacy units sales estimated at 1 unit per new site.

Reference Notes (Financial Projections): #29-39 v. 12-25-18

29) Conferences and clinical testing costs are detailed in General Expenses section of each year.

30) EBITDA  
Earnings before Interest, Depreciation, Taxes, Amortization

31) Net Revenue = Subtract Payroll, Install, Manufacturing & General Expenses from Gross Revenue.

32) Office will be in San Jose, CA where 1500 sq. ft. at \$3/sq ft/month will cost \$4500 per month. (150 sq. ft. per worker)

33) Due to one-year long Hospital Pay Cycle, we will manufacture and install this year for the previous year's sales.

34) Average Retained Customer Product Cost is based on the number of units sold, which is estimated at being  
7% of the customer's initial number of units purchased. (see note 18)

35) For retained customers, average Retained Customer Yearly Revenue is calculated by adding recurring monthly fees and  
7% of initial purchase of equipment, divided by number of customers.  
Revenue is received in the next year. Reference next years revenue numbers.

36) Upselling and Retention Costs estimated as:  
3  
site visits per year. See note 20 for cost of site visit breakdown.

37) The Customer's First year average sales and the First year's average install and manufacturing costs are inserted in the first year of the CLV spreadsheet.


38) Due to Hospital one year pay cycle between sales and payout to manufacturer.

39) Legal non-patent charges in the first year include a \$35,000 legacy liability cost.

## Appendix C:

## Use of Computer Vision to Identify the Frequency and Magnitude of Insulin Syringe Preparation Errors

Ann Cabri, PharmD<sup>1</sup> , Berit Bagley, RN, MSN, CDECS<sup>2</sup>, and Kevin Brown, PharmD, FCSHP<sup>3</sup>

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### Abstract

**Background:** No current technology exists to ensure the dose of insulin administered in hospitals matches the physician order.

**Objective:** Assess the feasibility of using computer vision to identify insulin syringe preparation errors.

**Methods:** Twenty-two nurses prepared 50 insulin doses (n=1100) each. A computer vision device (CVD) measured the volume drawn up and identified air present. Syringes identified as inaccurate by the CVD were confirmed by two observers, and a random sample of 100 syringes identified as accurate was validated by two independent observers.

**Results:** Ten syringes (1.0%) had the wrong volume prepared, and 68 syringes (6.5%) contained air sufficient to meet the definition of inaccuracy. All errors were confirmed by two independent observers.

**Conclusion:** CVDs could reduce insulin administration errors in hospitalized patients.

### Keywords

computer vision, hospitals, insulin, medication safety, quality, syringes

### Introduction

Insulin is a well-recognized high-alert medication,<sup>1</sup> and its misuse is associated with a high capacity for patient harm. Insulin-dosing schemes are uniquely complicated and require consideration of patient resistance, acute illness, nutrition status, and unique pharmacokinetics of various insulin types. Automated workflows, including Barcode Medication Administration (BCMA), have been implemented in inpatient settings to ensure correct product selection, but this technology does not validate the dose prepared for administration.

Dose preparation of insulin is a highly complex workflow, particularly in the inpatient setting. For rapid-acting and short-acting insulin administration, nurses must obtain a point-of-care (POC) glucose value, determine the indicated nutritional and correctional doses, and coordinate insulin administration with nutrition. Oftentimes, nurses must complete this workflow for multiple patients under their care in a narrow time window. BCMA is recognized as a best practice standard to ensure the selection of the correct insulin, but many health systems rely on manual processes for dose calculation, preparation, and timing of administration.

To mitigate potential “wrong dose” errors, some hospitals have implemented pharmacy preparation of long-acting insulin doses. However, removing insulin preparation from the bedside can contribute to missing doses, late

administration, and waste associated with dose changes made following preparation and distribution. Additionally, pharmacy preparation of rapid-acting insulin is not feasible given the coordination required with POC glucose assessments and nutrition. In situations where doses are prepared in patient care areas, independent double-check workflows have been pursued but have failed to demonstrate significant error reduction.<sup>2</sup>

Very little is known about insulin “wrong dose” errors related to inaccurate syringe preparation in patient care areas. Given the manual nature of dose preparation, facilities are reliant on voluntary reporting of errors, which does not provide an indication of overall error frequency and magnitude.<sup>3,4</sup> Studies have documented poor accuracy for dose preparation of 2 units or less when accuracy was measured by gravimetric or scintigraphic methods.<sup>5–8</sup> Nguyen et al<sup>9</sup> identified one incorrect dose out of 229 observed (0.4%) during an observational study.

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The primary goal of this study was to explore the feasibility of using a computer vision device (CVD) to measure insulin doses prepared from a vial and syringe and to understand the frequency and magnitude of “wrong dose” insulin errors in a nonclinical setting.

## Methods

This proof-of-concept observational study recruited 22 nurse volunteers to prepare 50 syringes of regular insulin (Humulin R vials, Eli Lilly, Indianapolis, Indiana) stored at room temperature using 50-unit insulin syringes (Becton-Dickinson, Franklin Lakes, NJ, USA). Study participants were asked to anonymously complete a survey documenting their years of clinical experience and the frequency with which they prepare insulin doses using vial and syringe (Table 1). The study protocol was evaluated by the hospital institutional review board and given exempt status.

A random number generator provided the target dose for preparation. Target doses were integers ranging from 5 to 45 units. Doses were randomized 2:1 for doses of  $\leq 25$  units to more closely mimic doses commonly encountered in daily nursing practice. After the target dose was displayed, the syringe was prepared and placed on the syringe platform. The nurse then pressed the GO button on the CVD touch screen, which triggered image capture and automatically advanced to display the next target dose (Figure 1) regardless of preparation accuracy. The CVD also captured the date/time of preparation, target dose, and the dose measured by CVD. An additional algorithm was used to estimate the amount of air in each syringe.

Error was defined as a deviation from the target dose by greater than 0.5 units for target doses from 5 to 10 units and greater than 1 unit for target doses from 11 to 45 units. Error definitions were established using criteria that could be validated by the human eye to align with current workflow practices.

Two observers independently confirmed the inaccuracy of all syringes identified by the CVD; the observed doses were recorded to the nearest 0.5 unit. To ensure all inaccuracies were identified, two independent observers validated a random sample of 100 syringes identified as accurate; the observed dose was recorded to the nearest 0.5 unit. If the two independent observers did not agree on the dose in a syringe, a third observer independently evaluated the dose.

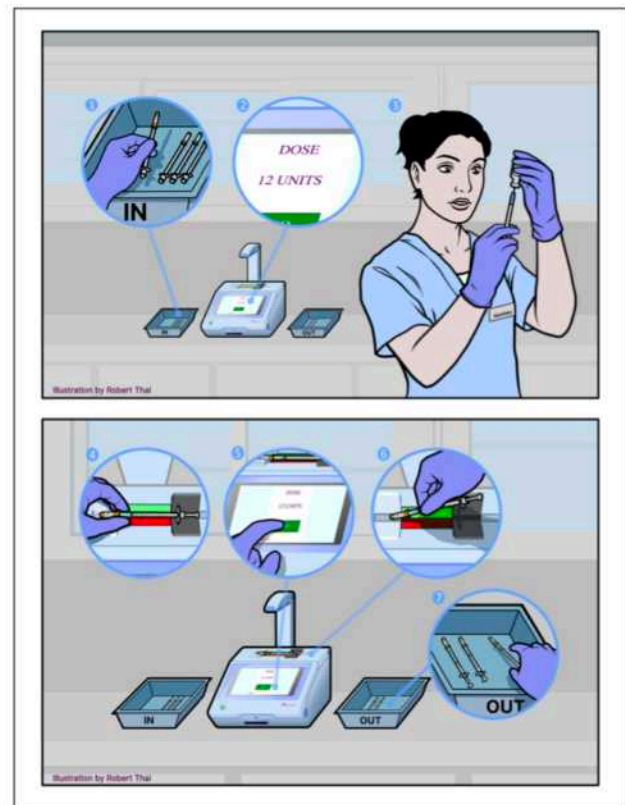
Measurable outcomes included the frequency and magnitude of insulin syringe preparation errors, by preparation volume and the presence of air. Syringes determined to be unusable due to poor image quality were excluded from further analysis.

Descriptive statistics were used to characterize the inaccuracies noted.

**Table 1.** Nursing Reported Frequency of Insulin Preparation from Vial and Syringe.

	Years of experience		
	0-5 years	6-10 years	11+ years
2+ times daily	1	2	3
A couple times a week			3
Once a week or less	1	2	9
Once daily	1		

Most nurses routinely used insulin pens for the administration of rapid-acting insulin doses. Pharmacy preparation of syringes for long-acting doses was commonplace. Nurses most commonly prepared short-acting and intermediate-acting insulin doses using vial and syringe.



**Figure 1.** The CVD instructed the nurses to prepare a randomized target dose ranging between 5 and 45 units. Following preparation, the nurse would place the syringe on the image capture platform and press “go”. Following image capture, the nurse would remove the syringe from the platform and place it in the “out” bin.

## Results

Of the 1100 syringes prepared, 1043 useable images were obtained. Reasons for exclusion are described in Table 2. Human errors while taking the picture accounted for 80.8% ( $n = 46$ ), while 19.2% ( $n = 11$ ) were attributed to overexposure to lighting.

**Table 2.** Syringe Exclusion Criteria.

Reason	N (%)
Gloved hand covering syringe	29 (50.9)
Image overexposed	11 (19.2)
Syringe not centered correctly	7 (12.3)
Movement of syringe during image capture	5 (8.8)
Syringe omitted from image capture	4 (7.0)
Damaged syringe	1 (1.8)

### Error Frequency

Errors were observed in 78 (7.5%) syringes. Sources of inaccuracy included preparation of the wrong volume (10, 1%) and significant air (68, 6.5%). All CVD detected errors were validated by two independent observers.

### Error Magnitude

Syringes prepared to the wrong volume line ( $n = 10$ ) ranged from 5.5 units under the target to 3 units over the target dose (mean [SD] = 1.8 [2.3] units). The doses prepared ranged from 75% to 113% of the intended target (mean [SD] = 10.5 [12.7]%). Magnitude of error was also validated by two independent observers.

The CVD was unable to quantify the volume of air present beyond the thresholds defined for error. These syringes ( $n = 68$ ) were measured by two independent observers to contain 1 to 15 units of air (mean [SD] = 3.8 [3.1] units). Doses in syringes with air ranged from 25% to 97% of the intended target dose (mean [SD] = 78.5 [15.6]%).

### Discussion

This study evaluated syringe preparation errors in a nonclinical setting to understand the fundamental risk for error when distractors are removed.

The CVD accurately captured both errors due to the wrong volume and the presence of significant air bubbles in the syringe.

However, a significant number of syringes had to be excluded from analysis due to inconclusive images. Nurses were given one opportunity to prepare and take the image of the intended dose; the system was not configured to prompt the nurse for a second image in the event of an “inconclusive” result.

The study setting possibly contributed to the high frequency of syringes with significant air, if the nonclinical setting encouraged participants to expedite syringe preparation. Twelve nurse participants reported preparing insulin from a vial and syringe once a week or less, which also may have contributed to poor preparation techniques and a higher incidence of air pockets. However, it is possible that preparation errors are more common in a nursing unit where there are

frequent distractions, and multitasking is inevitable. If the frequency of error observed is replicated in a clinical setting, improving dosing accuracy could be a significant opportunity for glycemic quality improvement.

Future studies will be designed to assess strategies for incorporation into nursing workflows in a simulation-type environment, involving time studies and workflow process mapping. System functionality will be revised to include real-time assessment of dose appropriateness and prompts for a second picture when results are inconclusive. Additionally, lighting requirements will be more clearly defined to ensure optimal image quality. Integration with electronic health care documentation and dose calculators will be pursued to further mitigate the risk of dosing errors.

### Conclusions

Many complex workflows have been developed to promote safe administration, but technological solutions to ensure safety are lacking. The use of a CVD could be used to confirm the accuracy of doses prepared and minimize the risk of over or under dosing events.

### Acknowledgments

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### Declaration of Conflicting Interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Kevin Brown, PharmD, is Chairman of the Board of Digital Hospital, Inc., developer of an insulin dose confirmation device. The other authors have no potential conflicts of interest to declare.

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**Appendix D:**



**A<sup>3</sup> = I—The Appropriate Alert  
to the Appropriate Clinician  
at the Appropriate Time =  
Improved Quality of Care**

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Kris Niemi, Pharm.D.  
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Joy Bailey

The logo for Sutter Medical Center Sacramento, featuring a stylized red and white graphic of a person or a signal.

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Sacramento, CA

## Introduction

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### Setting

- 2-campus, 654-bed, tertiary care hospital
- 2 Emergency Departments (ED), 3 adult Critical Care Units, 55 bed Level III Neonatal ICU, 20 bed Pediatric ICU
- Multiple independent information systems including:
  - › Pharmacy information system
  - › Automated dispensing cabinets (ADM)
  - › ADT system
  - › Radiology
  - › Laboratory
  - › Heart catheterization laboratory system

### Our Core Measure Problem

- Core Measures were not in top decile
- Patients were not identified in real time - consequently we missed opportunities to provide needed interventions
- Patients admitted and discharged on week-ends did not receive needed interventions
- Staff did not feel they had sufficient support in meeting core measures

**Purpose:** Create a single database—**Core Measure Manager (CMM)** using information from existing hospital computer systems to identify patients with potential core measure diagnoses and provide clinicians with real-time actionable alerts and update lists

## Description of Program

---

### Program Development

- Involve key personnel needed to successfully create and format program
  - › Information technology (IT)
  - › Pharmacy
  - › Clinical nurse specialists
  - › Project manager
- Identify disease-specific electronic triggers available in hospital databases
  - › Triggers for heart failure (HF)
    - › elevated BNP
    - › low sodium
    - › typical heart failure medications: diuretics, beta blockers, ace inhibitors, or aldosterone inhibitors
  - › Pneumonia triggers
    - › chief complaints
    - › WBC count
    - › sputum cultures
    - › chest x-ray results
- Create rules to stratify patients based on point values assigned to data elements; point values based on input from clinical nurse specialists and physicians
- Create specific alerts and determine when they will print and which clinician will receive them

## Examples:

- Alert prints in ED 3 hours after triage if point value is consistent with pneumonia AND no approved antibiotic has been removed from ADM
- R.N. contacts ED physician to assess for pneumonia and possible antibiotic administration

Core Measure Manager

### 3 Hour PNA Alert !! -

3

Patient Name	NS	Room Bed Length of Stay	Sex	MRN	Account Arrival Date	DOB Discharge Date	Age	Pt Type
ERDG		3 hrs, 0 min	F		08/02/2007 09:15		years	E
Active Patient								

---

MS4 Chief Complaint / Diagnosis  
GENERAL WEAKNESS - 08/02/2007 09:15

---

Core Measure Manager has detected that your patient might have a suspected diagnosis of **pneumonia** based on the following indicators:

**Pneumonia Core Measure Point Values**

Patient Age: Age > 75 = 2 pts  
 Chief Complaint/Dx: weakness = 1 pts  
 Lab Order: CBC - CBCA = 1 pts  
 Lab Result: WBC >11, (Rslt = 17.2), = 3 pts  
 Rad Order: CHEST EXAM 062326 = 2 pts

Total\_Point\_Value = 9

---

Three (3) hours have elapsed since your patient arrived at the facility. Are you considering pneumonia as a possible diagnosis?

If this is a possibility, you have less than 1 hour to give antibiotics to your patient in order to meet the 4 hour time frame.

If blood cultures are ordered, they need to be drawn before antibiotics are administered. Blood cultures are REQUIRED for all patients admitted to an ICU with pneumonia.

- Test rules and modify as needed, e.g., point value for BNP decreased due to multiple false positives in renal failure patients
- Re-evaluate until high sensitivity with acceptable specificity is achieved
- Compare Core Measure Manager output with ICD-9 coding diagnoses to determine accuracy

## **Program Implementation**

- Provided staff education on:
  - › Core measures
  - › Staff responsibility
  - › Use of Core Measure Manager

## **Working with CMM**

- Alert prints in pharmacy 20 hours after triage if point value is consistent with pneumonia AND no active orders for CMS recommended antibiotics are in Pharmacy Information System
- Pharmacist calls physician to discuss antibiotic therapy when alert prints

**(See Sample of Alert on Next page)**

## Core Measure Manager 20 Hour Pharmacy Alert -

**20**

Patient Name	NS Room Bed	Sex	MRN	Account	DOB	Age	Pt Type
	Length of Stay			Arrival Date		Discharge Date	
	Height	Weight		Est CrCl		Scr - Date	
	Attending MD			Referring MD			
	Allergies						

3WST 3420 01 M 59 years I  
 20 hrs, 3 min 08/08/2007 05:02 Active Patient  
 182.9 cm 82.3 kg 93 ml/min 0.8 - 08/08/07 06:01

penicillins, penicillin,

MS4 Chief Complaint / Diagnosis  
 SEVERE SHORT OF BREATH - 08/08/2007 05:02

Core Measure Manager has detected that the indicated patient might have a suspected diagnosis of *pneumonia* and may not be on the recommended antibiotics.

### Pneumonia Core Measure Point Values

Chief Complaint/Dx: short of breath = 1 pts  
 Lab Order: CBC - CBCA = 1 pts  
 Lab Order: BC, = 1 pts  
 Lab Order: RES, = 4 pts  
 Lab Result: WBC >11, (Rslt = 19.1), = 3 pts  
 Rad Order: CHEST EXAM 062326 = 2 pts  
 Rad Result: POSSIBLE for PNEUMONIA - the word pneumonia found = 4 pts  
 Medication Order: LEVOFLOXACIN 750MG/150ML D5W PREMIX - AHFS Code >= 81200 and AHFS Code <= 81399, = 1 pts  
 Pyxis Dispense: LEVOFLOXACIN 750MG/150ML D5W PREMIX - AHFS Code >= 81200 and AHFS Code <= 81399, = 1 pts

Total\_Point\_Value = 18

### Currently Ordered Antibiotics:

LEVOFLOXACIN 750MG/150ML D5W PREMIX  
 LINEZOLID 600MG/300ML IVPB  
 TOBRAMYCIN INJ

### Recommended Antibiotic Regimens for Pneumonia:

- CAP (Non-ICU)** Ceftriaxone IV and Azithromycin PO  
*Acceptable Alternative:* Levofloxacin IV or PO (monotherapy)  
*Non-acceptable Alternative:* piperacillin, piperacillin/tazobactam, meropenem
- CAP (ICU)** Same as Non-ICU except azithromycin IV x 1 required
- HCAP** Cefepime IV and (Levofloxacin IV or Tobramycin IV)  
 Zosyn IV and (Levofloxacin IV or Tobramycin IV)  
 May add vancomycin IV or linezolid (Zyvox) IV in addition to HCAP regimens if MRSA suspected

Acceptable reasons for deviation from recommended antibiotic regimens include:  
 -Patient does not have pneumonia -History of immunosuppression  
 -History of allergy to one of the recommended antibiotics -Admitted for comfort, palliative or hospice care  
 -Aspiration pneumonia -Cystic fibrosis

- Heart Failure Patient List Update prints twice daily
- CNS or RN assess patients on the list for heart failure diagnosis
- CNS or RN confirm appropriate heart failure core measures have been documented
- CNS or RN calls physician to discuss therapy if appropriate

Core Measure Manager  
Heart Failure Patient List - UPDATE -

Patient Name	NS	Room/Bed	Sex	MRN	Account	DOB	Age	Pt Type
		4CEN 0409 B	F				74 years	I
		15 hrs, 27 min			08/01/2007 15:41			Active Patient
		152.4 cm	59 kg		?? ml/min	??		NON-STAFF REFERRING, OUTPATIEN
States None,								
MS4 Chief Complaint / Diagnosis								
STATUS POST ACUTE MYOCARDIAL INFARCTION - 08/01/2007 15:41								
CONGESTIVE HEART FAILURE - 08/01/2007 15:41								
Core Measure Point Values - (Heart Failure)								
Chief Complaint/Dx: heart failure = 20 pts								
Medications: Carvedilol - (Coreg) = 10 pts								
Medications: Lasix-PO = 2 pts								
Medications: Diuretic & BetaBlocker Combo = 10 pts								
Total_Point_Value = 42								
<hr/>								
		4EAS 0455 A	M				63 years	I
		18 hrs, 19 min			08/01/2007 12:49			Active Patient
		180.3 cm	92.6 kg		?? ml/min	??		EF%: 16
NON-STAFF REFERRING, OUTPATIEN								
States None,								
MS4 Chief Complaint / Diagnosis								
CHRONIC ATRIAL FIBRILLATION - 08/01/2007 12:51								
Core Measure Point Values - (Heart Failure)								
Rad Result: POSSIBLE CHF - pleural effusion = 5 pts								
Medications: Carvedilol - (Coreg) = 10 pts								
Medications: Lasix-PO = 2 pts								
Medications: ARB/Diuretic/BetaBlocker Combo = 20 pts								
Total_Point_Value = 37								
<hr/>								
		5EAS 0553 A	M				71 years	I
		1 days, 3 hrs, 7 min			08/01/2007 04:01			Active Patient
		180.3 cm	71.6 kg		10 ml/min	6.8 - 08/02/07 06:06		EF%: 50
PT STATES NONE, OUTPATIENT N								
States None, lisinopril,								
MS4 Chief Complaint / Diagnosis								
SHORTNESS OF BREATH - 08/01/2007 04:01								
Core Measure Point Values - (Heart Failure)								
Chief Complaint/Dx: shortness of breath = 4 pts								
Lab Result: BNP >900, (Rst = 17793), = 10 pts								
Rad Result: POSSIBLE CHF - cardiomegaly = 5 pts								
Medications: Lasix-PO = 2 pts								
Medications: ARB/Diuretic/BetaBlocker Combo = 20 pts								
Printed: Thu, 08/02/2007 07:05								
Page 1 of 2								

- Evaluate core measures for heart failure and pneumonia monthly to determine effectiveness



## **Experience with the Program**

### **How well does CMM identify pneumonia patients?**

- 31 Day trial period
- 37 patients admitted through ED discharged with ICD-9 diagnosis of pneumonia
- CMM identified 283 possible pneumonia patients (9% of ED visits), including 33 of 37 actual pneumonia patients (89%) within 3 hours of triage
- 34 patients in hospital 20 hours after triage discharged with ICD-9 diagnosis of pneumonia
- CMM identified 127 possible pneumonia patients (13% of admitted patients), including 33 of 34 actual pneumonia patients (92%)

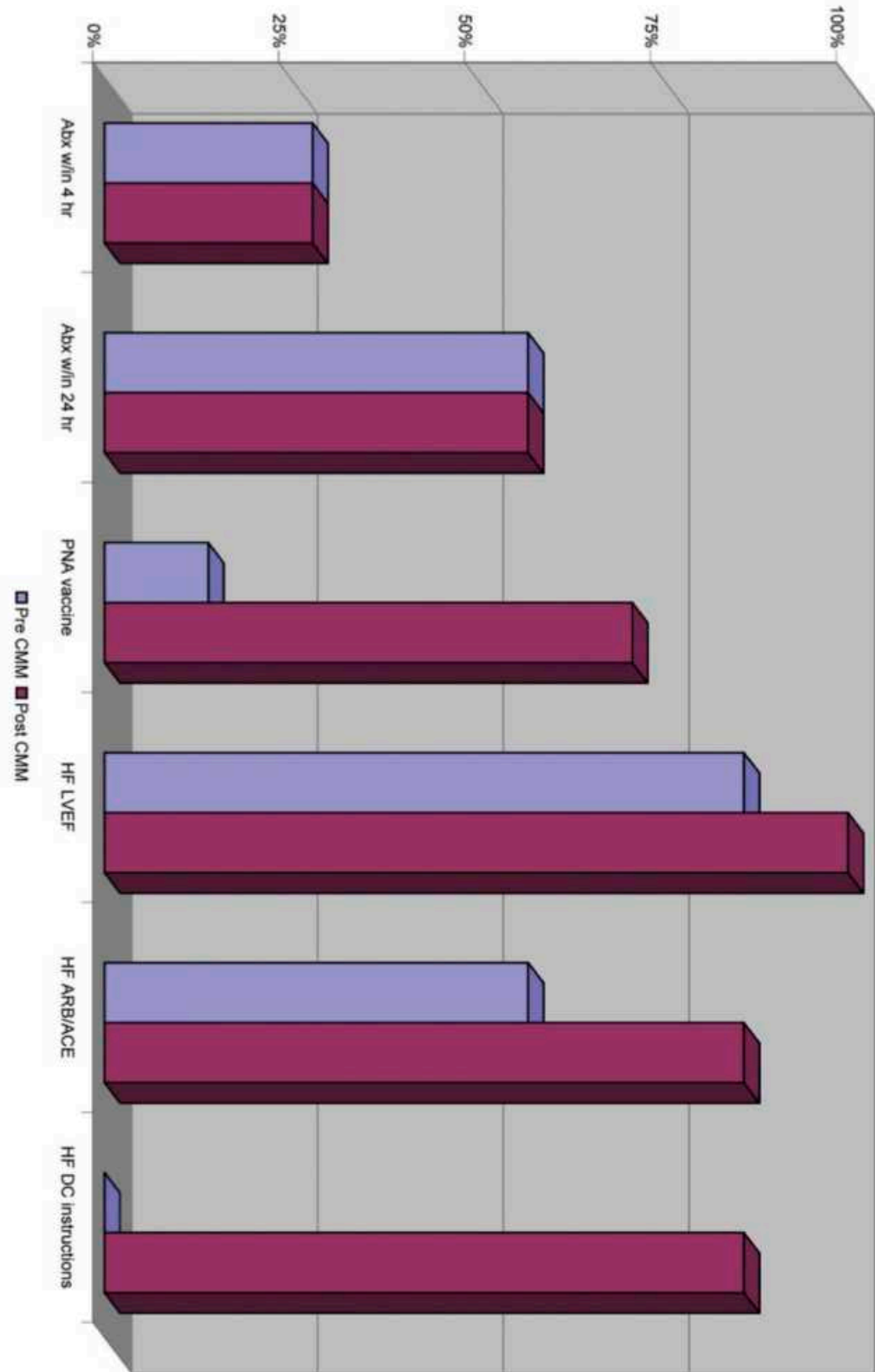
### **How well does CMM identify heart failure patients?**

- 30 Day trial period
- 94 patients discharged with ICD-9 diagnosis of HF
- CMM identified 182 possible HF patients (16% of admissions), including 88 of 94 actual HF patients (94%) prior to discharge

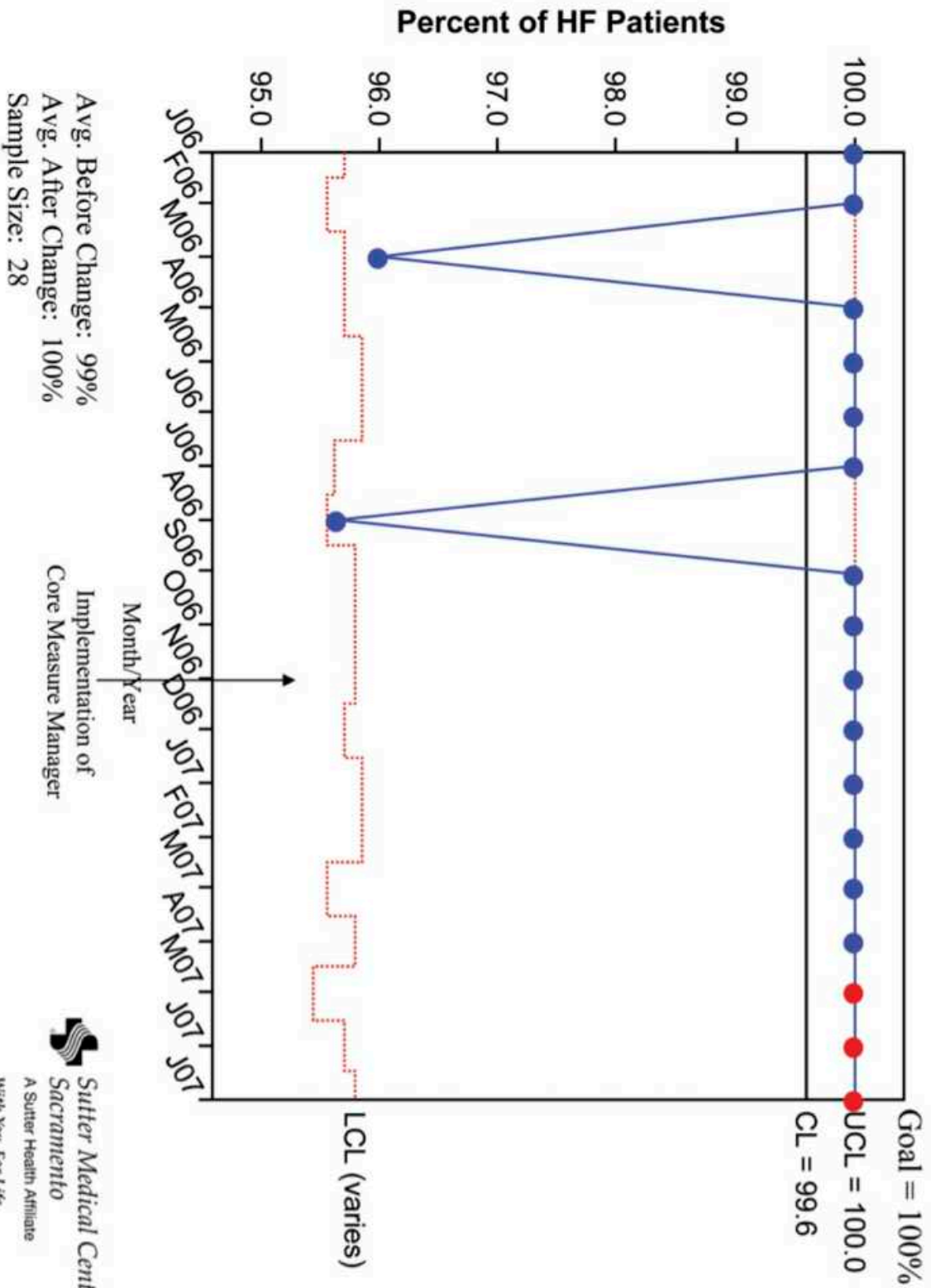

### **Impact on Core Measure Performance**

- 6 measures addressed by CMM alerts
- 4 of 6 increased the percentage of months in top decile performance

**Percentage Months in Top Decile Before and After CMM**

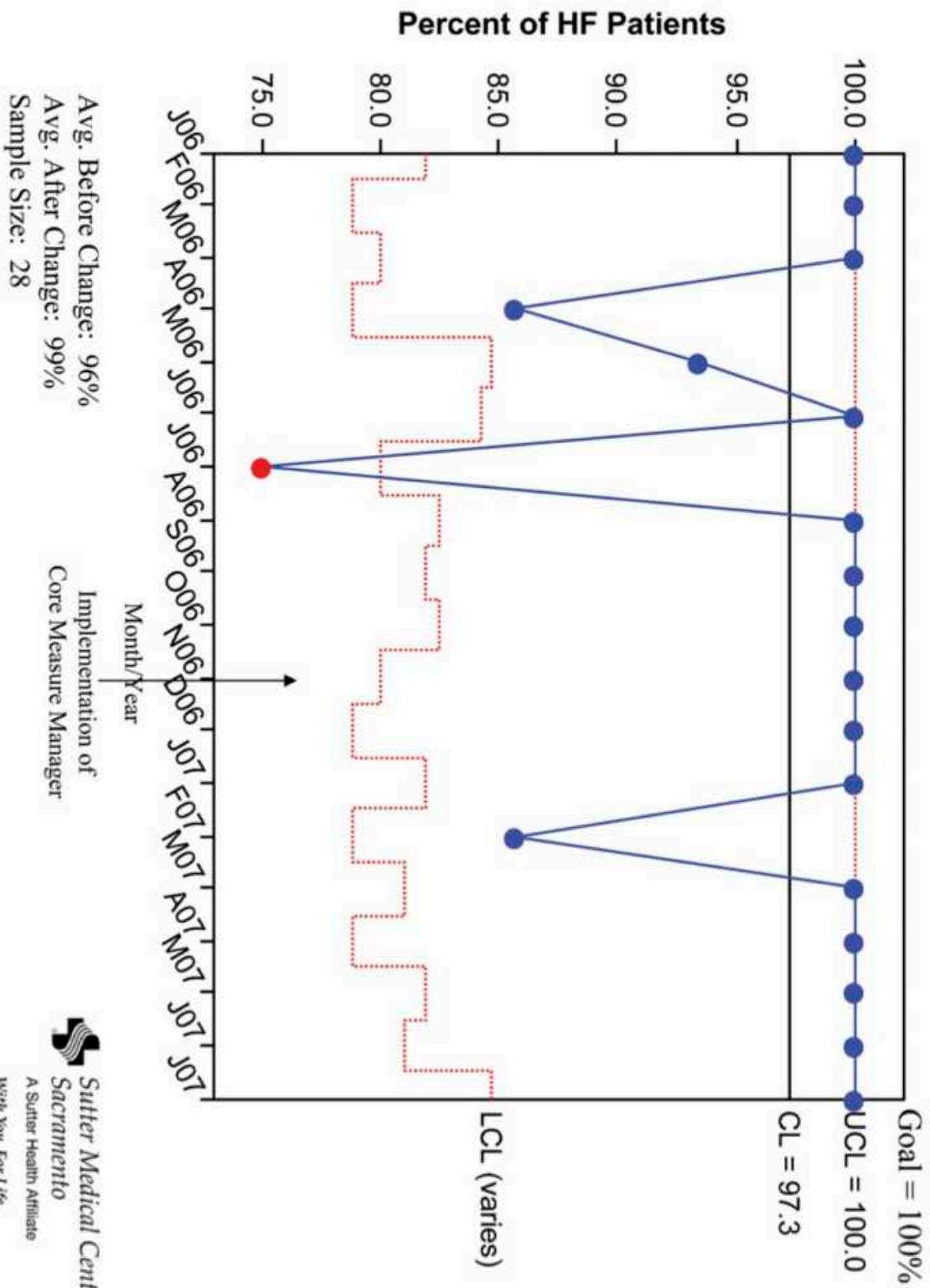


**Heart Failure  
LVEF Assessment**

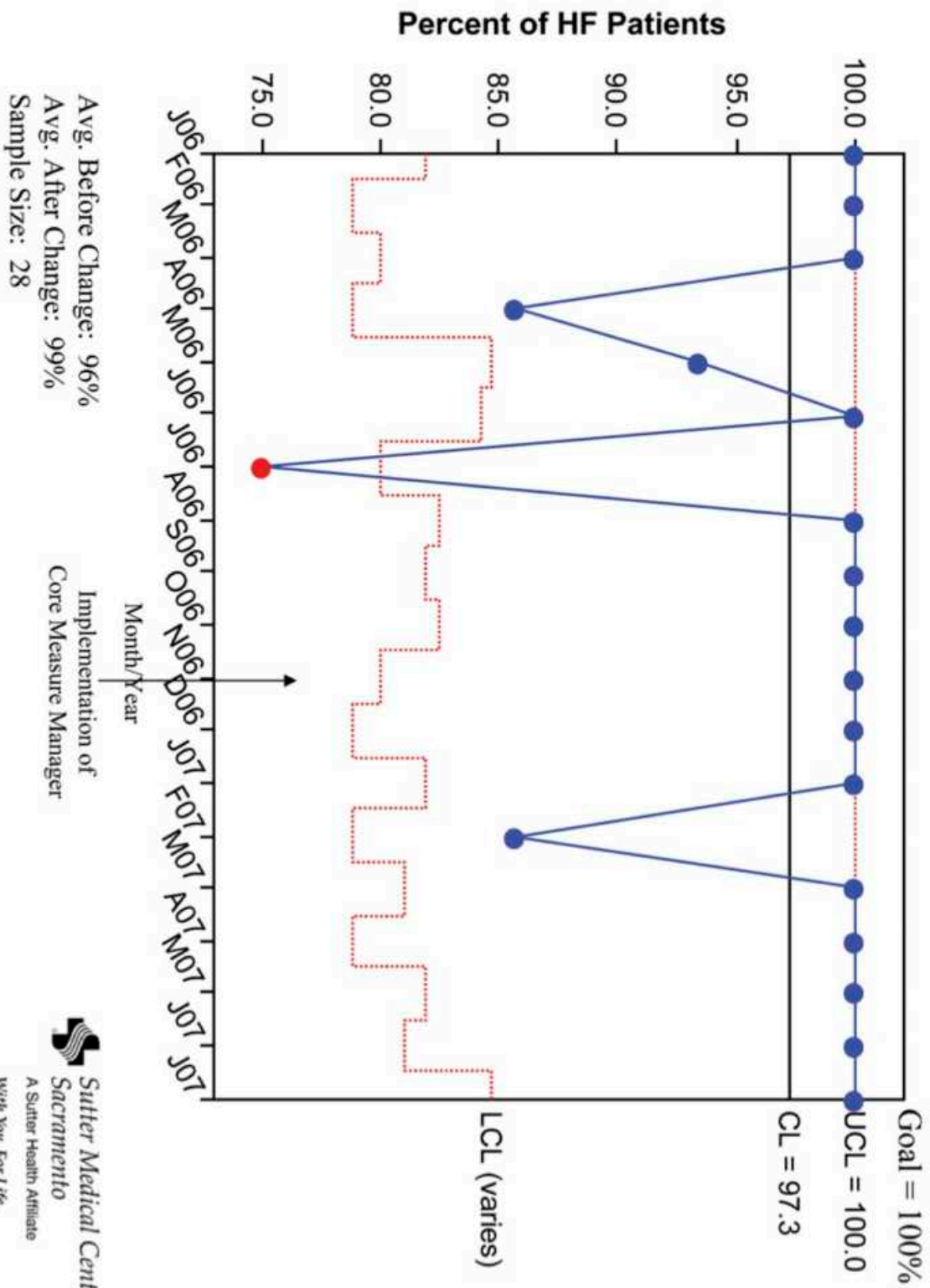



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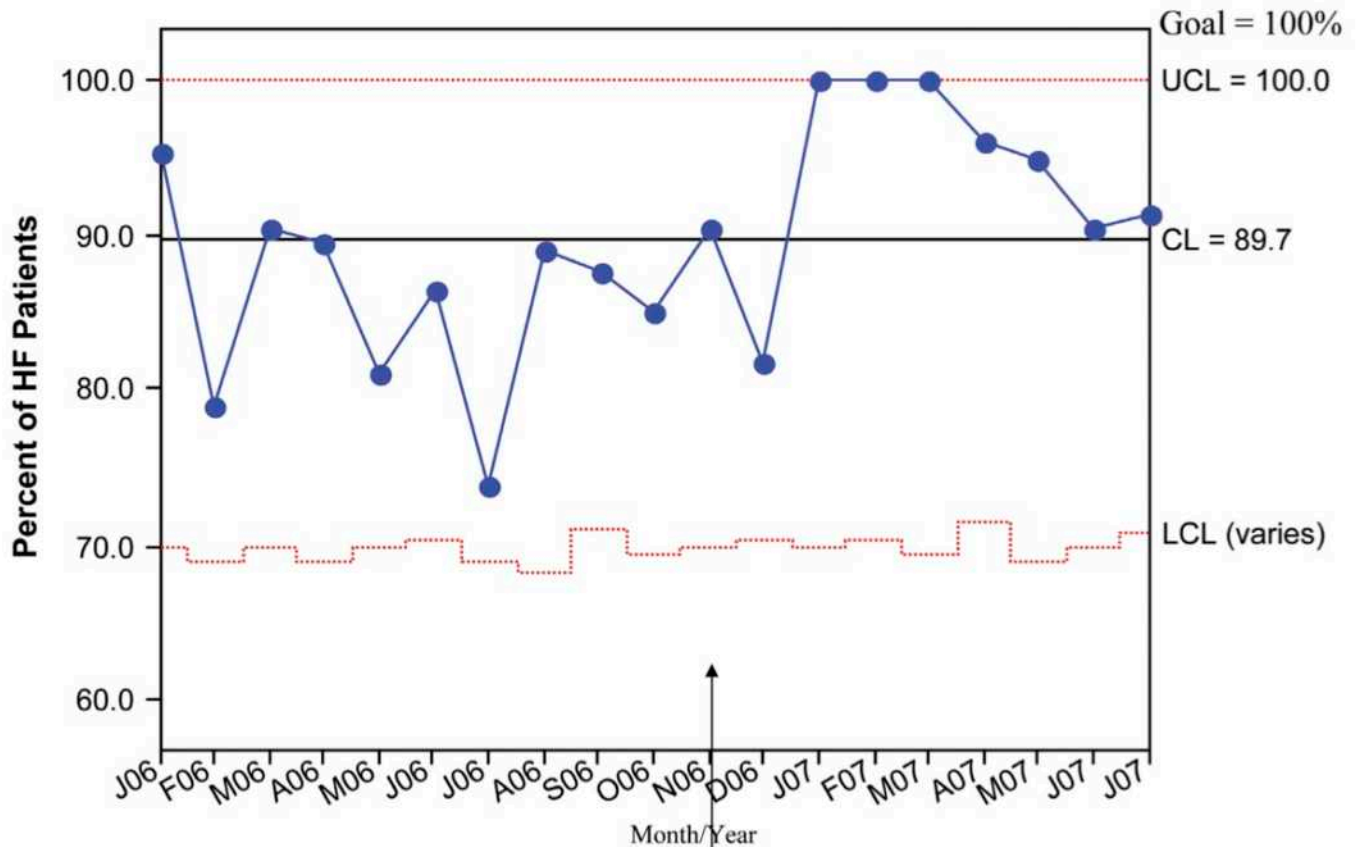
### Heart Failure ACE/ARB Prescribed at Discharge



### Heart Failure ACE/ARB Prescribed at Discharge




**Heart Failure  
DC Instructions**



Avg. Before Change: 86%  
 Avg. After Change: 94%  
 Sample Size: 28

Implementation of  
 Core Measure Manager

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## Conclusion

- A single database can be used to identify possible core measure patients with high sensitivity and acceptable specificity
- Automated assessments can be used to generate specific real-time alerts
- Real-time alerts can improve disease specific core measure performance