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THE INTEGRATION OF IPADS AND PATIENT CENTRIC HEALTH CARE

Exploring the next generation of holistically integrated health care at [your institution]



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I. Summary

The iPad has proven to be invaluable in distracting, preparing, and educating of pediatric patients as their care necessitates the use of invasive procedures. There are numerous studies indicating developing how such a relationship with the patient and family leads to improved patient / customer satisfaction scores as anxiety levels decrease when patients are guided toward awareness of the people, places, machinery and procedures they will encounter along their journey toward recovery.

Additionally, the hospital benefits as more compliant patients require less medication and staff resource time in proceeding through invasive procedures.

The costs of using these technologies is relatively minimal when compared to the aggregate cost of hospital care. Additionally, the ubiquitous nature of this technology has given rise to customer expectation. Our limited practice at [your institution] complimented by research and discussions with an array of health care practitioners indicates there is tremendous potential in adapting this technology further.

II. Objectives

My objectives are to provide new opportunities in patient education that will measurably improve the patient experience. Child life services is a family-centered therapeutic service and its primary modality is treating the “whole” child. We take a holistic approach in making sure the entire family is having a positive patient experience. We can expand the lessons learned within the child life practice and at other health care institutions on how the integration of technology may not only be seen as a driver of increased efficiencies, but also cost reductions for the organization.

It is possible to engage the patient and family through creative solutions, such as developing a software application on the iPad that provides a manuscript for inserting each respective hospital’s pictures and videos of the process of events that take place the day of surgery. We are “virtualizing” therapeutic interventions in child life services. Research has shown that this tool can clarify our pediatric patients’ misconceptions about treatment, and ease anxieties and fears surrounding their hospital experience. Studies prove that this type of non-pharmacological support increases patient satisfaction rates, which in turn increases retention and referrals for the hospital.

III. Background

As a Child Life Specialist at [your institution], I have been working with Child Life Volunteers, a group comprised of volunteers from children’s hospitals nationwide, philanthropic Wall St. technologists and various software and technology vendors.

The key to their success has been our complementary diversity as the child life participation ensures sensitivity to the patient perspective and adherence to measurable medical standards while the technologists expand our vision into what is possible, as well as, sustainable given our limited financial resources.

Together, they have been developing a program of developing software applications and best practices toward running successful iPad patient distraction, preparation and education programs. Requirements, as well as “best of existing practices” are solicited from the Child Life Council membership and other health care providers targeted.

IV. Program Delivery

Note: this section references slides within the attached presentation.

A word about Child Life Services

Child life provides emotional support for families, and encourages optimum development of children facing a broad range of challenging experiences, particularly those related to medical treatment. Child life specialists promote effective coping through play, preparation, education, and self-expression activities. Understanding that a child’s well being depends on the support of the family, child life specialists also provide information, support and guidance to parents, siblings, and other family members.

A Word about the Child Life Technology Volunteers

The technology volunteers are comprised of senior Wall Street financial industry technologists and strategic vendors and software developers dedicated to providing their services without charge toward the most efficient

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and cost effective integration of technology and child life services. They recognize the key to maximizing the effectiveness of any programs targeted at improving the quality of care for pediatric patients must be centered around the careful guiding hands of child life specialists serving in the field with the context of the respective hospital's technology policies and practices.

The four core Child Life Technology volunteers administering the program have collectively over 75 years of critical and complicated technology, integrated across both large and small organizations. They have extensive contacts spanning virtually all technology disciplines including, but not limited to, networking, hardware, software development, security services, social media, etc. Included among their contacts are senior administrative staff at hospitals, child life services, Apple, elmagine, and virtually every major technology vendor.

Products and Services

Through working openly and in close collaboration (PowerPoint slide #1), the team has developed the following products and services:

Child Life iPad Application Catalogue

Through research (on-line and through dozens of interviews with Child Life, and other health care professionals) we have catalogued 525+ applications appropriate for the child life professionals in the field. These applications range from administrative tools necessary in assisting staff in being more efficient (such as, foreign language translators powered by speech recognition) to solutions which meet the needs of a far ranging patient (and parent) population. The core objective was to provide a resource that would not require the child life specialist "to have to let go of a child's hand in order to stay current with the tools available for them". The 525+ applications have been catalogued such that a professional accessing the Child Life Council website (March, 2013) can quickly search the catalogue to find the relevant subset of applications "for a pre-school autistic child", as opposed to a teenage one. (PowerPoint slide #2)

Electronic Prep(aration) Books

The technologists have been helping convert paper-based "**prep**" (**preparation**) **books** over to a digital format for participating child life teams. The digital prep books are more interactive and stay current easier. The prep books and the 360 degree tour in the next bullet are very important in that it has been proven to alleviate anxiety for the child by empowering them and letting them understand what will be happening throughout the course of their care. (PowerPoint slide #2)

Hospital Virtual Tour

The technologies and some child life directors are working with elmagine, the software company which produced *The Riley Child Life Tour*, the first **360 degree virtual tour** of a hospital from a child's perspective, to help us with **the next generation** of this concept (more rooms, video of more procedures, more detailed sequences from a series of still photos with multiple perspectives (from below, from the same height, etc., into a video). A film crew has filmed everything so we are progressing to the software development stage of the production. A key component to this approach is in making the video sequences generic so that other interested

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facilities (and the list is growing) can shoot a few photographs/video of their main hallways, façade, etc. and work with the development organization to recompile as a custom branded version specific to their facility. (PowerPoint slide #3)

Remote Administration

As remote administration is beneficial in supporting some child life professionals in the field, we have a vendor lined up, actually #1 in the field, offering to provide free cloud-based services to the project so that we may remotely support child life staff out in the field over the Internet via a **MDM (Mobile Device Management) solution**. (PowerPoint slide #4)

V. Statement of Acceptable Use Policy

This *Statement of Acceptable Use Policy* section has been drafted to clarify the intended use of the use of iPads within the child life department at [your institution], sources of requisite funding and TCO (total cost of ownership) projections, and anticipated support requirements from the IT department.

Intended Use

As is common practices in many hospitals throughout the U.S. and Canada, Child Life at [your institution] would use the iPads for procedural preparation, support, patient, sibling and parental education and distraction during the administration of uncomfortable procedures. The iPads would not be used without a child life specialist present and should be, in practice, restricted to the pediatric program and pediatric intensive care unit.

We do not anticipate any concerns with violating industry best practices or HIPPA regulatory requirements, as the devices would not:

- a) contain any information specific to the patient, including photographs, video and audio recordings;
- b) provide access to hospital systems including, but not limited to, medical records, email, common network share drives, etc.;
- c) connect to the hospitals internal/secure network, as all Internet connectivity requirements should be satisfied by the public network accessible to the patients for their personal use with smart phones, laptop computers, and other devices.

While access to the Internet throughout the hospital facility may come in handy on occasion, the finite set of core Child Life applications will be pre-installed on the iPads so as to guarantee a consistently high performing level of service to the patients and their families.

Discussions with the Child Life Technology volunteers and participating hospitals may be arranged should technology or legal counsel teams wish to inquire further on the subject of common and best practices.

Sources of Requisite Funding and On-Going Maintenance Expenses

Close to two years ago, the nursing manager on the pediatric inpatient unit received funds for purchase of iPads. The attached spreadsheet details how a portion of these funds should be allocated toward the successful implementation of an iPad program at [your institution].

The expenses indicated cover the initial purchase of three iPads for the Child Life team and a reasonable budget for legitimately licensing software. After consulting with several hospitals with sizable iPad practices in place (ranging from 14 to 86 iPads in circulation within their departments and one hospital with over 3,000 iPads in circulation for inclusion of all medical personnel), the technology team does not recommend purchasing the Apple Care warranty maintenance program unless there is a sizable support burden, necessitating several calls to the vendor, is anticipated.

Anticipated Support Requirements from IT

To start the program, it would be helpful to arrange a conference between our internal technology team and the Child Life Technology volunteers supporting the Child Life Council and participating child life specialists and their respective organizations. The objectives of this initial meeting are:

- a) understand the characteristics of the public network provided to hospital visitors as this could be the most secure way of protecting internal hospital technology should a device be lost, stolen or misused.
- b) Review available software licensing schemes and enforcement methodologies so that the program is sure to ascribe to the methods best aligned with the hospital's practices.
- c) As is common practices in many hospitals throughout the U.S. and Canada, Child Life at [your institution] would use the iPads for procedural preparation, support, patient, sibling and parental education and distraction during the administration of uncomfortable procedures. The iPads would not be used without a child life specialist present.

We do not anticipate any concerns with violating industry best practices or HIPPA regulatory requirements, as the devices would not:

- a) contain any information specific to the patient, including photographs, video and audio recordings; as such, there is no expectation of burdening the network through excessive streaming of video, audio, or sizable downloads.
- b) provide access to hospital systems including, but not limited to, medical records, email, common network share drives, etc.;
- c) connect to the hospitals internal/secure network, as all Internet connectivity requirements should be satisfied by the public network accessible to the patients for their personal use with smart phones, laptop computers, and other devices.
- d) Data should neither be stored on the iPad device nor on externally hosted sites, either internal to the hospital or available via the Internet. These sites would include email, Dropbox, Google Drive, etc.
- e) Please also refer to [your institution]'s acceptable use policy which must be formally acknowledge by each child life practitioner, other hospital staff, and volunteers participating in the program.

While access to the Internet throughout the hospital facility may come in handy on occasion, the finite set of core Child Life applications will be pre-installed on the iPads so as to guarantee a consistently high performing level of service to the patients and their families.

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