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Developing a Patient Portal Business Plan Template for Health Care Systems

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Abstract

Background. A patient portal allows patients to access their medical information, review educational content, communicate with their healthcare providers, manage appointments and request refill prescriptions using a secure website. Prior findings have shown the benefits of patient portals on improving patient-provider communication and other patient outcomes.

Despite the increasing use, there is a lack of business guides for implementing patient portals.

Aim. The aim of the study was to develop a business plan template that can be used as a guide for an executive team.

Design. This was a Delphi study using an online survey.

Methods. An initial Patient Portal Business Plan template, including 9 main sections and 36 subsections was developed based on literature review. A modified e-Delphi methodology was then used to refine and validate the initial template. Consensus from a panel of 12 experts was obtained through two rounds of surveys. Data were analyzed using descriptive statistics and content analysis.

Findings. All experts completed two surveys. In the first round, most experts agreed on the major and sub-sections of the templates. Revisions were made by removing one subsection, merging two main sections, and providing additional example in a question. In the second round, consensus was reached for all 8 main and 33 subsections.

Conclusion. A patient portal has a significant potential to benefit patients and clinicians. The business plan template developed in this study can guide executive team to maximize the outcomes of patient portal implementation. Further research is needed to improve health outcomes, user satisfaction, and sustainability of patient portals.

Keywords: Patient Portal, Patient Portal Business Plan Template, e-Delphi methodology

Until recently, patients must submit a signed request via mail or in person to obtain their own health information. Despite the popularity of e-mails, patients rarely have had the opportunity communicate with their care providers via electronic means. Recently, fuelled by the federal policies, the nation is making a stride to improve health information exchange between patients and their care provider.¹ To meet Meaningful Use (MU) Stage 2 objectives, many hospitals are implementing the patient portal. Benefits of the patient portal have been demonstrated in the literature. First, the portal provides patients with electronic access to retrieve, view online, download and transmit health information to a third party. It also allows patients to communicate with their health care providers and request medical appointments and medication renewals.^{1, 2, 3, 4} These functions of patient portals can empower patients in managing their own care through increased involvement, resulting in better adherence to treatment plans, improved health outcomes and enhanced communication between patients and providers.^{5, 6, 7, 8}

In addition, when healthcare providers meet MU requirements, they receive incentives from the Centers for Medicare & Medicaid Services (CMS).² The current ONC director, DeSalvo, reports that “94 percent of eligible hospitals have signed up for the Medicare and Medicaid Electronic Health Records Incentive Programs and 4,400 hospitals have received incentive payments for adopting certified EHRs or demonstrating MU.”^{9 [p3]}

Despite of the benefits, implementation of patient portals is a relatively new approach and the industry lack a business plan to guide users on how to implement, manage, assess outcomes, communicate and educate patients/ providers as well as obtain a return on investment. Many hospitals are concerned about meeting MU requirements and focus their efforts on enrolling patients in the portal,¹⁰ overlooking important patient education. Moreover, majority of hospitals lack resources in this area.¹¹

Healthcare organizations have been implementing portals without addressing workflow issues, organizational structure, and policies surrounding patient portals, such as usability, interoperability, security, and cultural buy in from stakeholders.^{3, 9, 5, 6, 8, 12}

Other barriers that may deter patient adoption of health information technology (HIT) include limited computer skill sets, health literacy and resources for technical support.¹² Health care organizations may not have sufficient resources or skill sets needed to implement the portal.¹² Wakefield recognizes that one needs to understand how the patient will use the portal if portals are going to impact patient care quality and safety.⁸

Currently, there is a lack of literature on resource tools or business plan templates on how to implement a patient portal for health care organizations. The purpose of the project was to develop an exemplar business plan that can be used to guide executive teams in the decision making process of what needs to be considered when implementing a portal. The business plan will assist the organization to address standards in MU, what is necessary to contribute to improving patient's health outcomes, user satisfaction and enhance healthcare quality and safety.

^{12, 13}

Theoretical Framework

The Logic Model guided the development and utilization of the business plan. It served as guide for program planning, implementation, evaluation, management and communication.^{14, 15, 16} Logic models depict a logical, graphical and textual relationship among the resources, investments, activities and results. It shows the chain of connections or sequencing of how the program is intended to work and links outcomes such as program assumptions and processes.¹⁵ The model can assist the executive team to identify factors that will impact the program, and anticipate resources and data needed to achieve successful outcomes.^{14, 15, 16} In this project, the

goal was development of the business plan template that will add value to the organization and patients. Input was obtained from stakeholders, output was the draft business plan template and the outcomes were the model template approved by the expert panel.

Literature Review

The initial patient portal business plan was developed based on an extensive literature review. The two main themes for the review were utility of the patient portal and a business plan template for patient portal to support organization's executives.

Utility of Patient Portal

Four systematic reviews addressed health outcomes of patients utilizing patient portals and user satisfaction.^{13, 17, 18, 19} Major benefits of patient portals included: patient empowerment due to increased involvement, adherence to health recommendations, and improved health outcomes. Additionally, communication between patient and providers can be enhanced resulting in higher satisfaction.^{5, 6, 7, 8, 20, 21, 22, 23}

Several randomized controlled trials (RCT) examined health outcomes using the portal for patients with diabetes, hypertension, and depression.^{20, 21, 24, 25, 26} Patients with diabetes using a patient portal had improved health outcomes.^{23, 25} One study by Ralston found patients' who used the patient portal had reduced HbA1c levels more than those receiving usual care at 12 months (change -0.7%; $p = 0.01$).²⁵ A second study by Zhou et al. also found improvement in HbA1c, as well as BP, and cholesterol.²³ Based on a study by Green et al., hypertension was better controlled when using a patient portal with online secure communication, home BP monitoring, and support from a pharmacist. Similarly, reduced systolic and diastolic BP were found in patients that participated in web communication.²⁴ Finally, a 2005 internal survey of 2,677 Kaiser Permanente's members found 85.5% agreed that secure communication "enables a

more personal relationship with my primary care provider.” [23 (p. 1374)]. This study found self-management promoted empowerment in patients managing their health.²³

A Business Plan Framework for Patient Portal

In reviewing the literature, common themes were found in the development of a business plan.^{27, 28, 29, 30, 31, 32, 33} These themes included key elements/ components such as, defining the target group, reviewing the literature, including an executive summary, identifying sources of information and industry trends.^{27, 28, 29, 30, 31, 32, 33} Additionally, business plans outline services proposed, its impact, risks, strategic plan, and performance indicators to be evaluated. Identification of the team, technology, marketing plan, schedule for implementation with milestones outline, financials and exit plans are also reported as key elements/ components.^{28, 29, 30, 31, 32, 33} Deroy et al. provided a very detailed business plan used to implement an EHR that incorporates all the components previously listed.³¹ Wakefield et al. developed a framework to use in identifying questions one should ask when implementing a patient portal.³⁴ These questions and issues addressed: (a) strategic fit and priority, (b) selection process and implementation team, (c) integration of patient care communication and workflows, (d) aligning organizational policies with HIPAA requirements, (e) system implementation and training, (f) marketing and enrollment and (g) ongoing use and performance monitoring of the system.³⁴

Additional guidance to develop business plans is found in the literature. Business plans should be clear and concise.³⁰ Bowers recognized that business plans should be kept to a maximum of 15 pages and are important tools to use for logistics, operations and goals.³⁵ Brandt et al. emphasized a business plan need to be aligned with “the organizations vision, mission, values and strategic plan”. [28 (p. 513)] Al-Mudimigh, Ullahb and Alsubaie stated that for portal implementation, user acceptance and communication are critical factors in its ongoing success.²⁷

In summary, patient portals can significantly contribute to the improvement of patient-provider information exchange and patient outcomes across the continuum of care. When implementing a patient portal, organizations must have a business plan; however, many current organizations suffer a lack of expertise and resources that can lead to successful implementation. A patient portal business plan can be used to guide executives trying to decide or having decided to implement a patient portal at their healthcare facility/ system.

Methods

Design/ Subjects / Setting

Upon completion of literature review, we developed an initial patient portal business plan template. This template then was revised based on the findings from a Delphi study using an online survey. A modified Delphi methodology was utilized to develop the business plan template. The Delphi methodology is conducted an expert panel's consensus building using a series of questionnaires and multiple round (two to four).^{36, 37, 38} Data were collected via the internet.

The size of expert panel varies in the literature, ranging from 10 to 110 participants.^{36, 37, 38, 39} Hsu and Sandford found “the numbers of iterations depend largely on the degree of consensus sought by the investigator.”^[37 (p. 3)] In this project, the Delphi participants consisted of a purposive convenience sample of twelve expert panelists. Participant's eligibility criteria included: (a) having access to the internet, (b) being an expert in an area(s) of patient portal implementation, information technology (IT) system implementation and/ or business planning. Participants were excluded if they resided abroad, and had no exposure to the U.S. healthcare system, etc. Participants were recruited through the author's professional network. Phone

contact to the participants was made as part of the recruiting process. The study was conducted via the internet as the participants resided in various locations (e.g. Mid-Atlantic region).

Development of Portal Business Plan Template

The patient portal business plan template was developed by reviewing multiple business plans templates in the literature.^{28, 29, 30, 31, 32, 33, 40, 41} The template was adapted from the U.S Small Business Administration as this outline uses established evidence to identify key sections and subsections in an organized framework.^{40, 41} Modifications to the template were done to aid in guiding the user with the decision processes of what needs to be considered if implementing a patient portal. The template was then sent to three content experts to review and provide feedback prior to sending to the expert panelists. Based on their feedback, the author updated and finalized the template to use in the survey.

Instrument for the Delphi Survey

A survey questionnaire was developed to be used by the expert panelists (see Appendix A). The questions in the Delphi survey questionnaire focused on various sections of the business plan and build upon concepts. The questions had both quantitative and qualitative components. The quantitative section used a five point Likert response format with a rating of 1 = strongly disagrees to 5 = strongly agrees.⁴² No Comment with a rating of 0 was available for selection. The qualitative data were collected using comments fields (see Appendix A). Instructions for panelists about the Delphi methodology included the information about defined iterative rounds. The online surveys were developed using Survey Monkey™.⁴³ The surveys were password protected. The survey questionnaire and the data received by the panelist were stored within a secure server behind the firewall. .

Procedure

The Delphi survey was conducted by two rounds of surveys using questionnaires. Round 1 involved an introductory email that included the welcome letter and survey packet. The welcome letter provided written explanation about the project's background and included the purpose, procedures (method used), goal, benefits, and time commitment for the panelists. Additionally, assurance that panelist responses would remain confidential was noted in the welcome letter. This prevented panelists from being influenced by responses of the other panelists.³⁶ The survey packet included in the Patient Portal Business Plan template and directions on how to access the online survey. The panelists were provided the web link to the online survey and a password for the survey to view the questionnaire.⁴³ Participants had one week to complete the survey questionnaire from when the survey packets were sent to them for Round 1. Data collected from surveys were synthesized and presented to the panelist before the next round.³⁶ Institutional Review Board (IRB) approval of modifications to the survey and template required two additional weeks. Changes were made to the business plan template based on the panelist's feedback.

Round 2 (final round) involved the author emailing panelists an updated business plan template which was built upon the results of the previous round and sending a second survey questionnaire. Participants had one week to complete Round 2. Finally, analysis of panelist answers was performed and revisions were made based on their feedback to develop a final business plan template (see Appendix B).

Data Analysis

Data analysis involved descriptive statistics and content analysis.³⁷ Quantitative data was analyzed using descriptive statistics (e.g., mean, median, frequency). One of the major

statistical analysis used for Delphi Studies are measures of central tendency such as mean, median and mode. For this project frequency and percentages of each individual item were calculated. Recoding of ratings to dichotomized variables was done as follows: ratings of 4 or 5 equaled keep/ retain (score of one) and ratings 1-3 equaled remove (score of zero). The items that at least 50% of reviewers selected agree or strongly agree were kept/ retained and included in the business plan template. The statistical quantitative analysis of data in Excel was reviewed with a statistician. Qualitative comments were analyzed using content analysis. Content analysis of the comment data or text data was done by the authors using a manual process to identify reasons why items should not be retained or revised in the template.

Ethical consideration

The proposed research involved human subjects and no exemptions were claimed. The scholarly project required IRB approval from the University of Maryland. For the scholarly project, panelists were not anonymous. Individual responses were not disclosed with other panelists to prevent bias of responses. The consenting process was done online. Strict adherence to the IRB was done with approval obtained for modifications to the survey questionnaire and business plan template following Round 1. Finally, the data was stored on a secure server.

Results

Sample

The expert panel included 4 men and 8 women. The majority were White ($n = 11$). The age range of panelists were 51 or older ($n = 6$), 46-50 ($n = 5$), and 40 or under ($n = 1$). The majority for the highest level of education was Doctorate, law or medical degree or equivalent ($n = 7$, 58%) followed by Bachelor's Degree ($n = 3$, 25%) and finally Master's degree or equivalent

($n = 2$, 17%). Participants were employed in various areas of practice within their organization: six (50%) were Administrative, one (8%) was Business/ Finance, four (33%) were Executive Leadership, seven (58%) were Information Technology, two (17%) were Project Management and two (17%) identified themselves as Other (Health Information Management & Education). Years of experience in the current area of practice ranged from 5 years and below ($n = 1$), 6 - 10 years ($n = 2$), 11 - 15 years ($n = 6$), and 21+ years ($n = 3$). All 12 expert panelists had used a patient portal. Eleven panelists reported their organization has a patient portal.

Round 1

Of the 36 items (main and subsections) from the survey questionnaire, only one subsection failed to reach consensus (see Table 1). Under the main section of Company Description, the Vision Statement of the Organization (dichotomized $n = 6$, 50%) and Mission Statement subsections were removed based on panelist's comments. Of the nine main sections, Financial Projections and Funding Requests were merged together and renamed Financial(s). Both subsections were incorporated into Financial(s). From expert panelists' comments, the Executive Summary was found to include too much detail and needed to be shortened. Potential Income and Return on Yield was renamed Return on Investment. The Organization and Management subsection Exit Strategy was expanded upon to address disaster management, changing product and staffing for operations and maintenance. Finally, additional examples were added to main and subsections of the Patient Portal business plan template based on expert panelist comments.

Round 2

Consensus was reached for all 33 items (main and subsections) from the survey questionnaire. No main or subsections were removed (see Table 1). Qualitative analysis from

panelist's comments revealed limited changes were needed to the subsections (e.g. added examples, further clarified). Under Executive Summary, the subsection Solution Recommended was updated to identify the type of portal that would fit the organization's needs. The subsection Capital Equipment (includes hardware) was added under Financials. Quantitative and qualitative analysis were used to develop the final Patient Portal Business Plan Template (See Appendix B).

Discussion

The study findings showed that draft Patient Portal Business Plan Template developed based on the literature review was valid.^{40, 41, 44, 45} The experts recommended that only one subsection (Vision Statement of the Organization) should be removed. The experts also helped translate other disciplines' business plans and apply it specifically for a patient portal business plan. For example, themes from comments recommended merging and renaming sections/subsections, which was more suitable for patient portal implementation. The main sections of Financial Projections and Funding Requests merged together to reduce redundancy. These main and sub-sections were merged together and renamed to Financial(s) although the literature lists both sections separately.⁴⁰

The initial patient portal business plan template was mainly based on the literature in the business field. The Delphi methodology using experts from healthcare informatics and clinicians results in a business template that is more applicable to the clinical arena. A total of six subsections were either merged or renamed. Under Company Description, the subsections of Goals (See Action Plan) and Values Statement were merged and renamed Goals and Values Statement (See Action Plan). The final Patient Portal Business Plan template includes eight main sections and 33 subsections (see Appendix B).

Implications

There continues to be a gap or lack of business plan that guides executive team members while they implement a patient portal at their organizations. The finalized Patient Portal business plan template provides a high level guide that health care systems can use since most of the main and subsections are generic enough to be modified based on the health care facility's specifications. Having access to this template may be particularly helpful to small organizations as they have HIT resource and experts. The template can serve as an educational tool to assist the executive team in planning for additional resources. Important areas for future research is developing this business plan as an open source document and continuing to refine and expand the template.

Limitations

The limitations noted for the Modified e-Delphi methodology was it only consisted of two rounds where some studies use multiple rounds.³⁶ The sample, of expert panelists, was non randomized and homogeneous as eight of expert panelist currently (n= 5) or previously worked (n= 3) at the same health care organization. The expert panel sample size consisted of 12 expert panelists; while some sample sizes range from 10 to 110 participants.^{36, 37, 38} Finally, analyses of the qualitative responses were done by both authors using theme extraction to enhance credibility; however, there could be a potential for researcher bias in the interpretation of the data.

Conclusion

While many healthcare facilities are implementing portals, scarce guides exist for executive team to use as a guide when trying to decide or having decided to implement a patient portal. The Patient Portal Business Plan Template developed based on the Logic Model and

Delphi methodology captures key elements and components. The template can serve as a decision making framework and assist in implementing and reevaluating portal programs. It will also help the implementation team develop a better understanding of variables that will improve the implementation process.

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*Appendix A**Survey Questionnaire Patient Portal Business Plan Template (Round 1)*

Thank you for participating in Developing a Patient Portal Business Plan Template for Health Care Systems. The purpose of this survey questionnaire is to identify topics and subtopics needed in a business plan template to help guide an executive team, of a health care system, in deciding whether or not to implement a patient portal.

You have been selected to participate in this survey questionnaire as you are recognized in the healthcare field as an expert in the area(s) of patient portal implementation, information technology (IT) system implementation and/ or business planning. Your expertise in these areas will help identify what sections and subsections are important and should be included in the business plan template.

Please note completion of this Patient Portal Business Plan template is part of my Doctorate of Nursing Practice (DNP) scholarly project. The project is approved by University of Maryland Institutional Review Board (IRB).

Timeframe to Complete Survey: Please complete the survey by <insert date> following the instructions below.

Any Questions? If you have any questions in regards to the survey or business plan template, please feel free to contact me.

- Investigators: Susy Postal and Eun-Shim Nahm
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- Email spost001@umaryland.edu

Operational definitions:

- **Business Plan:** A decision making tools in the form of a document that is a roadmap to outline what a company intends to accomplish and grow revenues. It contains key elements and/ or components. Business plans are commonly used in healthcare to assist in the planning process of starting new business ventures, services or facilities (U.S. Small Business Administration).
- **Patient portal:** Online access that allows patients to retrieve their medical information, review educational content, communicate securely with their healthcare providers, manage appointments and refill prescriptions. The patient portal is accessible anywhere in the world using a computer to log into a patient-provider Internet based interactive website; which brings them to a secure portal (Chou, Nagykaldi, Aspy & Mold, 2010; Shaw & Ferranti, 2011).

Instructions:

- Please indicate your level of level of agreement or disagreement with each question using a five-point scale where 5 means Strongly Agree and 1 means Strongly Disagree,
- Consider whether each of the following sections and subsections are important and should remain in the business plan. Select the choice that BEST represents the extent to which you agree or disagree.

PART ONE:

The main sections listed below are important and should remain in the Patient Portal business plan

Executive Summary Describes the entirety of the business as whole and your intention of implementing a patient portal (referred to as PORTAL). – The Executive Summary should only be one page. Subsections in the Executive Summary contain a high level overview that will be further detailed in the various main sections

	0	1	2	3	4	5
I. Executive Summary	No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree					
II. Company Description	No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree					
III. Market Analysis	No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree					
IV. Organization and Management	No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree					
V. Service / Product Line	No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree					
VI. Marketing	No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree					
VII. Funding Request	No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree					
VIII. Financial Projection	No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree					
IX. Appendix	No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree					

In the space below, please share any additional comments

PART TWO:

Please indicate if the sub sections listed below are important and should remain in the business plan.

I. Executive summary

Describes the entirety of the business as whole and your intention of implementing a patient portal (referred to as PORTAL). – The Executive Summary should only be one page.

Subsections in the Executive Summary contain a high level overview that will be further detailed in the various main sections

- a) *Overview*- short description of the investment opportunity of implementing PORTAL use mission and/ or vision statement of the organization.
 - i) Describe the PORTAL you intend to implement.
 - ii) Describe the target market /users for the PORTAL.
 - iii) Describe the benefit the PORTAL provides to that target market.

- iv) Describe the competitors using PORTAL and how it is a necessity to have.
- b) *Problem* - What are the problems the PORTAL is designed to solve? For example, the PORTAL meet some MU Stage 2 objectives, patients need to be provided with electronic access to retrieve, view online, download and transmit to a third party their health information. This includes securely communicating via electronic messaging with their provider.
- c) *Major opportunity*- short description of customer’s need for a PORTAL; include customers to target (e.g. patients and health care providers).
- d) *Solution recommended* – How implementing the PORTAL will benefit the customers and organization and add value.
- e) *Potential Income and Return on Yield*- May need to express it in terms of user satisfaction and improved health outcomes.
- f) *Plan for business*- include organization’s sales, marketing, and development plans.
- g) *Financials*
- h) *Funding*- funding required to implement a PORTAL.

Executive Summary	0	1	2	3	4	5
	No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree					
1. Overview						
2. Problem						
3. Major Opportunities						
4. Solution recommended						
5. Potential Income and Return on Yield						
6. Plan for business						
7. Financials						
8. Funding						

If you would like to elaborate on any of the subsections covered in section, please use the space below.

II. Company Description

- a) *Describe organization*
 - i) Describe how the PORTAL will fit the organization need.
 - ii) Describe opportunities and challenges.
- b) *Describe current problem*- (e.g. need to engage more patient, need to improve patient provider satisfaction, supports meaningful use, limited funding).
- c) *Business description*- Develop a business plan template on how to implement PORTAL.

- d) *Mission statement*- Consider why a PORTAL would make a difference (e.g. Partnering Patients with their health care system).
- e) *Vision statement of organization*- (e.g. Provide the best quality of care in a cost effective manner).
- f) *Organizations strategic plan* – How the PORTAL will fit the strategic plan (e.g. promotion of meaningful use/ federal compliance to implement PORTAL).
- g) *Goals for PORTAL use* (see action plan).
- h) *Values statement*- How the PORTAL will benefit and provide value to the organization.

Company Description

No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree

- 9. Describe organization
- 10. Describe current problem
- 11. Business description
- 12. Mission statement
- 13. Vision statement of organization
- 14. Organizations strategic plan
- 15. Goals (see action plan)
- 16. Values statement

If you would like to elaborate on any of the subsections covered in section, please use the space below.

III. Market Analysis

- a) *Industry and market overview* - Why the organization needs a portal based on industry overview meaningful use, and funding available.
 - i) Identify current source information.
 - ii) Markets to target (e.g. patients and health care providers).
- b) *Barriers/ Risks* (identified from SWOT) (e.g. Hardware Requirement, HIPPA compliance, Physical Security).
- c) *Competitor analysis*
 - i) What competition exists: Who is using the PORTAL, what is being used in the community?

Market Analysis

No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree

- 17. Industry and Market overview
- 18. Barriers/ Risks
- 19. Competitor analysis

If you would like to elaborate on any of the subsections covered in section, please use the space below.

IV. Organization and Management

a) *Strategic planning*

i) Initial assessment

(1) Strengths weaknesses, opportunities and threats (SWOT) analysis:

(a) Strengths for having a portal- (e.g. promotion of patients becoming more actively involved in their health care).

(b) Weaknesses within organization to have portal (e.g. budget limitations, communicating with patients using unsecure email).

(c) Opportunity – (e.g. ARRA funding, Patients will have electronic access to their medical information).

(d) Threats- (e.g. security breaches and risk of inappropriate access to patient information).

ii) Identify stakeholders (e.g. people who use of internet, provide more access to healthcare).

(1) Define target group (patients and health care providers).

iii) Business model – This is the business strategy, part of the purpose, markets to target, strategies, policies, operational processes and infrastructure (e.g. Use gold standard of PORTAL at Veterans Administration (VA) or Kaiser Permanente).

(1) Identify team.

iv) Operational business plan- (e.g. legal requirements).

v) Performance indicators to be evaluated.

(1) Benchmark performance

(2) Quality outcomes in patient (e.g. improved diabetes management, improved hypertension, etc.).

vi) Exit strategy

Organization and Management

No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree

20. Initial assessment

21. Strengths weaknesses, opportunities and threats (SWOT) analysis:

22. Identify stakeholders

23. Business model

24. Operational business plan

25. Performance indicators to be evaluated

26. Exit strategy

If you would like to elaborate on any of the subsections covered in section, please use the space below.

V. Service / Product Line

- a) *Outline services proposed:* Include forecast and impact.
- i) Outpatient services
 - ii) Inpatient services

Service / Product Line

No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree

27. Outline **Outpatient services** proposed with forecast and impact.
28. Outline **Inpatient services** proposed with forecast and impact.

If you would like to elaborate on any of the subsections covered in section, please use the space below.

VI. Marketing of the Patient Portal

- a) *Marketing strategy/ plan*
- i) Identify marketing plan (e.g. communication to user community).
 - ii) Potential benefits of PORTAL.

Marketing of the Patient Portal

No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree

29. Marketing strategy/ plan
30. Potential benefits of portal

If you would like to elaborate on any of the subsections covered in section, please use the space below.

VII. Funding Request

This section describes funding required to implement a PORTAL, how they will be utilized, what the goal and milestones the organization hopes to achieve using the funds.

- a) *Financial Analysis*- What is available for funding (e.g. grants, American Recovery and Reinvestment Act funding).
- b) *Financial forecasts*
 - i) Provide financial plan -Need to review finance to see what can be afforded. Address return on investment (ROI).
 - ii) Financial capital/ needs.
 - (1) Technology needed.
 - (2) Operational/ organizational support.
 - (a) Operations financial management.
- c) *Human capital required.*

Funding Request

No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree

- 31. Financial analysis
- 32. Financial forecasts
- 33. Human capital required

If you would like to elaborate on any of the subsections covered in section, please use the space below.

VIII. Financial Projections

- a) *Growth strategies*- How the PORTAL can help organization to grow.
 - i) Strategic direction
 - ii) Execute improvements

Financial Projection

No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree

- 34. Growth strategies

If you would like to elaborate on any of the subsections covered in section, please use the space below.

IX. Appendixes

- a) *Glossary of definitions and abbreviations*
- b) *Implementation / Action plan*
 - i) Short-term goals
 - ii) Immediate objectives

iii) Outline schedule for implementation

iv) Monitoring next steps

Appendix

No comment, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree

35. Glossary of definitions and abbreviations

36. Implementation / Action plan

If you would like to elaborate on any of the subsections covered in section, please use the space below.

PART THREE:

This part of the questionnaire will be used to describe the expert panelist. Please select the appropriate response.

Gender

Female

Male

Race

American Indian or Alaska Native

Asian

Black or African American

White

Native Hawaiian or Other Pacific Islander

What is your age?

40 or under

41 – 45

46– 50

51 or older

What is your highest level of education?

Associate's degree

Bachelor's Degree

Some graduate school

Master's degree or equivalent

Doctorate, law or medical degree or equivalent

What is your current area of practice area for the organization you are employed. (Select all that apply)

- Administrative
- Business/ Finance
- Executive Leadership
- Information Technology
- Project Management
- Other _____

What are your years of experience in working in the above selected area?

- 5 years and below
- 6-10 years
- 11-15 years
- 16-20 years
- 21+ years

Have you used a patient portal?

- Yes
- No

Does your organization have a patient portal?

- Yes
- No

Thank you for taking the time to complete this questionnaire.

Appendix B
A Business Plan Template to Help Guide an Executive Team, of a Health Care System, in
Deciding Whether or Not to Implement a Patient Portal
(FINAL)

Main Sections**Table of contents**

- 1) Executive summary**
- 2) Company Description**
- 3) Market Analysis**
- 4) Organization and Management**
- 5) Service / Product Line**
- 6) Marketing**
- 7) Financial**
- 8) Appendix**

Table of contents**I. Executive summary**

Briefly describes the entirety of the business as whole and your intention of implementing a patient portal (referred to as PORTAL). – The Executive Summary should only be one page. Subsections in the Executive Summary contain a high level overview that will be further detailed in the various main sections

- a) *Overview*- short description of the investment opportunity of implementing a PORTAL. Focus on the mission and vision of the organization. Describe the PORTAL you intend to implement and how the PORTAL fits into the mission and vision of the organization as an opportunity.
- b) *Problem*- What are the problems the PORTAL is designed to solve?
- c) *Major opportunity and benefits*- short description of customer's need for a PORTAL; include customers to target (e.g. patients and health care providers).
- d) *Solution recommended*– the type of PORTAL that will fit the organization's needs.
- e) *Return on Investment*
- f) *Plan for business*- include organization's sales, marketing, and development plans.
- g) *Financials*- funding required to implement a PORTAL.

II. Company Description

- a) *Describe organization focusing on* how the PORTAL will fit the organizational needs
- b) *Describe current problem*- (e.g. improve patient engagement, , need to improve patient provider satisfaction, supports meaningful use, limited funding).
- c) *Business description*- Develop a business plan on how to implement the PORTAL.

- d) *Organizations strategic plan*– How the PORTAL will fit the strategic plan and existing business model (e.g. promotion of meaningful use/ federal compliance to implement a PORTAL). Note: A full strategic plan may be too complex to include.
- e) *Goals and Values statement*- What are the goals for the PORTAL use (see action plan). How the PORTAL will benefit and provide value to the organization.

III. Market Analysis

- a) *Industry and market overview*- Why the organization needs a PORTAL based on industry overview, meaningful use, trends, growth and funding available.
 - i) Identify current products available in the market.
 - ii) Markets to target (e.g. patients and health care providers).
 - iii) Market segmentation- how the organization is different from others and how the portal will enhance the difference.
- b) *Barriers/ Risks* (identified from SWOT) (e.g. Hardware Requirement, HIPAA compliance, Physical Security, Patient access to hardware and the internet).
- c) *Competitor analysis*
 - i) What competition exists: Who is using the PORTAL, what is being used in the community?

IV. Organization and Management

- a) *Strategic planning*
 - i) Initial assessment
 - (1) Strengths weaknesses, opportunities and threats (SWOT) analysis:
 - (a) Strengths for having a PORTAL- (e.g. promotion of patients becoming more actively involved in their health care).
 - (b) Weaknesses within organization to have a PORTAL (e.g. budget limitations, communicating with patients using unsecure email).
 - (c) Opportunity– (e.g. CMS Meaningful Use incentive, Patients will have electronic access to their medical information).
 - (d) Threats- (e.g. security breaches, risk of inappropriate access to patient information, product line issues and political capital threat).
 - ii) Identify stakeholders (e.g. people who use of internet, provide more access to healthcare).
 - (1) Define target group (patients and health care providers).
 - (2) Define key people in the organization, their role with the PORTAL and background.
 - iii) Business model– This is the business strategy, part of the purpose, markets to target, strategies, policies, operational processes and infrastructure (e.g. PORTAL at Veterans Administration (VA) or Kaiser Permanente).
 - (1) Identify team.

- iv) Operational business plan- (e.g. legal requirements).
- v) Performance indicators to be evaluated.
 - (1) Benchmark performance
 - (2) Quality outcomes in patient. Align performance indicators to the goals of specific patient populations.
- vi) Exit Strategy
 - (1) Disaster management if system fails.
 - (2) Changing products (option A or option B).
 - (3) Operation and Maintenance mode for staffing.

V. Service / Product Line of the Patient Portal

- a) *Outline services provided by the organization as it relates to the PORTAL (e.g. Outpatient services, inpatient services).*
- b) *Provide PORTAL information*
 - i) Description of the PORTAL.
 - ii) Identify the PORTAL's lifecycle.
 - iii) Identify any research and development opportunities concerning the PORTAL

VI. Marketing of the Patient Portal

- a) *Marketing strategy/ plan*
 - i) Identify marketing plan (e.g. communication to user community).
 - ii) Identify promotional strategy.
 - iii) Identify people to address.
- b) *Potential benefits of the PORTAL.*

VII. Financial

This section describes funding and financial requirements to implement a PORTAL as well as promoting organizational growth. It needs to identify how the PORTAL will be utilized, what goals and milestones the organization hopes to achieve using the funds.

- a) *Financial Information-* Should include the organizations financial information.
 - i) Historical financial data,
 - ii) Prospective financial data,
 - iii) Ratio analysis, and
 - iv) Trend analysis (Profit and Loss Statements).
- b) *Financial Analysis-* What is available for funding (e.g. grants, American Recovery and Reinvestment Act funding).
- c) *Financial forecasts*
 - i) Provide financial plan- Provide an overview of finances to see what can be afforded. Address return on investment (ROI). Address funding requirements (e.g. current and over next five years).
 - ii) Financial capital/ needs.
 - (1) Technology needed.

- (2) Operational/ organizational support.
 - (a) Operations financial management.
- d) *Human capital required*- Describe the knowledge, skills and experience of individuals needed by the organization to implement and maintain the PORTAL.
- e) *Capital Equipment includes hardware*
- f) *Growth trajectory*- How the PORTAL can help organizational growth.
 - i) Strategic direction
 - ii) Execute improvements

VIII. Appendix

- a) *Glossary of definitions and abbreviations*
- b) *Implementation / Action plan*
 - i) Short-term goals
 - ii) Immediate objectives
 - iii) Outline schedule for implementation- high level, detailed outline to be part of proposal).
 - iv) Monitoring next steps

Note. Outline adapted from “Successful business plan: Secrets & strategies,” by R. Abrams, 2010, Copyright 2010 by the Planning Shop; “Create your business plan,” n.d., The U.S. Small Business Administration, Retrieved from <http://www.sba.gov/category/navigation-structure/starting-managing-business/starting-business/how-write-business-plan>; “Executive summary template,” n.d., University of Maryland College Park.

Table 1

Expert Panelist agreement between rounds on items to remain in Patient Portal business plan template

Items	Round 1 n (%)	Round 2 n (%)
Part I Main Sections		
Executive Summary	12 (100)	12 (100)
Company Description	12 (100)	11 (92)
Market Analysis	11 (92)	11 (92)
Organization and Management	11 (92)	12 (100)
Service/ Product Line	8 (67)	11 (92)
Marketing	10 (83)	10 (83)
***Funding Request--> Financial	11 (92)	
***Financial Projections -> Financial	11 (92)	
**Financial		11 (92)
Appendix	9 (75)	9 (75)
Part II Subsections		
Executive Summary		
<i>Overview</i>	11 (92)	12 (100)
<i>Problem</i>	11 (92)	12 (100)
<i>Major Opportunities</i>	11 (92)	11 (92)
<i>Solution Recommended</i>	11 (92)	11 (92)
*** <i>Potential Income and Return on Yield--> ROI</i>	9 (75)	
** <i>Return on Investment (ROI)</i>		10 (83)
<i>Plan for Business</i>	9 (75)	10 (83)
<i>Financials</i>	8 (67)	10 (83)
*** <i>Funding--> Financials</i>	10 (83)	
Company Description		
<i>Describe Organization</i>	11 (92)	11 (92)
<i>Describe Current Problem</i>	9 (75)	12 (100)
<i>Business Description</i>	10 (83)	11 (92)
* <i>Mission Statement</i>	8 (67)	
* <i>Vision Statement of the Organization</i>	6 (50)	
<i>Organization's Strategic Plan</i>	10 (83)	11 (92)
*** <i>Goals (See Action Plan)--></i>	10 (83)	
<i>Goals and Values Statement (See Action Plan)</i>		
*** <i>Values Statement--></i>	8 (67)	
<i>Goals and Values Statement (See Action Plan)</i>		
** <i>Goals and Values Statement (See Action Plan)</i>		12 (100)

Table 1 (Continued)

Items	Round 1 n (%)	Round 2 n (%)
Market Analysis:		
<i>Industry and Market Overview</i>	11 (92)	12 (100)
<i>Barriers/ Risk</i>	10 (83)	11 (92)
<i>Competitor Analysis</i>	11 (92)	11 (92)
Organization and Management:		
<i>Initial Assessment</i>	12 (100)	12 (100)
<i>Strengths Weaknesses, Opportunities and Threats (SWOT) Analysis</i>	11 (92)	11 (92)
<i>Identify Stakeholders</i>	11 (92)	12 (100)
<i>Business Model</i>	9 (75)	11 (92)
<i>Operational Business Plan</i>	10 (83)	10 (83)
<i>Performance Indicators to be Evaluated</i>	11 (92)	11 (92)
<i>Exit Strategy</i>	8 (67)	12 (100)
Service / Product Line		
<i>***Outline Outpatient services proposed with forecast and impact --></i>	10 (83)	
<i>Outline services proposed provided by the organization as it relates to the PORTAL</i>		
<i>*Outline Inpatient services proposed with forecast and impact</i>	10 (83)	
<i>** Outline services proposed provided by the organization as it relates to the PORTAL</i>		9 (75)
<i>** Provide PORTAL information</i>		9 (75)
Marketing of the Patient Portal		
<i>Marketing Strategy/ Plan</i>	12 (100)	12 (100)
<i>Potential Benefits of Portal</i>	12 (100)	12 (100)
***Funding Request--> Financial		
**Financial		
<i>Financial Information</i>		10 (83)
<i>Financial analysis</i>	11 (92)	12 (100)
<i>Financial forecasts</i>	11 (92)	12 (100)
<i>Human capital required</i>	10 (83)	12 (100)
<i>**Growth Trajectory</i>		11 (92)
Financial Projections--> Financial		
<i>***Growth Strategies--> Growth Trajectory</i>	10 (83)	

Table 1 (Continued)

Items	Round 1 n (%)	Round 2 n (%)
Appendixes		
Glossary of Definitions and Abbreviations	11 (92)	9 (75)
Implementation / Action plan	11 (92)	11 (92)

Note. 1: n (%). Number of participants who gave a 4 (agree) or 5 (strongly agree) for the item.

* =removed after first round, ** = added in the second round, *** renamed after first round