HOSPITAL AS A BUSINESS FOR FLOURISHING

A process innovation for rethinking
healthcare business models

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ABSTRACT

The healthcare sector in the Western world is in the midst of a significant change. Most healthcare organizations are going through the gruelling process of having to make decisions and staying updated in a world where technology, medical information, demographics of patients and relationships between other healthcare systems are constantly changing (Cohen et al., 2004). Besides, governments throughout the developed world have been under pressure to reduce healthcare costs, while improving the quality of care (Howie & Erickson, 2002; McCue, 1997; Segesten, Lundgren & Lindström, 1998).

In such an environment, healthcare service providers are finding it increasingly difficult to understand the far-reaching social impact of their services. This project uses the concept of flourishing to help clinicians and administrators in a hospital to analyze their current service offerings, find gaps and come up with recommendations to improve the same. Keyes' (1998, 2002) defined human flourishing as the sum of qualities that would ensure a healthy sense of well-being and social integration. There is a special focus on understanding the context and stakeholders using the adapted social ecosystem model of Bronfenbrenner (1979), which will help in identifying functions and measures of flourishing across a social system. Using the Flourishing Business Canvas (Upward and Jones, 2016), this research project explores ways of impact definition and evaluation, and also measures social and environmental benefits which will help decision makers in a healthcare setting.

The research looks at relevant literature in the field of business models, sustainability, and flourishing, with health care as the context. This action-lead design research introduced a business modelling artifact (the Flourishing Business canvas) to a group of decision makers at the level of director and managers, in North York General Hospital in a generative workshop session. The participants are encouraged to look at their service lines as businesses and map out that out on the canvas in the form of a model. Their observation, reactions, and data from the canvases are recorded. This and data from interviews with other clinical directors are tallied and analysed to look for common challenges faced by the hospital and areas of opportunities.

The unique contribution is the design of a process and method for representing conditions and elements of flourishing within healthcare service lines: a business process that is currently desired but unavailable to organizations (Jones, 2016, personal conversation).

ACKNOWLEDGEMENTS

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"Were there none who were discontented with what they have, the world would never reach anything better."

Florence Nightingale

This project was born out of curiosity of understanding the Canadian healthcare system and a desire to make a positive impact on care institutions, especially in the areas of patient experience. It presented an opportunity to use the concepts, tools, and frameworks that were introduced in the Strategic Foresight and Innovation program at OCAD University. It gave me an opportunity to collaborate, co-create and interact with thinkers and experts in the domain, and I am grateful to them for their words of wisdom, critiques, and feedback. When I moved here in Toronto from India, I believed I was transitioning to a "better" healthcare system.

Soon I started questioning the meaning of the word "better". The level and quality of care here might be far superior and the concept of universal health care, something that is new to me, had its advantages. But I also started noticing through experiences in my circle of friends, the deep crevices that were not visible during my initial days in this country. This was more of a systemic problem for which there were no easy solutions. I decided to focus on the institutions that are at the forefront of care delivery and find ways that could help them in their strategic decision making.

1.0 —
Introduction

1.1 Context and rationale

While there has been a positive attitude towards healthcare innovations in general, a few researchers have also pointed out the difficulty in changing the behaviours of clinicians (Greco & Eisenberg, 1993), present day medical practices, and healthcare organizations (Shortell, Bennett, & Byck, 1998; Shortell et al., 2001). Healthcare innovators must be mindful of health risks related to financial, social and ethical issues, especially while innovating in patient care, treatment practices and hospital procedures (Collier, 1994; Faulkner & Kent, 2001). Evaluation of healthcare services and structural innovations require research methods derived from social sciences and focus on a value-driven method. The lack of service model thinking supported by social science approaches has led to the creation of business models which are not inclusive for patients and communities.

Clinicians, in a healthcare context, rely heavily on evidence-based medicine. Clinical pathways are among the widely used tools for quality management and standardization of care processes. It promotes an organized and effective care through an evidence-based practice. The merit of this process is that it includes data from scientific literature, to address a clinician's biases, or the gaps in their knowledge, to determine the best practice (Evidence-Based Medicine Working Group, 1992). However, institutions have not embraced a holistic approach to their service and business processes. Reframing services in terms of value co-creation and value co-destruction could enable decision makers to creatively design business models in order to increase the impact of their service lines.

Image credit: Joel Filipe from https://unsplash.com/@joelfilip?photo=Wc8k-KryEPM

Problem
The state of affairs

"It is time to get innovative. Time to change the way we have been thinking and how we have been doing things. It is time to work collaboratively to make the system more responsive to the needs of Canadians. The time is now." The Honourable Rona Ambrose, Minister of Health, Canada.

On June 24, 2014, the Canadian health minister, Rona Ambrose, launched an Advisory Panel on Healthcare Innovation (Unleashing Innovation, 2015). Her mandate to the Panel was to: Identify the five most promising areas of innovation in Canada and internationally that have the potential to sustainably reduce growth in health spending while leading to improvements in the quality and accessibility of care.
Recommend the five ways the federal government could support innovation in the areas identified above.

Canadians consider the country's healthcare system to be one of the symbols of national identity (Focus Canada 2012 survey). But this healthcare system that people have been proud of for a long time, has become increasingly unsustainable, partly due to rising costs which are pushing provincial governments to spend more proportionally each year. Canadian healthcare is often called as "the third rail of Canadian politics", which makes it a sensitive issue for the government to discuss with the public, especially

questions around the sustainability of the system.

The creation of the panel seemed to be a clear indication that there has been an emerging consensus among Canadian patients, care providers, policymaker and the public; which was that even though the Canadian healthcare system had its own share of strengths, it was a long way from where it should or could have been.

The Canadian Health Care System
The background

Before moving any deeper it is important to have an overall understanding of the architecture of the healthcare system in Canada also known as Medicare.

- Hospitals and/or physicians provide all medically necessary health services without any charges at the point of service. These services are also portable across different provinces and territories within the country.

- The Canada Health Act is a federal legislation that puts in place conditions which require that provincial and territorial health insurance plans to meet specific criteria in order to receive federal funding through the Canada Health Transfer.

- Public coverage has been widened by some provinces and territories to include home care, long-term care,

and drugs which are dispensed in the communities. Such additional services are usually targeted at low-income households and senior citizens.

- Many Canadians and their families also have access to private health insurance through their workplaces. These insurance plans extend the coverage to prescription drugs, hospital stays, prescribed medical devices, and ambulatory services provided by other healthcare professionals such as dentists, physiotherapists, psychologists, and optometrists.

- All hospital and physician services are covered under the public plans, while other professional health-related services and goods are financed through a mix of public and private payment.

- Remuneration usually happens on a negotiated fee-per-service basis, for physicians. Independent medical professionals are also paid in the same way and their services are covered by provincial and territorial health insurance plans.

- The majority of the general hospitals are structured as public sector organizations or not for profit corporations. They are publicly usually funded via a mix of global (i.e., lump sum) budgets, programmatic envelopes, or activity-based funding. In several provinces or territories, these acute care institutions are often linked to other parts of the system through shared budgeting or common governance.

Many of these features have their roots in the policies formulated in the 1960s or before that, and were codified in 1984 by the Canada Health Act. While these social programs are iconic and were aimed at eliminating the financial barriers to accessing healthcare, systemic problems have been identified which has made it difficult for innovation to happen. There were worrisome disparities in health status that continue to exist across different strata of society and income groups even after years of universal coverage.

Performance of Canadian Health Care System

The following paragraphs will give any overview of the performance measures of the Canadian Healthcare system. These rankings and data visualizations are an effort to explain something which is complex and abstract in a way that is understandable. While these carry the risk of oversimplification, it gives policy makers and administrators an opportunity to address the areas which look worrisome.

1. Healthcare Spending

All industrialized nations in the OECD has shown distinct spending trends since the 1970s. The rise in healthcare costs has outpaced the rate of economic growth in most of these countries. Canada has outpaced many other countries in the OECD, in healthcare spending.
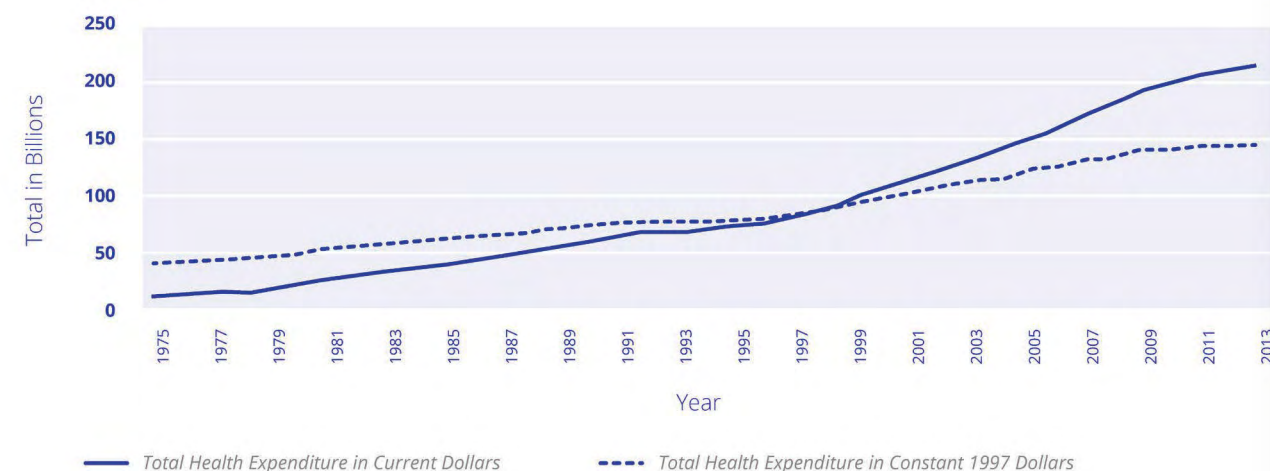
Figure 1.1. Canadian Health Expenditure Trends from 1975 to 2014. Adapted from Canadian Institute for Health Information (CIHI)

Figure 1.2. Health Status Performance Profile, Canada. Adapted from Canadian Institute for Health Information (CIHI)

As shown in Figure 1.1, Canada is one of the higher spenders in OECD countries at 10.2 percent of GDP, with adjustment for purchasing power, US$4,351 per person in 2013. This compares to an OECD average of 8.9 percent and a similarly adjusted US$3,453, (OECD Health Statistics 2015).

Given the number and diversity of OECD members, most Canadian benchmarking exercises use a smaller subset of "peer countries" such as Australia, France, Germany, Netherlands, New Zealand, Norway, Sweden, Switzerland, United States, and the United Kingdom. These comparisons seem more plausible but Canada still spends more than some peers.

2. Health Outcomes

It is quite evident from Figure 1.1, that Canada is spending a lot of dollars in the public healthcare system, but what needs to be seen is whether it is actually leading to better health outcomes. While there seems to be some evidence relating higher health spending with better health outcomes, the problem is that these marginal returns on investments look to be diminishing when countries spend more on healthcare (OECD, 2013). The provinces and territories are left with a hard choice of investing more on either healthcare or other determinants of health care, such as education and homelessness.

3. Access to Healthcare in Canada

Access to healthcare is one aspect that matters the most to patients and their families, no matter what the outcome is. This has been an ongoing concern of the public for the last two decades. A measure of access to care that is of particular concern in Canada is wait times (for specialist or tertiary care). This is an important health policy issue for many OECD countries. Long waits may lead to patient dissatisfaction and potential negative short- and long-term health outcomes. In 2004, Canada's first ministers agreed to spend $5.5 billion

in federal funding to reduce wait times in five clinical areas: cancer, heart, diagnostic imaging, sight restoration and joint replacement (Health Canada 2004). This has shown positive results and lower wait time in these 5 areas.

In addition to wait times, OECD's measures of access to care also examined out-of-pocket expenditures and income inequalities in health care utilization. These are signals of significant financial barriers to entry and needs urgent attention and protection mechanisms.
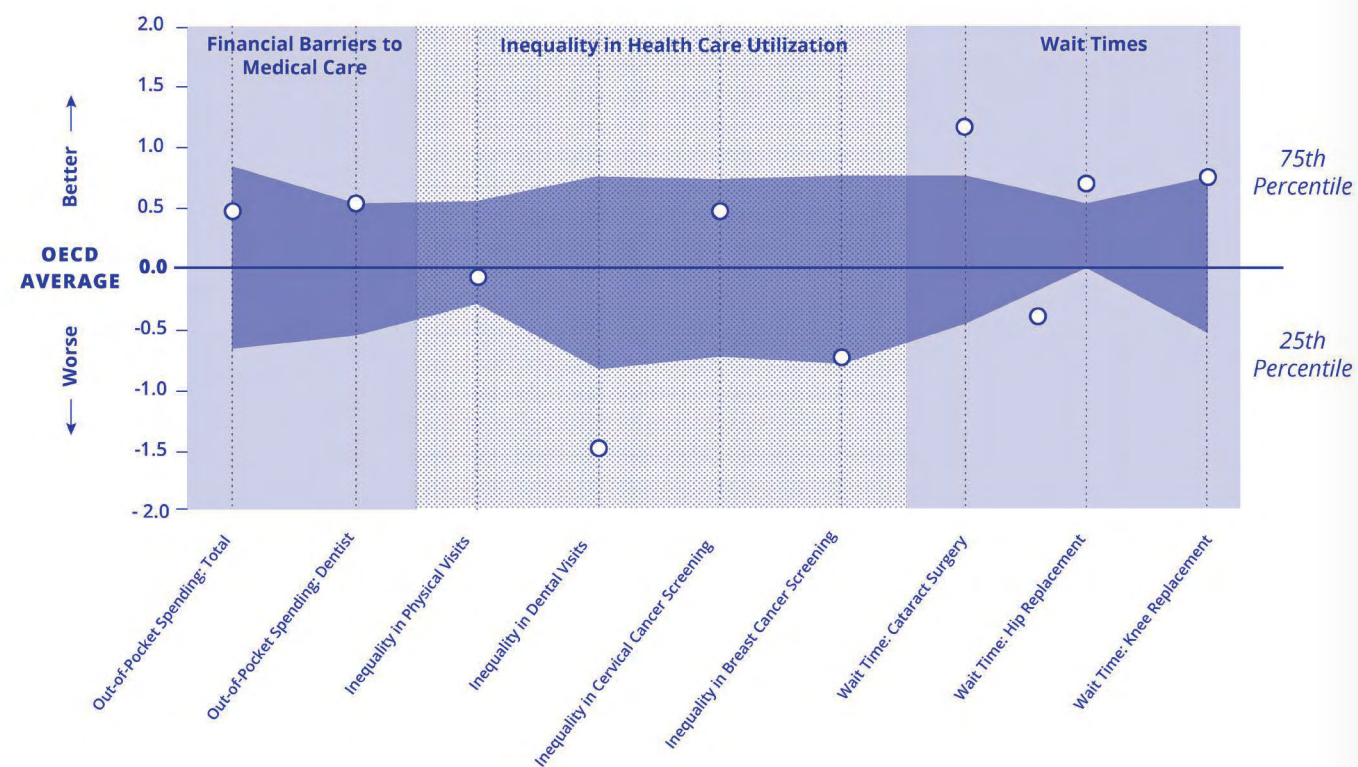
Figure 1.3. Access to Care Performance Profile, Canada. Adopted from Organisation for Economic Co-operation and Development, 2013.
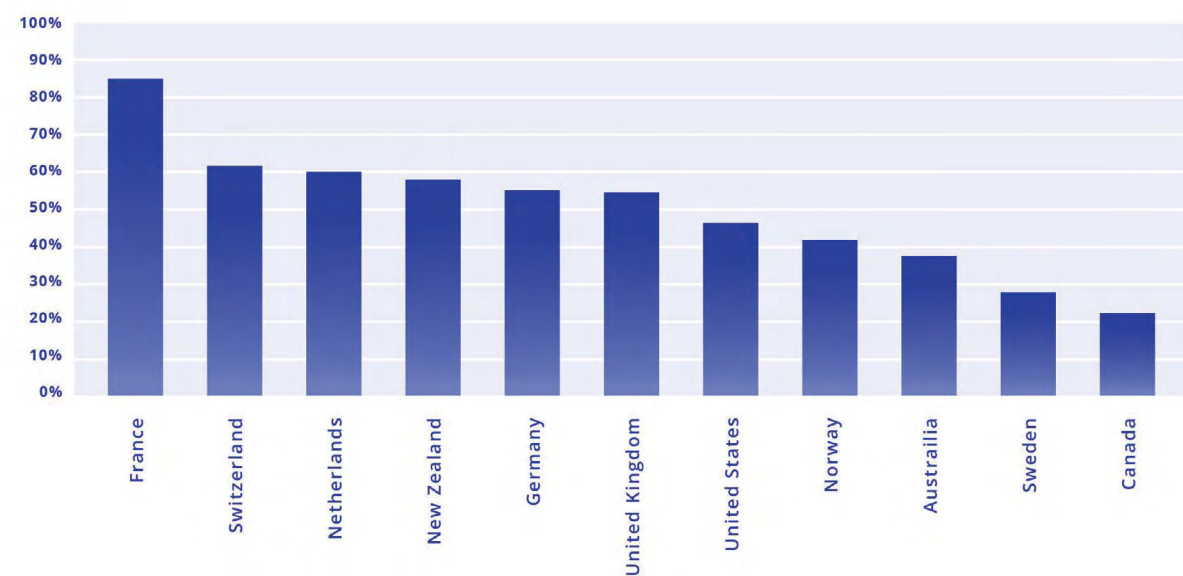
Figure 1.4. Doctors Reporting That Their Patients Can Get a Same or next day Appointment. Adapted from Schoen C, Osborn R. The Commonwealth Fund 2012 International Health Policy Survey of Primary Care Physicians.

4. Quality of Care

Canada performs well on several measures of quality of care. For example, survival rates are high after treatment of breast and colorectal cancer. The same is the case in the 30 days following a heart attack, which is better than the OECD average(CIHI, 2015). The overall picture suggests that condition-specific quality of care in Canada may be somewhat above average for the entirety of the OECD.

As clearly visible in figure 1.5, however, in comparison to peer nations with high-performing healthcare systems, Canada falls behind in terms of overall quality of care. Canada ranked 7th and 10th on key indicators of quality, in the 2014 Commonwealth Fund ranking. Canada's overall ranking at 10th out of 11 nations is also a matter of concern.

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Overall Ranking	4	10	9	5	5	7	7	3	2	1	11
Quality Care	2	9	8	7	5	4	11	10	3	1	5
Effective Care	4	7	9	6	5	2	11	10	8	1	3
Safe Care	3	10	2	6	7	9	11	5	4	1	7
CoordinatedCare	4	8	9	10	5	2	7	11	3	1	6
Patient-centredCare	5	8	10	7	3	6	11	9	2	1	4
Access	8	9	11	2	4	7	6	4	2	1	9
Cost-related Access Problems	9	5	10	4	8	6	3	1	7	1	11
Timeliness of Care	6	11	10	4	2	7	8	9	1	3	5
Efficiency	4	10	8	9	7	3	4	2	6	1	11
Equity	5	9	7	4	8	10	6	1	2	2	11
Healthy Lives	4	8	1	7	5	9	6	2	3	10	11
Health Expenditures per Capita, 2011 ($)	3800	4522	4118	4495	5099	3182	5669	3925	5643	3405	8508

Expenditures shown in $US PPP (purchasing power parity); data for Australia from 2010

Table 1.1. National Summary Scores on Health Systems Performance. Adapted from Davis K et al., 2014

This section provides context in both a global and local level. The health care problems are usually systemic in nature and are not bound by geographical boundaries.

The "value agenda" introduced by Michael Porter and Elizabeth Teisberg in their book Redefining Health Care in 2006, has been gaining popularity among health leaders in the US and Canada. This strategy involves restructuring how health care delivery is organized, measured, and reimbursed. The shift from a supply-driven healthcare system to a value-driven one is not going to be easy. Value-based care envisions the shift from a volume and profit driven service model to one where positive patient outcomes are foremost (Porter & Lee, 2013). The Flourishing Business Canvas (FBC) developed by Antony Upward and the adapted Flourishing Societies Model developed by Peter Jones, along with members of the Strongly Sustainable Business group, has identified flourishing as a system goal. It does not just look at the economic sustainability of a business, but also the environment in which the business operates. It aims to ensure that businesses flourish financially, benefit socially and regenerate environmentally (Jones & Upward, 2015). These artefacts are built to engage stakeholders and have a better dialogue on understanding a value driven organization.

1.2 Research Question and Goal

The previous section sets the context for this project. In the midst of fast changing social, political, economic and environmental landscapes, healthcare services in the developed worlds are finding it challenging to restructure or re-think or re-design themselves. There is no doubt that there has been a lot of innovations in the field on healthcare, but we must see how they impact the patients in the short and long run. Business modelling tools are being successfully used by enterprises to visualize their businesses and make strategic decisions. This project investigates if such tools are applicable in a healthcare setting where the primary motive is not to make money, but improve the patient experience, quality of care, make care more accessible and staying financially sustainable by maintaining zero deficit. The research question this project aimed to addressed at the start is:

"How might we enhance the capacity of hospitals to develop effective clinical service models that are consistent with technology, policies, culture and future population changes?"

The aim was to explore clinical service lines of hospitals as business models for organizational and societal flourishing. This project investigates and reviews ways to design a process that can represent conditions and elements of flourishing within a healthcare setting. One of the major goals of the project is to evaluate the adaptability of a design artifact (the Flourishing Business Canvas) in a hospital administrative context.

1.3 Limitations

While this research project touches on several key issues and concepts related to business models and its use in healthcare, there are a few things that are not the goals of this research project. In the interest of time, effort, and monetary considerations, the following areas not within the scope of this project:

- Envisioning a new business model for the clinical program areas taking part in the research, which requires rethinking and redesign of the system.

- Planning, designing or refining strategies for the hospital using the design research artifact and other tools. (The purpose of the project is to introduce the artifact to the administrators and managers and document their thoughts and reactions after using it.)

- Touch upon government level policy making decisions or suggestions.

- Try to get an in-depth understanding of each clinical service area.

- Involving clinicians and patients in the research (this study is focused on the service and business aspects of a hospital)

- Researching the same business model in more hospitals than North York General Hospital, Toronto

Even though this study is primarily focused on just one hospital, I acknowledge the role played by the Ministry of Health and Long-Term Care (MOHLTC) and other government bodies in health care planning and funding. I also recognize the value in extending this study to other hospitals in Toronto, but the study was planned for the single institution for the MRP. While this project aims at enabling the planners and administrators in a hospital to plan better for the future, it does not intend to be a foresight study.

Being new to the country, I have a limited understanding of the Canadian healthcare system, which is primarily based on interactions with peers and acquaintances, and through information available in the public domain. I am aware that there might be some in-built biases in their approach, world-view, and work.

2.0 ——
Concepts

2.1 Business Model

Michael Lewis in his book The New New Thing (1999) refers to the business model as "a term of art". People really tend to define the term on the basis of how they use it themselves. A simple definition he offers is " All it really meant was how you planned to make money". Many business thinkers have used the concept in different ways in the past.

Peter Drucker in his "Theory of Business" defines the term "assumptions about what a company gets paid for", but never really mentions "Business Models"(Drucker, 1994). His theory of business was more of a set of assumptions about what a business will and will not do. He cites the example of IBM, one of the most strategically agile companies of all time. He explains that the assumptions about what's critical to a company sooner or later turn out to be false. In IBM's case, they make the shift from a tabulating machine company to hardware leaser to a vendor of PC hardware, mainframe, and minicomputer.

This changes the company's assumption that they are in the hardware business. Eventually, IBM manages to free itself from these assumptions and makes profits through services (Ovans, 2015).

Osterwalder, well known for the Business Model Canvas, defines a business model in his thesis (The business model ontology: A proposition in a design science approach). He goes on to define it as (Osterwalder, 2004)

"... a conceptual tool that contains a set of elements and their relationships and allows expressing a company's logic of earning money. It is a description of the value a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing and delivering this value and relationship capital, in order to generate profitable and sustainable revenue streams."

Image credit: Samuel Zeller from https://unsplash.com/@samuelzeller?photo=0rxmzg-Q1Lk

The "business model canvas" is an organized way to lay out the assumptions about not only key resources to value chain, but also value proposition, customer relationships, customer segments, cost structures, and revenue models. This enables the user to see if anything important has been missed out that is related to the business and compare one's models to others.

Upward and Jones observe that the current definitions of business models make reference only to the economic system boundary, due to the limitations of the current definition of value. Measurement of value exchange, when limited to monetary units, strictly limits the extension of the business models to other definitions of value.

Thus, the business model is reformulated as a systemic model, of necessary and sufficient concepts, that both describe and guide the business as a social system within its containing systems of economy, society, and the environment. They define a business model as:

> "A description of the logic for an organization's existence: who it does it for, to and with; what it does now and in the future; how, where and with what does it do it; and how it defines and measures its success" (Upward and Jones, 2015)

Role of Business Models

Before getting to understanding the need for business models in healthcare, it is important to study the importance of business models in organizations itself. Osterwalder's paper "The Business Model Ontology: a Proposition in a Design Science Approach, 2004" explains the importance and uses of business models within an organization. This section is going to look at his observations and analyses.

It is important to explain how business models are situated in the company, before understanding the models and their roles. (Osterwalder, 2004).

Osterwalder illustrates the different views taken by the business organization, business strategy and Information and communication technology (ICT) within a company. These various categories often have different groups of employees and worldview. In order for the organization to function smoothly, these parties to have a clear alignment, which calls for clear communication of concepts between the required parties. This is where business models are most useful: they help build a shared understanding of the business, and facilitate communication between people and application systems that are widely spread (Fensel, 2001). The triad and the business model are acted upon by various external forces like competitive forces,

legal, social and/or technological changes, and changes in customer demand.

Use of Business Models

Osterwalder observes the lack of concepts and tools to help managers capture, understand, communicate, design, analyze and change the business logic in their organizations. To address this problem, he identifies 5 categories of functions: understanding & sharing, analyzing, managing, prospects, and patenting of business models. The business logic according to him is abstract understanding of how a company makes money; what does it offer, who does it offer to and how is it accomplished.

Understand and share: Business models can have a valuable contribution in understanding and sharing the business logic of an organization. They can help in capturing, comprehending, visualizing and finally communicating the business logic by creating a framework that translates an imaginary model of abstract concepts of business into something simpler, and communicate that to stakeholders.

Analyse: Business models can also help in the analysis of the business logic of an organization by improving measurement, observation, and comparison of that logic. The understanding of the business

from the first step makes it easier to identify the relevant measures that need to be taken in order to improve management. It is also important to observe the changes to the organization due to external and internal pressures over a period of time. When an organization has followed a structured approach and have observations for a long period of time, it helps in comparing their models to those of their competitors. This might often lead to new insights and innovations within the company or the sector.

Manage: Business models have a major contribution to improving the management of the business logic. The business model concept helps in improving the design, planning, altering and implementing the business models. Designing a business model is a complex process. Having a business model ontology helps the designers understand the key relationships between the different elements and design a sustainable business model. When organizations plan to make changes to their current business models, capturing and visualizing that model becomes quite critical in keeping track of the changes, and this, in turn,

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helps implement the new model. The competitive business landscape is rapidly changing and business models provide the managers the perfect understanding of their current business in order to react to constantly changing internal and external pressures.

Business models give the decision makers in an organization a clearer understanding of the business logic, which enables them to make better decisions. It can also be used as a unit of analysis which can help in observation and comparison, thus assisting in decision making.

Prospect: Business models can foster innovation and make the organization future-ready though the use of prototype. According to Osterwalder, a conceptual and modular business model approach creates the perfect environment for innovation. Amit and Zott (2001) perceive and explicitly address the business model as a locus of innovation. Business models help an organization be future-ready by keeping a portfolio of alternate business models, considering the change that is happening. It also enables the managers to prototype their models and this enables them to think a few steps ahead. It is clear that simulations will not be able to predict the future currently, but they are a way of doing risk-free experiments within an organization without endangering it (Sterman 2000).

Role of business models in healthcare

The last section gave an idea of how business models can be used in organizations, but strictly only in the business sense. What happens when these models are applied in a hospital setting? For the purpose of this research, the scope has been narrowed to hospitals in the province of Ontario. While business models are usually applicable to businesses, this research work is analysing if the same framework could be applied to an organization which might have similar (or more) complexities but not have profit-making as a primary agenda or goal, but fiscal sustainability and a focus on outcomes.

While it is fair to say that public hospitals, being not-for-profit organizations, will be different than traditional businesses, there is also some similarity in the organizational structure that might be effective in the use of business models. Figure 2.1 shows a comparison between Osterwalder's diagram (top) and the one I imagined(bottom) for the hospital. It illustrates the different views taken by the Senior leadership in the organization, hospital strategy, and Clinical programs within a hospital. Hospitals as organizations are no less complicated than other large business with multiple services under one roof.
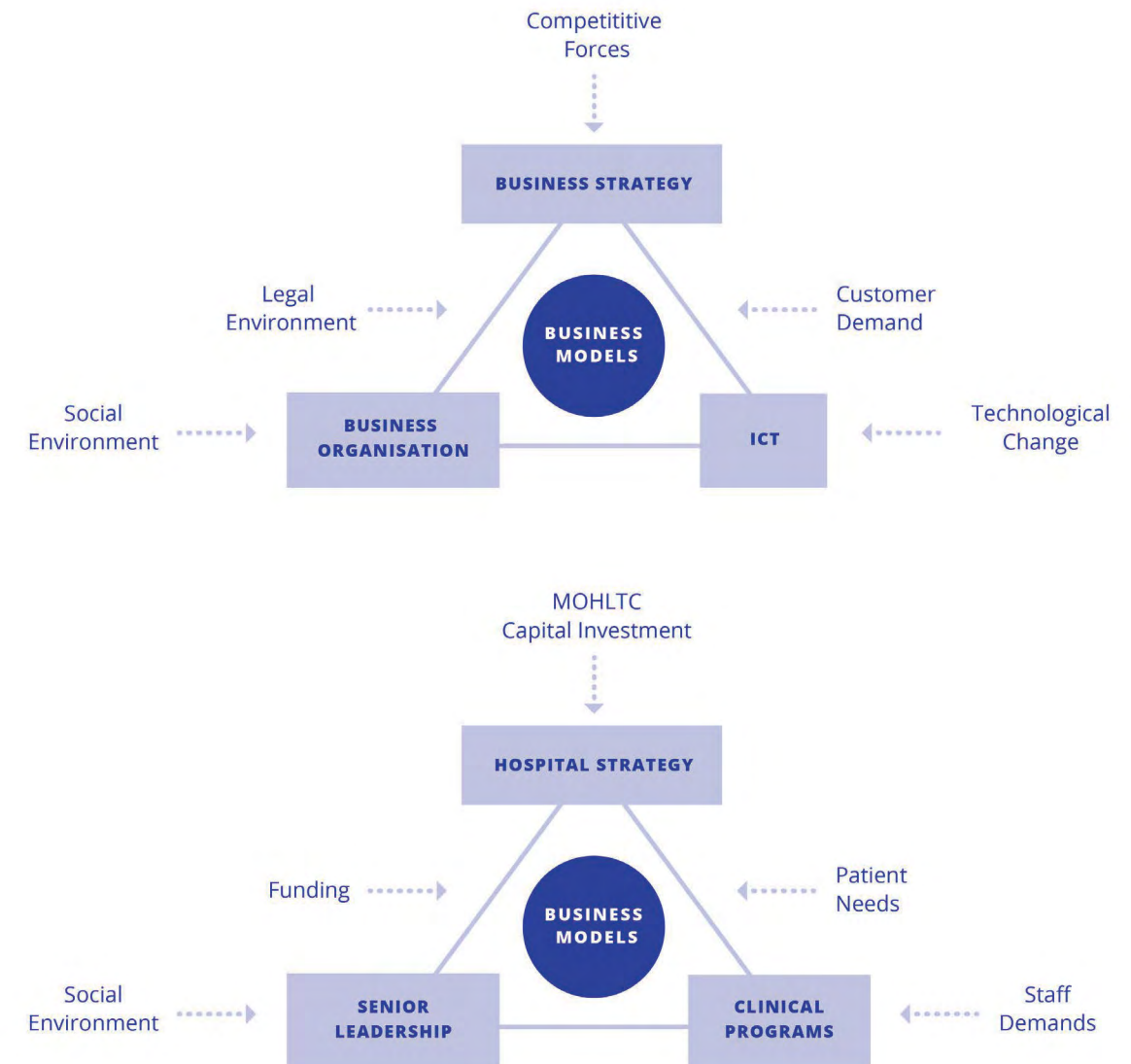
Figure 2.1. Business models within a hospital. Adapted from Osterwalder, 2004

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The hospital strategy is dictated by the MOHLTC who controls the capital investment. Senior Leadership within the hospital decided how the funds will be used in a hospital. The Clinical program areas are involved in care delivery through various services within each program. The fundamental difference that can be seen here is that Capital has moved outside the business model, which is unlike traditional businesses. This creates a somewhat unique structure which forces the hospital to look beyond traditional business modelling processes.

The concept of "flourishing", developed by Upward and Jones, might be a better fit for a healthcare setting since it looks beyond economic viability to social and ecological sustainability. I also introduced a business modelling tool (the "Flourishing Business Canvas") to a group of administrators and managers of a General Hospital in Toronto to observe and analyze whether they find it useful for making strategic decisions. As stated before, this research is only looking at understanding the scope of using a business modeling tool for strategic decision making, not getting into strategy development.

2.2. Sustainability

Sustainability as a concept was born out of people's realization of the severe impact on the environment, caused by their commercial and non-commercial activities (Marimuthu & Paulose, 2016).

The most popular definition of sustainability is that from the Brundtland Report published by the United Nations in 1987, which said: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Johnson et.al, 2007). This definition was not well received at the time and conveyed different meaning for different people. The use of the term to address a variety of issues, from environmental stability to organizational stability, is seen as something that makes it difficult to distinguish between the different sustainable areas.

Swedish scientist Karl-Henrik Robert, the founder of The Natural Step, developed a practical approach to defining the

principles of a sustainable society. These principles consider the planet as a complex system and human being an integral part of that. An ideal society according to him would work to reduce its contribution towards:
the increase in concentrations of substances from the Earth's crust.
the increase in concentrations of substances produced by society.
physical degradation of nature.
conditions that systematically undermine people's capacity to meet their needs. (Marimuthu & Paulose, 2016)

While there has been some examination of the concept in organizational literature, much of it covers the streams of business, marketing, and social sciences. These studies focus more on the sustainability of a particular business but miss out on how the sustainability of one business would impact other entities in the environment or another business.

Sustainability in healthcare

While a series of studies on sustainability in healthcare has its focus on the efficient use of resources and capital management, some researchers believe that sustainability is a dynamic and continuous process of improvement (Goh & Marimuthu, 2016). According to Ament et al. (2012), sustainability is the implementation and continuous use of new practices that are able to produce the intended outcome in a long period of time. Mendel, et al (2014) concluded after a study on system improvement sustainability in healthcare, that sustainability can be achieved when components of the healthcare systems are improved and are supportive of each other.

According to a study conducted by Ramirez et al. (2013), a balanced focus on environmental, social, and economic development in healthcare institutes leads to perfect conditions for sustainability. Noor Hidayah Jamaludin et al. (2013) also stress in their study that a sustainable healthcare institute will focus on the development of management of human health and environment, economic competitiveness, and social development.

Image credit: Karsten Würth from
https://unsplash.com/@inf1783?photo=wIYDNL0M_p4

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Hence, one way of defining sustainability in healthcare can be

"constant implementation of successful strategies in satisfying the stakeholders of the institutes based on various dimensions such as human resource, social, economic, and environmental development."

(Goh & Marimuthu, 2016)

There is a growing trend towards sustainable healthcare practices which are seen as a necessary response to the high levels of healthcare waste that is being produced, as well as the complications that arise with its collection, transportation and disposal (Unger et al., 2016). There has been research which closely studied the role of environmental sustainability in reducing the cost of services and making them affordable to both service providers and consumers (Chandra et al., 2013; Price et al., 2013). The issues of waste management and pollution were at the core of these studies (Berwick & Hackbarth, 2012). Klangsin & Harding (1998) make an argument that medical waste is fast becoming a source of pollution around the world, and is leading to spread of disease and affecting air, water and soil quality around hospitals.

According to studies, healthcare operations would benefit through the implementation of sustainability, in the areas of finance and quality improvement (Tudor, 2007). This research has sustainability in healthcare at its core. Before explaining the research methodology, it is important to understand one more concepts, which is key to understanding the business modeling approach that is being explored in this research project.

2.3 Innovation

Innovation has been defined in various ways by scholars. According to Lynn and Gelb (1997) innovation is the "tendency of an individual consumer to adopt new products before large numbers of others do" (pp. 44). On the other hand, Damanpour and Even (1984) define innovation as those changes that help organizations cope with "environmental changes and uncertainties not only by applying new technology, but also by successfully integrating technical or administrative changes into their organizational structure that improve the level of achievement of their goals"

According to Omachonu and Einspruch (2010), innovation can be defined as "the intentional introduction and application within a role, group, or organization, of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, or wider society"

(West, 1990). This is one of the widely accepted definitions among researchers in the field (Anderson, et al., 2004) since it captures the three most significant aspects of innovation—novelty, an application component and intended benefit (Lansisalmi, et al., 2006). Innovation is the implementation of a novel or enhanced product (or service) or process, a method of marketing, or a new organizational method in business systems, workplace organizations or external associations (UNESCO Institute for Statistics, 2005). UNESCO differentiates four kinds of innovation as:

Product innovation: the introduction of a product or service that is new or significantly improved with regards to its characteristics or intended uses, such as improvements in technical specifications, components and materials, software, user friendliness or other practical features.

Process innovation: the execution of a novel or significantly improved production or distribution method that includes notable changes in methods, devices and/or software. The customer does not normally make a direct payment for the process, but the process is expected to deliver a product or service and manage relationships with stakeholders.

Marketing innovation: the implementation of a new marketing approach including notable changes in product design or packaging, product placement, product publicity or pricing. Organizational innovation: the implementation of a new organizational method in the enterprise's business practices, workplace organization or external connections.

Innovation in Healthcare

According to Varkey, et al., (2008), health care innovations are related to product, process or structure. The product is what the patient pays for (or what the Ministry pays for, in the case of Canada) and typically consists of goods and services (for example, clinical procedure innovations). Process innovation, on the other hand, necessitates innovations in the production or delivery process.

Healthcare innovation can be defined as the introduction of a new concept, idea, service, process, or product aimed at improving treatment, diagnosis, education, outreach, prevention and research, and with the long term goals of improving quality, safety, outcomes, efficiency and costs. (Omachonu & Einspruch, 2010)

Stakeholders	Needs, Wants and Expectations
Physicians, GPs and other caregivers	Improved clinical outcomes, better diagnosis and treatment, more collaboration with hospitals
Patients	Improved experience, shorter wait-times, improved physiological well-being, reduced delay
Hospitals	Operational efficiency, increased productivity, more budget, favorable government regulations, optimised patient volumes and improved outcomes
MOHLTC	Better patient outcomes, lower costs of care delivery, reduced risks

Table 2.1. Stakeholders in health care innovation process (adapted from Omachonu & Einspruch, 2010)

The process of innovation is both complex and multi-dimensional regardless of the industry in which it is being applied. Innovation in the healthcare industry has its own unique challenges. Any attempt to understand the process of innovation in healthcare must begin with an in-depth analysis of its challenges. There are a few key stakeholders in the innovation process, and each has its unique and deliberate needs, wants and expectations as follows. According to researchers, one of the major challenges of healthcare innovation is the difficulty of changing the behaviors of clinicians (Greco and Eisenberg, 1993), current medical practices, and healthcare organizations (Shortell, Bennett, and Byck, 1998). Other challenges include government regulations (Faulkner and Kent, 2001), risks to patients, and clinicians' tendencies to protest for their autonomy and reputation. Together these might inhibit organizational learning and create an unfavourable environment for any kind of innovation (Huntington, Gilliam and Rosen, 2000). All major stakeholders need to be taken into account while modelling a process of healthcare innovation.

I believe that all stakeholders and their needs have to be taken into account while designing processes for innovation. However, in practice, it might not be easy to get individuals from each stakeholder group together in a room, while planning something innovative. A structured and well documented model which captures every stakeholder's perspective, opinion and needs might be a good way to start this process. It might get them to think creatively, a much needed change from the more traditional analytical thought process.

2.4. Flourishing

There are several definitions of flourishing in the literature. According to Ehrenfeld (2000), flourishing is a strong context for sustainability and can be defined as "the possibility that human and all life on earth might flourish on our planet forever" (Jones, 2013). Fredrickson and Losada (2005, p.678) on the other hand define it as "to live within an optimal range of human functioning, one that connotes goodness, generativity, growth, and resilience."

Each human science discipline has a different way of looking at flourishing. While psychologists believe flourishing can help measure an individual's personal growth and improvement in a society (Keyes, 2002), health planners and sociologists see flourishing as the well-being of a member of society (Marks and Thompson, 2006). In the case of organizations, the functions which contribute to flourishing are seen as inputs to a system (ecological services and stocks) and outputs from that system (social and economic values) (Jones, 2013).

ECOSYSTEM
- Watershed & Bioregion
- Natural resource stocks
- Ecosystem services:
  Process & use flows
- Registration flows
- Cultural services

MACROSYSTEM
- Cultural Flourishing
- Recognising natural ecosystem
- Human & non-human rights
- Place in the world

ORGANISATIONAL EXOSYSTEM
- Work-life satisfaction
- Organisational participation
- Measures of success
- Values co-created with stakeholders
- Socially responsible

COMMUNITY EXOSYSTEM
- Equity of access to services
- Community livability
- Cultural resilience
- Respect for commons, law
- Political participation
- Capacity to satisfy essential human needs
- Community care

MICROSYSTEM
- Self-acceptance
- Positive relations
- Personal growth
- Purpose in life, Meaning Environmental mastery,
- Competence
- Autonomy, Self-care
- Integrity
- Influence

MESOSYSTEM
- Social coherence
- Social actualisation
- Social integration
- Social acceptance
- Social contribution
- Social care
- Social equality

ECOSYSTEM
MACROSYSTEM
EXOSYSTEM
MESOSYSTEM
MICROSYSTEM

Cultural Belonging
National Identity
Government & Institutes
Political Parties
Corporations
Neighbourhood
Congregation
Workplace
Family Groups
School
Practice Community
Voluntary Clubs
Learning Networks

Person & Family

Figure 2.2. Flourishing in the Social Ecology (from Jones, 2017).

Social Flourishing in an Ecosystem Model

Peter Jones (2013) adapts Bronfenbrenner's (1979) social ecosystem model to identify the functions and initial measures of flourishing in a social system. Figure 2.2 represents this structure which starts at an individual level and extends from family and community to the boundary of the cultural system. Jones explains that these four contexts are arranged topographically from the microsystem to the macrosystem (in Bronfenbrenner's terms) and contained within a natural ecosystem. The successive social systems which are part of the figure are:

Microsystem: This system includes an individual's relations to their immediate social context, which includes family and close friends, their close relations and immediate social groups.

Mesosystem: This layer represents another stage in social development and includes the individual microsystem. The mesosystem includes social engagement in society, but is not an aggregate of individuals. It includes workplace, schools (for younger individuals) and community or service organizations.

Exosystem: In an exosystem, the processes that occur do not directly affect the individual but influences the social system in which that individual participates.

Macrosystem: Macrosystems can be described by a society and its cultures in a societal flourishing model.

Ecosystem: The outermost layer in this is diagram is one that contains the natural ecosystem. This wasn't defined by Bronfenbrenner as a boundary or social system but is, in fact, an essential spatial-ecosystem boundary and an inclusive system that involves the cultural social system in its entirety.

2.5. Value based care models

While discussing business models, sustainability and flourishing, it is very important to understand the importance of value within a system; whether it is value creation, value destruction, value transfer or channels of value transfer. Porter and Lee (2013) have written about the importance of value based care. In a fast changing world, the old ways of care delivery is not going to work well, especially due to rising costs and uneven quality of care. They argue for the need of a new strategy; one that focuses on high-quality value delivery for patients at low costs. It calls for a shift from a supply driven health care system which centres around what clinicians do to a patient-centred one, which focuses on what patients need. Their strategic agenda for moving to a high-value health care delivery system has six components. They are interdependent and mutually reinforcing. For best results, multiple components need to be advanced together.

Porter and Lee's strategic agenda looks pretty convincing on paper, but might be difficult to execute in a complex system such as healthcare. The strategy call for all six components to be developed together, which might be difficult to execute in practice. I believe a method must be developed to place them in layers, building up (figure 2.3). The most important component needs to be placed first, for example organizing as IPU since it deals with organizational structure and culture. The others could be placed on top of the other, each acting as a strong foundation for the ones at the top.
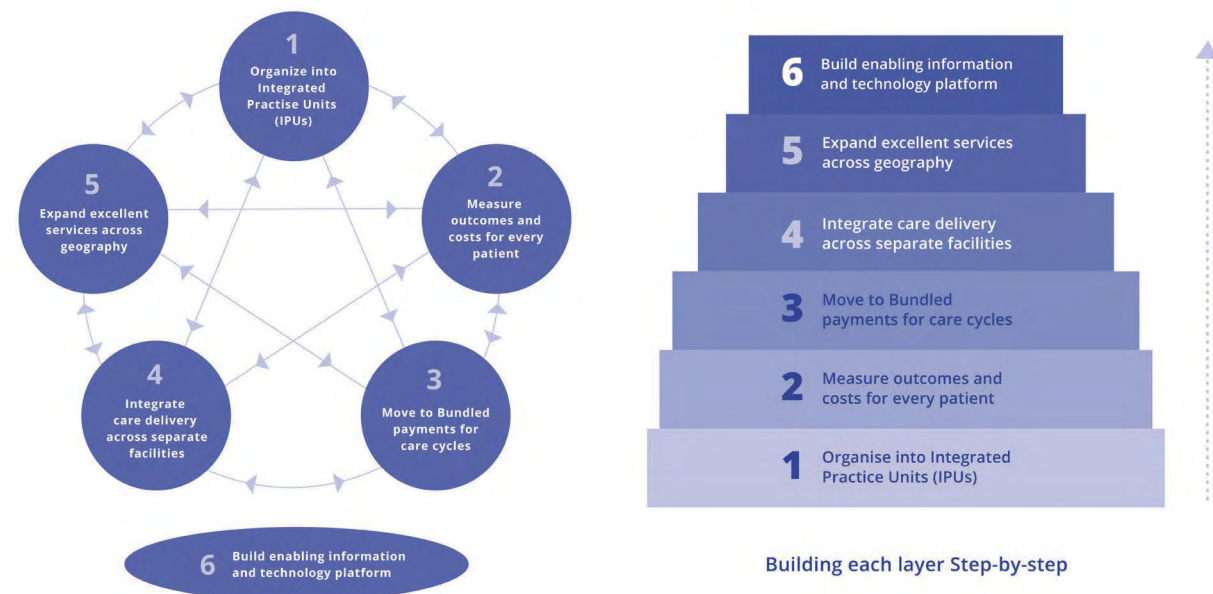
2.6. Lean Thinking

The origins of the ideas behind lean thinking can be traced back to a number of sources, including industrialists like Henry Ford and management thinkers such as W. Edwards Deming. Initially Lean was perfected as a production philosophy and quality system, with similarities to craft and mass production. With emphasis on standardization, lean thinking tries to eliminate inventory and make processes better. Service delivery time to a customer is decreased. Most of these ideas originated in Toyota's post Second World War manufacturing operations, known as Toyota Production System. These then spread to automotive, manufacturing and service industry and eventually health care. (What is lean thinking, 2017) (Joosten, Bongers & Janssen, 2009)

The understanding of lean has changed considerably since its introduction. Hines et al. use the stages of organizational learning to demonstrate this evolution (Table 2.2).

The core concept in lean thinking is 'value'. Value is described as the capacity to deliver the exact product or service which a customer wants in the least possible time between the moment when the product or service is asked for and the actual delivery time, at an appropriate price (Womack & Jones, 2003). By defining what a customer wants, the process steps can be divided into value adding and non-value adding. While value adding activities have a positive impact on product and service creation. Non-value adding activities make no contribution and are called waste, which needs to be avoided or eliminated (Joosten et al. 2009).

Figure 2.3. Complexity of Porter and Lee's Strategic agenda for a high-value health care. (Adapted from Porter and Lee, 2013)

Periods in the development of lean thinking

	1980 to 1990	1990 to mid-1990	Mid-1990 to 1999	2000 and later
Focus on	Production cell and line	Shop-floor	Value stream	Value system
Approach	Highly prescriptive, using lean tools	Highly prescriptive, imitating lean organizations	Prescriptive, applying lean principles	Integrative, using different management instruments
Industry sector	Automotive—vehicle assembly	Automotive—vehicle and component assembly	Manufacturing in general—often focused on repetitive manufacturing	High and low volume manufacturing, extension into serive sectors
Typical activity in this phase	Application of JIT-techniques, 5s, kanban	Emulation of sucessful lean organizations training and promotio, TQM	Improving flow; process-based improvements, collaboration in the supply chain	Improving customer value to improve prganizational alignment. Decrease variability

Table 2.2. The evolution of lean thinking adapted from Joosten et al., 2009

Application of Lean Thinking in Healthcare

Conventional organizing tools such as value stream mapping and 5S are available to generate value on an operational level. The application of these tools seems reasonably straightforward and many papers on lean thinking have written about them. Their use in hospitals has resulted in a reduction of waste in inventory, shorter wait-times (WTs) and improved productivity. (Nelson-Peterson et al., 2007; Miller, 2005; Jones & Mitchell, 2006). In some cases, these improvements to the process directly contributed to a better quality of care. For example, better organized wards might report lower cases of infections and complications (Ballé & Régnier, 2007).

A possible outcome of improving a single process is that the problem often slips into adjacent processes. In mental health care, there is a well known problem of timely outpatient follow-up after inpatient treatment. This results in patients staying admitted for longer durations even though the wards might be well organized. This is exactly the reason why lean emphasizes a systemic and holistic representation of process improvement. The application of lean thinking might focus on improving a single process (the ward) in the beginning, but it needs to quickly spread to the total value system (the ward and the out-patient treatment that follows). Otherwise, problems are not completely solved and they will subsequently occur in other parts of the system(Joosten et al. 2009). .

Improvements on an operational level are achieved by reducing undesired variation in processes. Variation is the degree of difference in the same process repeated over time. Some variability is natural such as surgical procedures or a psychologist's consultation with patients. Natural variability is required to effectively deal with differences in patient needs and deliver patient-centered care. Artificial variability, on the other hand, is linked to the controllable factors in the design and management of health care systems. (Berwick, 1991; Litvak et al., 2005). Lean tools explicitly focus on eliminating non-value added activities (artificial variability) which have a greater influence on health outcomes than natural variability.

A lot of research has been done on examining the implementation of lean methodologies within healthcare which often shows benefits to patient care and utilization of resources (Jones & Filochowski, 2006; Joosten et al., 2009; Kim et al., 2005; Radnor & Boaden, 2008; Zidel, 2006; Walley, 2003). Other research points towards the problems associated with the implementation of lean. The process is very dependent on factors such as organizational readiness, a culture of constant improvement, capable leadership, the availability of resources and communication strategy (Radnor & Boaden, 2008). In practice, lean has a lot of variabilities. While some services adopt a systemic approach, others temporarily adopt particular techniques from the lean toolbox (Burgess et al. 2009). This points towards the fact that the broader socio-cultural and organizational context of health care can have a notable bearing on how lean is translated from policy to practice (Waring & Bishop, 2010).

3.0 —

Methodology

3.1 Research Overview

The project scope and area of study called for a participatory action led design research. Reason and Bradbury (2001) defined action research as:
a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview which we believe is emerging at this historical moment. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities. (2001, p. 1)

I tested the Flourishing Business Canvas, a business modeling design tool (a design artifact) in a participatory and co-creative workshop at North York General Hospital. The objective was to understand the fit of this design tool, and others similar to it, in a healthcare setting. Interviews were conducted before and after the workshop to get collect data, draw out issues with the current models, validate the hypothesis and construct recommendations.

3.2. Design Artifact: Flourishing Business Canvas

Built on the concept of Flourishing, the Flourishing Business Canvas(FBC) gives a group of users a common language to collaboratively sketch, design, prototype, share, measure, diagnose & tell stories about a flourishing business model.

The ontology and visual design of the canvas are built upon Osterwalder's successful Business Model Canvas(see figure 3.1) and Ph.D. The motive of the Flourishing Business Canvas (figure 3.2) is to enable an enterprise to be tri-profitable, which is financially rewarding, socially beneficial and environmentally regenerative (Jones, 2016).
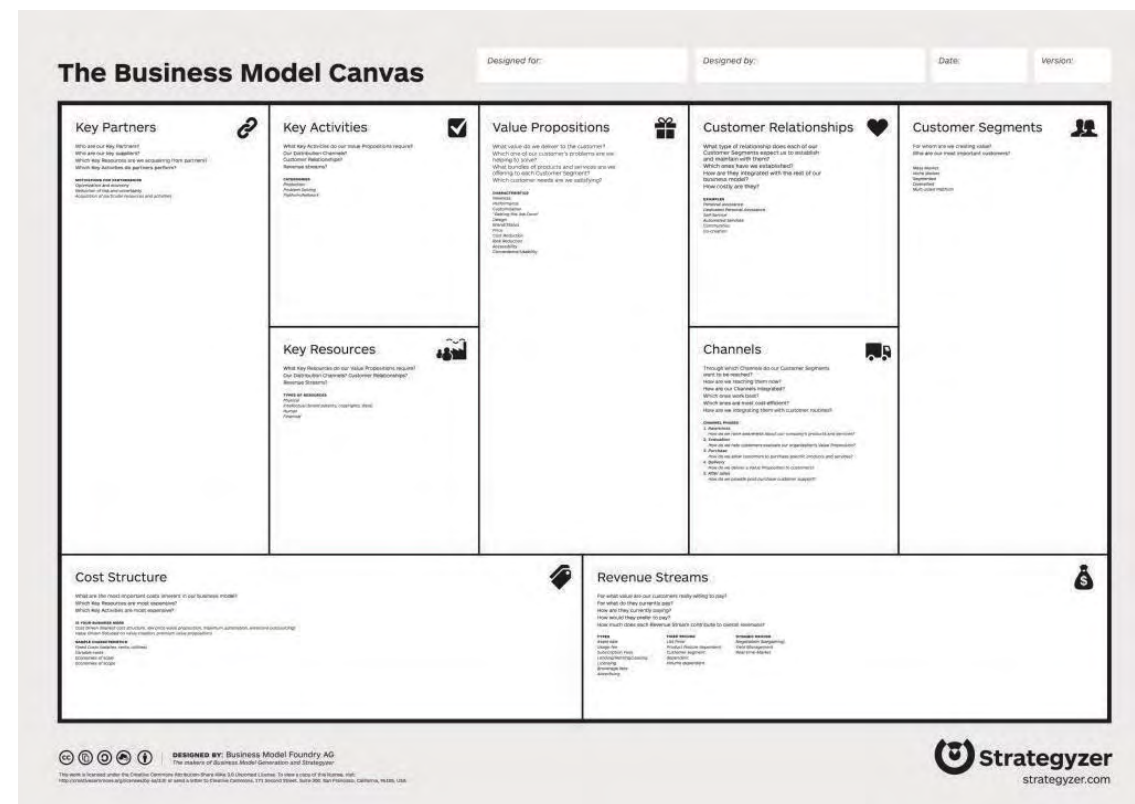
Figure 3.1. A Business Model Canvas
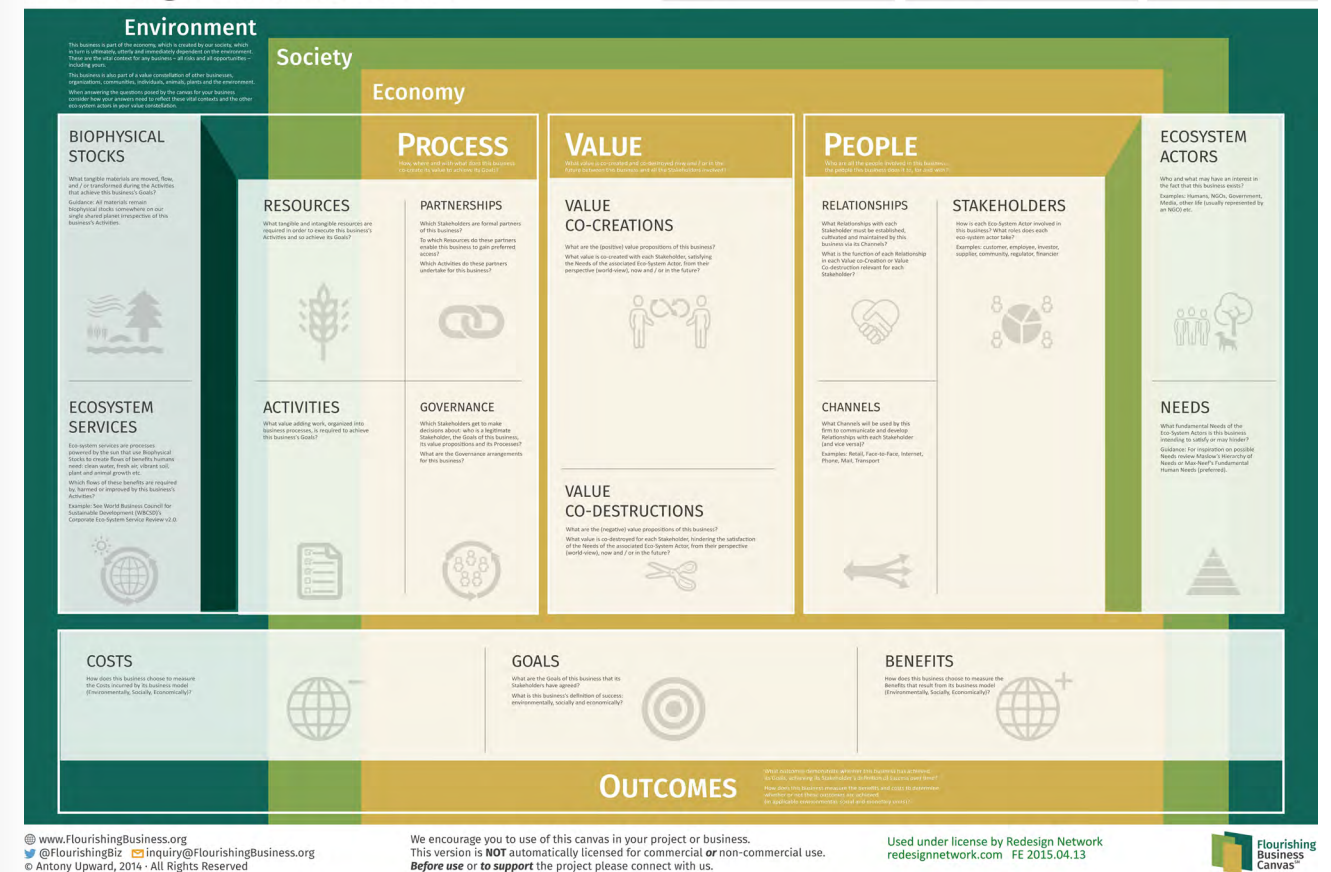
Figure 3.2. A Flourishing Business Canvas

The FBC enables people to have deeper, broader and richer conversations around value co-creation and destruction. Stakeholders find the right context which enables them to collaborate on the basis of shared goals and values, further creating the suitable conditions for teams to be aligned on key strategic decisions. It helps organizations in the explicit and systematic creation of holistic and integrated business models and designs. Its supports goals of organizations which could vary from profit maximization to sustainability. The FBC enables exploration of numerous business models in order to find the one which would fulfill the success criteria of the organization. While the FBC supports the BCM and has all the 9 questions related to it, it adds more questions in order to broaden the focus from only monetary profits to encompass social and environmental benefits. The new risks and opportunities that come to view enable new learnings and possibility of innovation. (Upward, 2016)

3.3. Research plan

Finalizing a research plan early on was crucial for this project. The initial stages involved reading about the health care system in Canada to get an understanding of the functioning and process of care delivery. It helped in identifying the major stakeholders in the system. Reading reports, articles, and journals from Canadian and international agencies, with facts, figures and assessments of the Canadian health care system, helped in understanding how the system is performing, especially with relation to other peer nations.

During the same period, I focused my study on improving his knowledge about business models, sustainability, flourishing, and their use in a healthcare setting. This involved reading papers and articles on the subject, and speaking to people who had years of theoretical and practical knowledge in the field. A series of interviews and a Flourishing Business Canvas workshop were the main sources of primary research. I had no prior experience of facilitating an FBC workshop but had participated in several sessions in the past. A significant amount of time was spent understanding the tool, its development, past usage and possible application. OCAD faculty, part of the Strongly Sustainable Business Model group, were extremely helpful in providing critical feedback and tips during the early drafts of the planning stages. They shared their experiences of using the tool as a consultant, which

contributed to the workshop plan. The next stage of the planning was focused around having a sound understanding of North York General Hospital as an organization. Cliff Harvey, who is the Vice President, Planning, Facilities and Support Services, shared a lot of information not just about the organization, their goals, challenges, planning process, and models, but also about the healthcare system in Ontario. The lengthy yet insightful discussions with Peter and Cliff led to a better understanding of the system and the mindset of the major stakeholders. This information was critical to the workshop plan and the project.

A Flourishing Business Canvas workshop was arranged with managers from Mental Health Program at North York General. There were a series of interviews before and after the workshop which captured the participants' experiences and feedback. It also helped me formulate a hypothesis going forward. Leaders for the major clinical services at North York were also interviewed to get a clearer understanding of the planning process in each program. This helped in creating an overall picture of planning for design at NYGH.

3.4. Research Methods

This project includes a good balance of primary and secondary research. The secondary data lays a strong foundation for this project and is based on research done by academics and practitioners in this project's field of study. Data was collected from government and independent reports, journals, peer-reviewed and academic papers, presentations, and articles (print and digital).

Two major research methods were used for primary data collection: structured and semi-structured interview, and a workshop.

Semi Structured Interviews:
Semi structured interviews were used to collect information about the area of study, the tools used for data collection, information about the hospital and its various programs, and capturing participant experiences and feedback. Interviews were used after the early period of analysis to dig deeper into early findings, challenge assumptions and validate any hypothesis.

It was chosen as a data collection method since it gave me more flexibility to get insights and get better point of views. It took into consideration that several new themes came up in the interview process which were not apparent in the previous understanding to which the interview themes were created. The list and themes of the questions can be found in appendix A.

Workshop:
After gathering enough information about the subject area and research methodology, a workshop plan was developed. The FBC workshop was the first of its kind being tried out in a hospital. It was meant to be an introductory workshop which intended to give the participants an idea of the process and a demonstration of how the canvas is to be used. It was also a means of collecting data related to its use in the given space, observing the reactions and recording the discussion around it.

Participants were selected in a three-staged process. In the first stage, participants were screened to find the right profiles. Scope and duration of project and area of study were taken into account while screening the participants. I selected the participants after discussions with my MRP advisory committee.

Participants from NYGH were recruited by Cliff Harvey, VP Planning at NYGH. The sampling was Purposive or Judgmental since each participant was chosen for their area of expertise and knowledge related to the project topic.

METHODOLOGY

METHODOLOGY

The broader categories of the sample included:

i) Academics and practitioners using the FBC, mostly from OCAD University and the sLab

ii) VP of planning from NYGH, who was an advocate of design thinking process in decision-making

iii) Mental Health program managers (Other programs couldn't participate)

iv) Directors from clinical and non-clinical programs who didn't participate in the workshop

Structured Interviews:

A structured interview process was used for data collection from Clinical leaders after the workshop. The interviews were structured in order to collect empirical data that could be analysed later to look for patterns, common themes or irregularities. The list of questions can be found in Appendix E.

Figure 3.4. Location of NYGH sites on the map

Figure 3.3. North York General Hospital General site

3.5. Research Location: North York General Hospital

North York General Hospital (NYGH) is one of Canada's leading community academic hospitals. It has been providing care for patient and families of the diverse communities of North Toronto since 1968. NYGH offers a wide range of acute care, ambulatory and long-term care services at three sites: the General site (4001 Leslie Street); the Branson Ambulatory Care Centre (555 Finch Avenue West); and Seniors' Health Centre (2 Buchan Court). Their regional programs serve all of south central Ontario. (NYGH website)

NYGH primarily serves the north central Toronto and southern York Region. The boundary extends north to Highway 407, east to Victoria Park and west to Dufferin Street. Between Dufferin and Yonge Street the boundary runs south to the 401 and then extends along Lawrence Avenue from Yonge Street to Victoria Park. The geographical area served by NYGH has a population of over 400,000.

4.0—
Research process

4.1. Workshop planning

The workshop was formulated in great detail, with each aspect of it considered extensively. The advisory committee was consulted and their inputs shaped the planning of the workshop. The intention was to divide it into three phases: pre-workshop, concurrent with the workshop, and post workshop. For the workshop itself to be successful, all of the three phases had to be executed efficiently. There were some foreseen challenges that could prove to hinder the undisturbed operation that the workshop warranted, and these challenges had to be taken into consideration while planning each of these three phases. The primary challenge was the availability, or rather the potential unavailability, if the participants (given their regular full-time jobs) and the research team. This challenge was a compounded one given the fact that the research was being undertaken during the flu season. In addition to this, the time-frame that was available for the workshop was quite a bit of a constraint, so the workshop itself had to be concise and yet efficient. These factors had an evident impact on the participation of the managers from several clinical programs. The number of committed participants, as well as the scheduled dates for the workshop, changed a number of times before the final figures were set in stone. The plan was formulated roughly, and was as follows.

Pre-Workshop:

- Plan a semi-structured interview with one person from each program. This will enable the researcher to get a better understanding of the service offerings and will help in planning the workshop;
- Interviews to be completed at least 5 days before the scheduled workshop;
- Plan a trial workshop with Cliff, Peter and a few other participants (possibly graduate students) to:
  a. Identify risks (if any),
  b. Get a better idea of time the session will take,
  c. Refine debrief questions,
  d. Test run data entry and other logistics
  e. Have the trial workshop preferably at the location of the final workshop. This would enable the team to understand AV requirements, locate space to stick the canvases, finalize seating arrangements, etc.
- Send out invitations and consent forms for the workshop to all participants a day prior to the workshop;

Resources for Workshop

- Prepare presentation explaining the project and the process.
- 4-5 large size printed FBC.
- 1 FBC filled with Narayana Health* Case study
- Post-its of different colours and adhesive tapes
- Black markers
- Audio and video recorders (with tripod stands)
- Digital camera
- Identification badge (Sticker paper with name written)

*Narayana Health case study was developed by Dr. Peter Jones and 2 students from OCAD University's Strategic Foresight and Innovation program. Narayana Health operates a network of hospitals in India, especially in the southern state of Karnataka. The team mapped out Narayana Health's Telehealth service. It was based on secondary research data.

Workshop:

- Present workshop handout (appendix B) to participants and ask them to sign the consent forms.
- An introductory presentation explaining the project and process. A case study will also be presented for better understanding of the process. **Estimated time: 30 Minutes**
- The participants will be divided into groups (people from the same department on the same table).
- Participants will be provided with stationary and a questionnaire to help them fill out the canvas. The principal investigator and student researcher will go around the tables taking questions.
- Participants will work on their group Canvases and use post-its. **Estimated time: 1 hour 50 minutes**
- The next stage will be the debrief session. A specific set of questions will be used by the research team to get further insights and encourage "dialogue" between participants across tables. **Estimated time: 40 minutes**

Post Workshop:

- Take photos of each Canvas
- Carefully remove them from their mounted location and leave them with each team so that they can continue to work/think about it
- Schedule a date for report and discussion of analysis with Cliff Harvey
- Plan and schedule post-workshop interviews
- Collect signed consent forms from participants
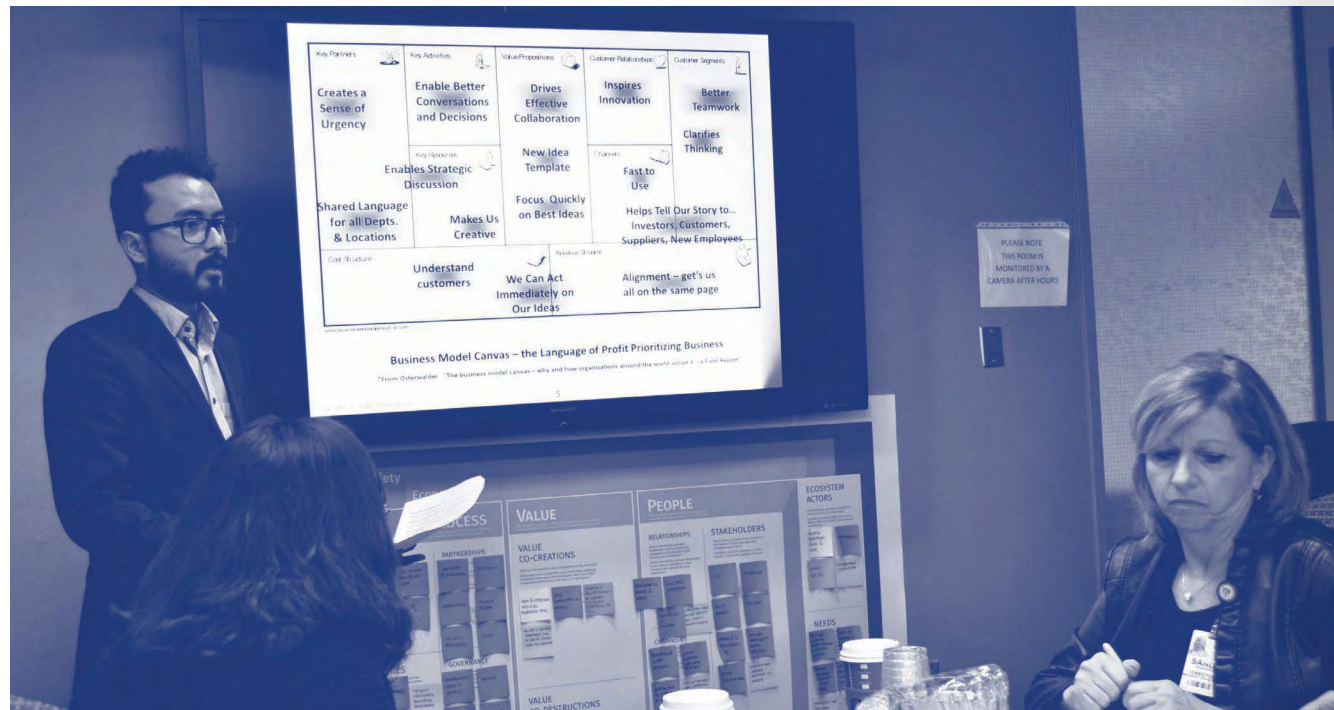
Figure 4.1. Images from the workshop session at NYGH

4.2. Workshop

The workshop was organized at North York General Hospital. Only the Mental Health Program had representation since the hospital was coping with a prolonged flu season with increased patient inflow.

Workshop agenda:
NYGH has an adult Mental Health outpatient unit based in its Branson Ambulatory Care Centre. The lease for that building will be over in about two years. The new proposed Ambulatory building will not be ready in that short span of time. According to the Strategic Capital Investment & Development Plan of NYGH, the proposed development of the new site will take about 5-10 years as a part of phase 1 of the master plan.

This means that along with the other ambulatory services at the Branson site, the Mental Health adult outpatient unit has to shift out to a new leased space. While this is a challenge, the MH team is also looking at it as an opportunity to redesign/remodel their outpatient services. The FBC workshop proposed by the research team fit into their agenda.

The initial discussion also gave me the opportunity to understand the structure, functioning, and challenges faced by the MH program. This led to a greater understanding of how the program is placed in the hospital. The agenda of the workshop based on the factors mentioned above were:

- Training the mental health program team on the use of the FBC. This also gave them the opportunity to understand its background and possible uses.
- Enabling the mental health program team to use the tool in envisioning the NYG mental health outpatient of the future.
- Evaluating the feasibility of the design tool in a hospital setting.

A summary of the workshop can be found in Appendix C

4.3. Observations on FBC process

While people with experience in business and design might find it easier to use conventional business modeling tools, others might not find it that easy to learn to effectively use the same tools. Based on the data collected from the workshop, interviews, and observations, few interesting findings were made.

- Participants had trouble visualizing their business model(s). It may be so, that business planning in a hospital happens on an upper management level, but not necessarily in each program area. Also, planning for specific services might be easier than modeling a program, which might offer one or more services based on the envisioned change. For example, the Mental Health Program which participated in the study, is further divided into specialities.
- Participants were not able to fill parts of the canvas on their own. A discussion with the participants later revealed that they were struggling with the terminologies or jargon that comes with the FBC. While answering the FBC canvas questions, they started telling patient stories but were unable to put any of that information into specific categories of the FBC.
- North York General Hospital invites previous patients and family members in the planning process. They might find it very difficult to understand the FBC process and this might be a barrier to their active participation. The hospital greatly values their opinions and feedback, and will definitely want to take it on record.
- The broad categories like process, value, and people make sense to the participants of the workshop. But the FBC presented a perspective for looking at the environment, society and economy, which was very different from what was common in healthcare. Some of them acknowledged that understanding these factors might affect their decision-making process and design of models for healthcare planning (Biophysical stocks, ecosystem actors, and ecosystem services were never taken into consideration while designing businesses).
- Clinicians and hospital managers are very busy with daily running of the hospital and it is understandable if they find it hard to set time aside for participation in research methods. It is important to find a way to make them understand that this is something really worth their time, and that it is not just another design exercise. The onboarding process needs to be more nuanced and specific.
- While the FBC does a good job of highlighting areas/ aspects related to the business which are not always quantifiable, these are aspects which are qualitative, and hence important. Hospitals exist in an evidence-based ecosystem, which requires metrics at various levels and in different areas. Everything from strategies to business decisions is based on quantitative data. An FBC and other business modeling tools will have to "fit" in without causing any disruption to such present processes. Maybe research could help us calibrate for and measure flourishing and its far-reaching impacts.
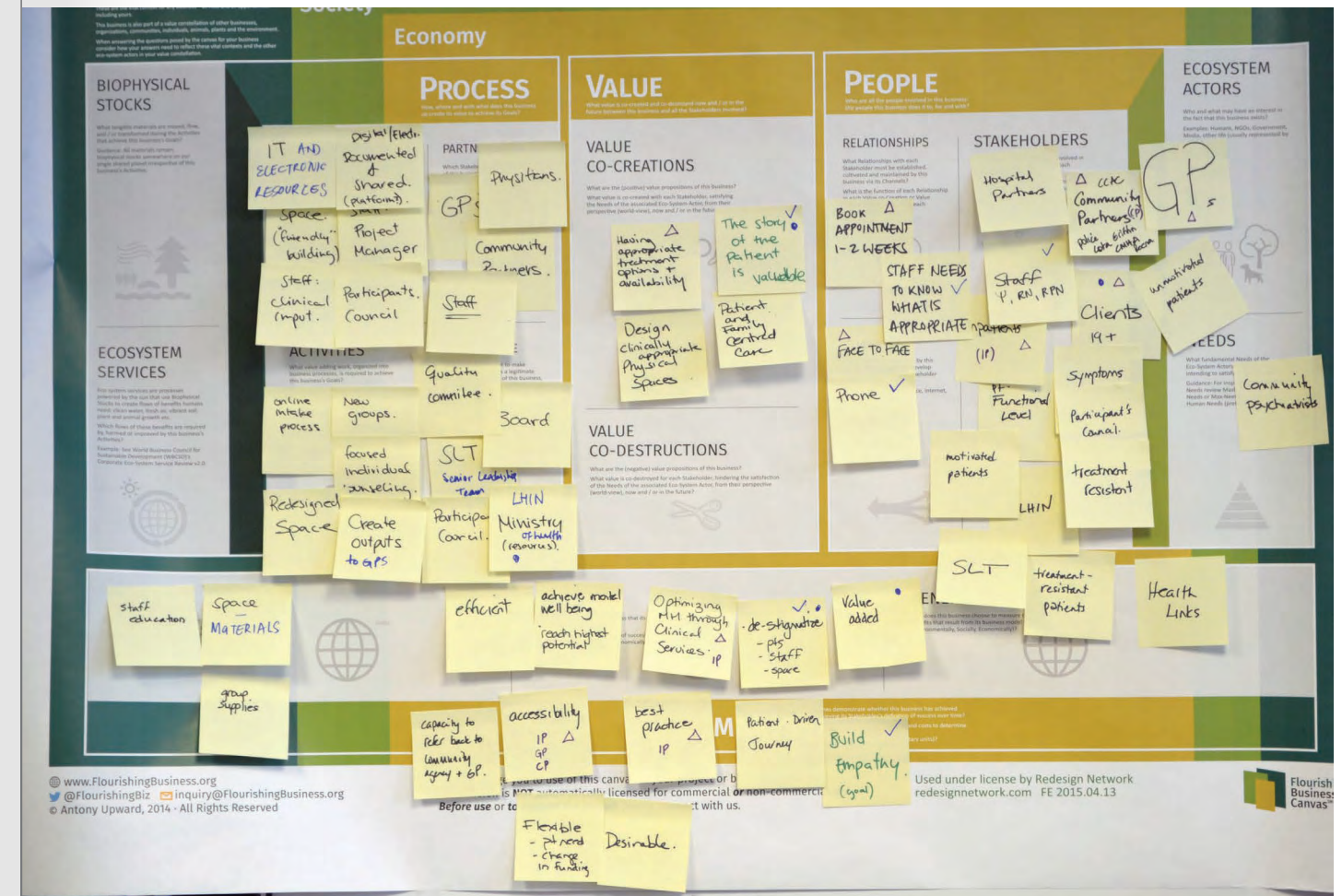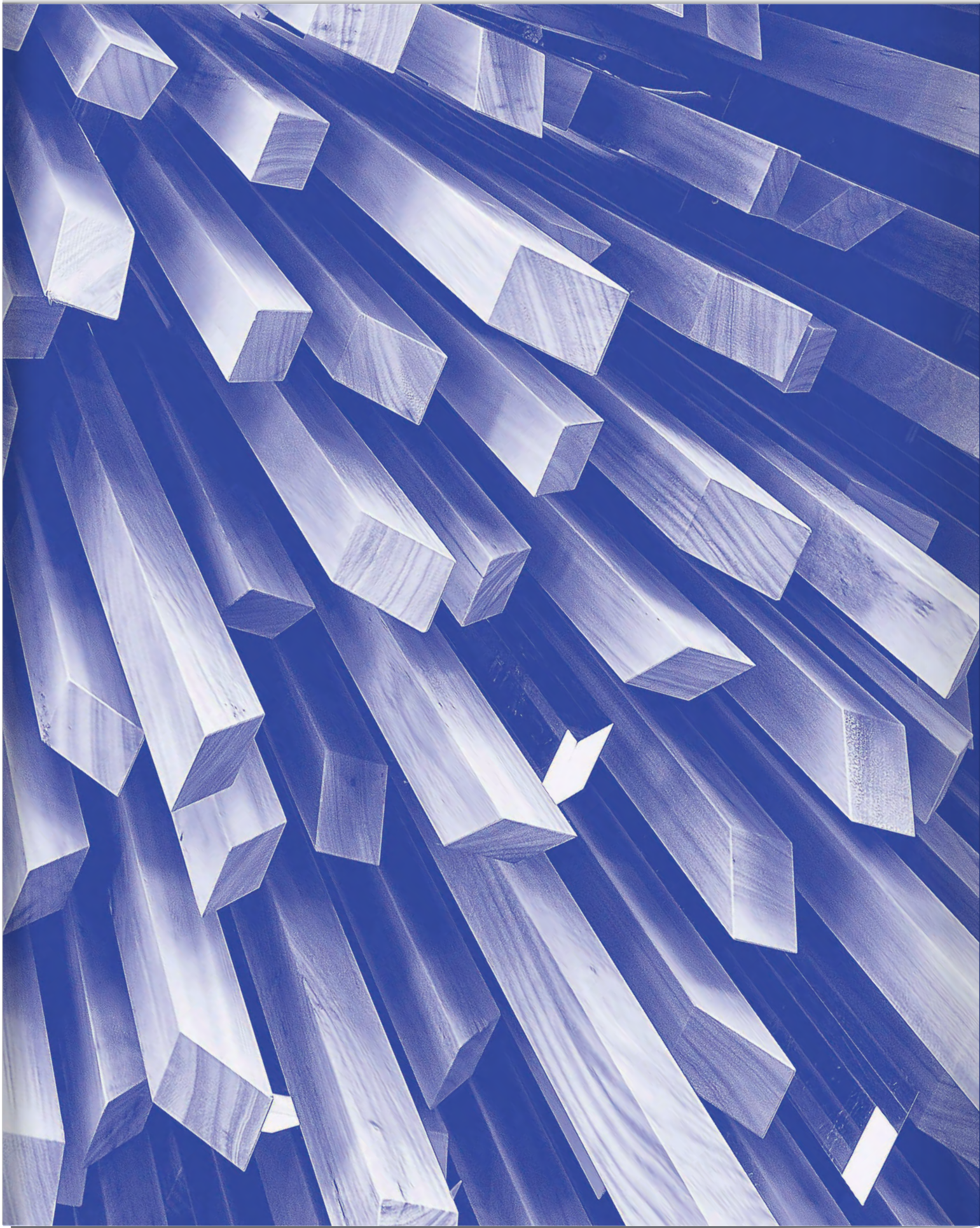
Figure 4.2. Completed FBC at the end of the workshop

5.0 —— Analysis

5.1. Data collected:

The data that was collected was divided into two categories. One was data on the use of FBC, which included observations from workshop and participants' reactions and feedback. The other category contained data related to the planning process in the hospital and the use of design tools. Secondary research, which was done prior to primary data collection, helped in making sense of the primary data,and enabled me to see patterns which were not obvious at the first glance. Due to the complexity and the volume of the data, a framework was used to analyse it in a structured way. The research outcomes were to be shared with the hospital staff who participated in the research, and hence a strong evidence-based analysis was very crucial.

DIKW

The data collected was framed using a DIKW (data, information, knowledge and wisdom) (Ackoff, 1989) scheme which helps distinguish different levels of sense-making. Using it as a framework ensured that there was no confusion between data, theories, interpretations, observations, etc. Each level of analysis helped move up the DIKW pyramid and come up with recommendations.

Image credit: Ricardo Gomez Angel from https://unsplash.com/@ripato?photo=lvMorW3aeAU

ANALYSIS

ANALYSIS

Key takeaways from workshop

The participants, all from the Mental Health Program, were using the FBC for the first time. Though the initial presentation tried to give them a good background of the process and the tool itself, it was just not enough. The participants struggled to understand the terminologies which were part of the Flourishing Business Canvas. This presented an evident barrier for them to imagine and map their current and future programs At the beginning, goals and value co-creation were the two components that they struggled the most with. While they had a lot of things to talk about, they found it hard to put something in buckets. Everything was very closely interwoven.

The Narayana Health case study on the FBC was referred to on several occasions. But the NH case study was for a specific service, while the NYGH workshop was more about the changes in a program. The participants might have found it difficult to reimagine something that they are already a part of. It was something very intangible. They were asked to move on to stakeholders which they found not difficult to populate. The facilitator then helped in coming up with value co-creations on the basis of the discussion

everyone in the room was having. The participants then commented on the suggested points, also making changes to them. This helped in covering more ground.

The participants were very active and participated enthusiastically. Even though they struggled with some terms and parts of the process, they kept asking questions and taking an active interest in the workshop. The triads which they formed were very interwoven and was hard to differentiate. It presents an interesting observation by highlighting how difficult it is to reimagine something with is already very complex and not structurally linear in any way. The participants found the financial part of the model very easy to fill, which mostly included resources, activities, costs, etc. Environmental components could not be mapped due to the lack of time. The participants acknowledged the importance of the same, but could not engage in a discussion about it.

5.2. Key Findings (healthcare environment)

Comparison of traditional planning and design tools:

The research found that the hospital management is more focused on economic planning processes. A lean process is used to increase efficiency. Business cases are prepared to propose new programs, products, and services or changes to existing ones. These cases answer the following questions:
- Why do we need this new product (or service)?
- How beneficial it is for the patient?
- Does it improve *patient outcome**?
- Who else (hospital) is using it?
- What is the literature on it?
- How much is this product(or service) going to be used? What is the criteria?
- How much is it going to cost more every year?

They have their own pros and cons. Interviews with clinical directors at

North York General Hospital help in understanding why the current tools are more favorable and why hospitals need to start adding design tools to that list. Institute of Healthcare Improvement reports six indicators of quality health care. It talks about efficiency, time, accessibility, quality, safety, time, equitable, patient-centred care. Everything up to patient-centred care is measurable. Patient-centred is not quantifiable or measurable.

Most processes are standardized in order to find out inefficiencies, which can then be eliminated. It helps in controlling costs, which is critical for running a hospital. Processes are simplified to be broken apart and later reassembled using Gestalt thinking. Metrics play an important role in healthcare. They are factored in every stage of strategy or decision making, right from the ministry to the hospitals. This might explain the lower number (or lack) of design tools which look at qualitative data.

* "The *patient outcome* is not just about death it's about the quality of life. Patient outcomes are measured using factors such as the patient can go home in proper time(frame), there is no infection, no complication from surgery, with every passing day they have more mobility than what they had when they first arrived in the hospital and they can resume the daily activity".
Linda Jussaume, 2017, personal conversation

ANALYSIS

ANALYSIS

Business Logic

Hospitals are currently designing their business based on a traditional Goods Dominant (G-D) logic where the purpose of an economic exchange is the production and sale of good. According to Vargo et al. (2008), Organizations following this logic embeds the value into a good which is represented by its market price. "From this perspective, maximum efficiency –and maximum profit – is achieved by standardization and economies of scale." On the other hand, "the alternative view, service-dominant (S-D) logic, is tied to the value-in-use meaning of value (Vargo and Lusch, 2008)". In S-D logic, a value is co-created in the interactions between the providers and recipients through the integration of resources and application of competences. Here, goods are the vehicles of service delivery.

Hospitals have been creating business models centred around a G-D logic based on operational excellence. The MOHLTC has shifted its priorities towards population health and value based care, but the hospitals have not yet planning around a S-D logic which is better suited in a healthcare context since the value is not realized until it is used (by a patient).

A top-down approach to strategy

In order to better understand this, one needs to first understand the problem boundaries within healthcare. Garry VanPatter and Elizabeth Pastor defined different design domains (Design 1.0 to 4.0) which represent the different levels of design complexity. Figure 5.1 shows the different stages. Each layer presents different scope, design skills, and methods. These skills are generally transferable up the layers, but not down (Jones, 2013).

Figure 5.1. The different levels of design complexity, Jones, 2013

Peter Jones explains the contexts for each of the stages in his book "Design for Care".

Artifacts and communication: Traditional design practice

Products and services: Design for creating value (including service design, product innovation, user experience)

Organizational transformation: Design which can impact and transform organizational structure, work practices and strategies

Social transformation: Design for transforming social systems, policies and communities.

Each of these domains differs in their strategy, interaction, and outcomes. They have distinct skill requirements, research methods, design practices, collaborations and stakeholder engagements. Based on these domains, Cliff Harvey explains healthcare as a nested system (figure 5.2).

Figure 5.2. Nested systems in healthcare based on Bronfenbrenner's ecological system and different levels of design complexity

The Ministry of Health and Long-Term Care plans at the outermost region of the nested system. Healthcare data from every healthcare institution is taken into account. This impacts the planning of the hospitals, who have almost no control or say at this stage (they can lobby for changes). This affects the service design, which further has an impact on the technological and infrastructure planning.

I believe the aggregation of data by the ministry might be a rational thing to do, but it should leave some amount of flexibility, so that area/population specific changes can be brought about by hospitals. Moreover, there needs to be more emphasis on collecting data related to patient experience, since Canada is moving towards a value-based care model and population health.

Government's economic model

The Ministry's plans are always around the traditional economic model(labour, land and capital). Hence the funding is also based on it. Interestingly control of capital allows the ministry to restrict growth at some level. The figure 5.3 gives a snapshot of the funding pattern in Ontario. An understanding of this model is very crucial.

Prior to 2012 Hospitals received lump sum funding called Global funding. Some believe that it was fair to hospitals, which were efficient in managing their operations within that budget. In 2012-13, health care consumed 42 cents of every tax dollar. The Ministry forecast
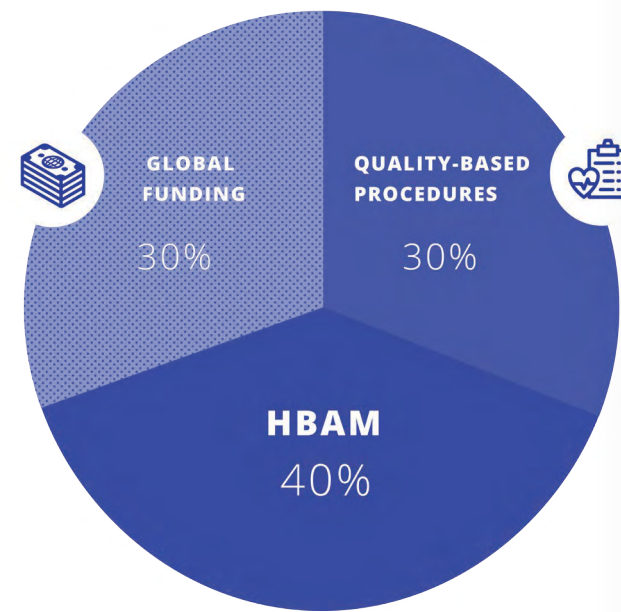
Figure 5.3. Breakdown of funding for a hospital in Ontario

showed that if this trend continued, health spendings would take up to 70% of the provincial budget within 12 years. Thus Ontario's Action Plan for Health Care came into existence in January 2008. The Ministry wanted to get better value for healthcare dollars. This action plan resulted in the introduction of the Health System Funding Reform (HSFR) in 2012/2013.

According to MOHLTC(citation), by 2015/2016, HSFR accounted for 70% of the funding provided to hospitals, with the remaining 30% based on global funding. There are two key components to HSFR:

1. Organizational-level funding (approximately 40 percent of HSFR allocation): Hospitals and Community Care Access Centres receive funding

using the Health-Based Allocation Model (HBAM) which estimates expected health care expenses based on Demographics (age, gender, growth projectiles, socio-economic status, and geography) and clinical data (complexity and type of care).

2. Quality-Based Procedures (approximately 30 percent of HSFR allocation): Healthcare providers get reimbursed for types and quantities of patient they treat, using rates based on efficiency and the best practices that are specific for each procedure.

Planning within a hospital is dictated by this economic model. With funding decreasing each year (and not getting balanced out by inflation), the hospitals are having to sustain themselves with smaller budgets each year. What is interesting is the fact that there is no special budget allocated for research and innovation, which is critical for any organization. Investment in research and innovation is made from the margins the hospital makes each year. Other than that, grants and donations are the other components for investment in research and innovation.

This explains why social and environmental themes are not part of the planning agenda, even though some might acknowledge its importance. In reality, there might be things which are right for the patients, but if it is not economically viable, it is not implemented. A business modeling approach might present planners with interesting business concepts, but if these challenge the current economic models, they fall apart. The hospital has to look at other means of revenue generation (such as parking fee, food courts in the hospitals) while ensuring that the economic model is not challenged.

Models of care vs. clinical areas

There are 4 care models– Acute care, ambulatory care, long-term care and community care. NYGH, on the other hand, has 9 program areas— Cancer Care, Child & Teen, Emergency Services, Family & Community Medicine, Genetics, Maternal and Newborn, Medicine & Elder Care, Mental Health, and Surgery— which are supported by a number of departments including Medical Imaging, Laboratory Medicine, and Pharmacy Services. These are in turn supported by corporate services

In the hospital, the environment is merged. Which means a program can have multiple care environments, a patient could register in one program but their journey could be through multiple care environments. For example, a mental health (usually ambulatory) patient might come into the hospital's emergency department, then into acute care, and end up in long-term care.

The government plans for models of care, not programs, and funding is provided accordingly. But within a hospital, planning happens in each individual program area. This has a big impact on logistics and finances. With the changes in the economic model of the government, it has become essential to register patients/ procedures in order to get reimbursed.

Ministry plans for models of care

AT NORTH YORK GENERAL

Cancer Care

Child & Teen

Emergency Services

Family & Community Medicine

Generics

Maternal and Newborn

Medicine & Elder Care

Mental Health

Surgery

Medical Imaging

Laboratory Medicine

Pharmacy Services

Hospital planning happens in program areas
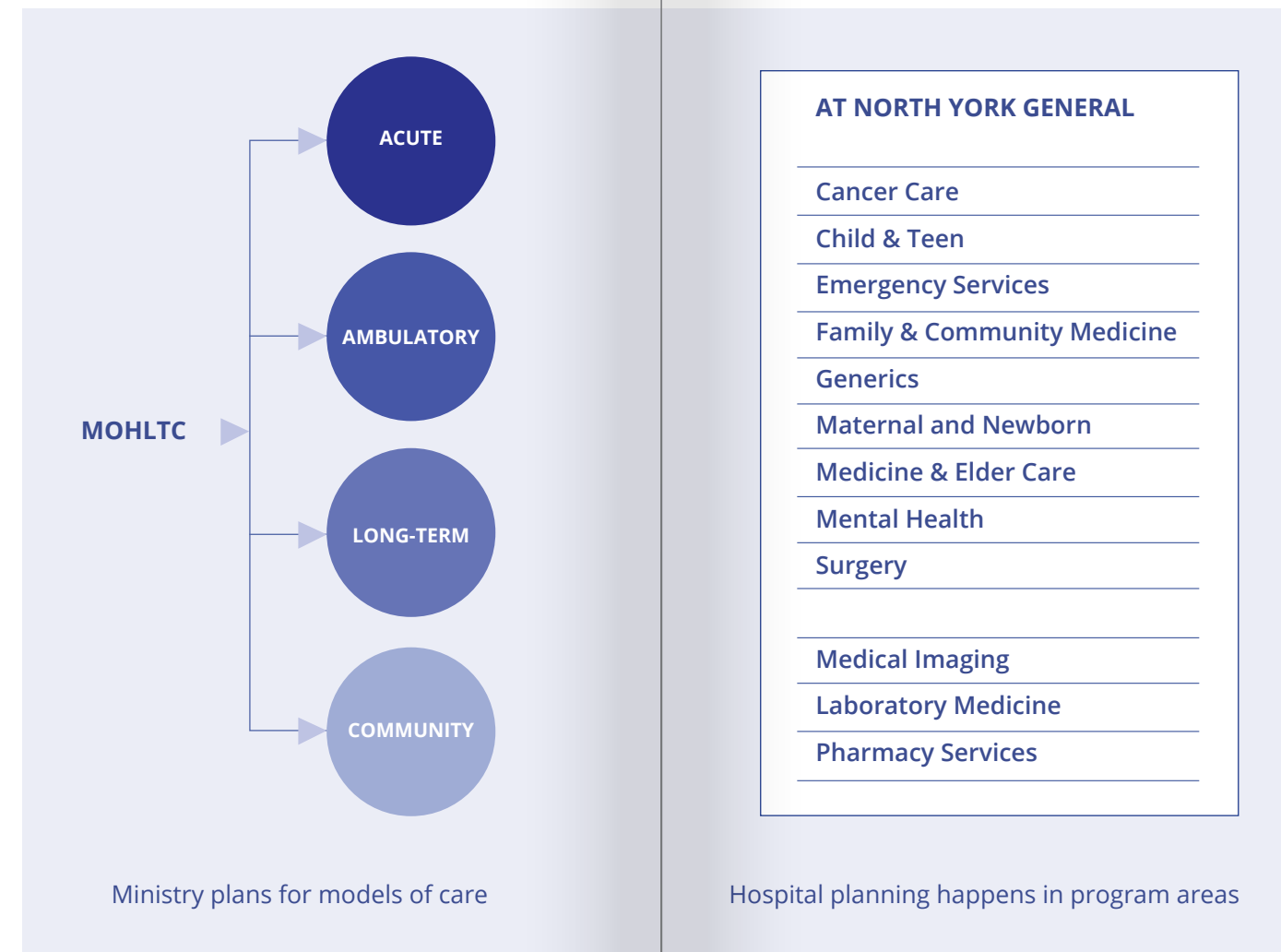
Figure 5.4. Models of care vs program areas of a hospital

Planning in silos

Based on the data collected, it seems that most areas within a hospital work in silos. While there are a lot of collaborations in upper management, most of the individual programs work in silos. This is mostly done to increase efficiency and output. But I heard of many examples in interviews, where one strategic decision of a program area has negatively impacted another. While there are many formalities and rules set in place so that every concerned program director is aware of decisions taken by another, sometimes it is hard to understand far-reaching impacts of those decisions. This calls for use of design tools which can assist in collaborative planning.

This seems like an inherent property of healthcare organizations based on how they are structured. Looking through the Ecosystem Model, it is clear how planning is happening in each layer but a lot looks to be top down, especially they way healthcare is so dependent on capital. Stakeholders who control that seem to be taking most of the decisions. At lower levels, on the scale of clinical program areas, it makes sense to break the work in parts, as it increases productivity and efficiency. Can a design tool help create a bottom-up approach? Will it be acceptable? How can one create the conditions for it? These are some questions I wrestled with.

Community engagement

The government is trying to push healthcare into the community by focusing more on primary health. The aim is to move care delivery from hospitals to community-based health units. This calls for more collaboration between hospitals and the various community partners and stakeholders. While interacting with them one needs to use design tools that are more visual, and help start a dialogue.

A Hospital is made of people

It's important to understand that hospitals are unlike other businesses. People might see hospitals as a giant machinery which is trying to deliver care and maintain efficiently. But the human side of it needs to be acknowledged. While planning, one needs to take into account the culture of the organization and the human factors. When there is an outbreak in the hospital, nurses or clinicians are also affected. Cliff shared an example from the book From Innovation to Transformation, where a crisis situation was converted into an opportunity for organizational transformation. Toronto was hit by SARS in from January to February 2003. NYHG was hit by two outbreaks in succession, one after the previous outbreak was thought to be over. It took a toll on patients, their relatives, physicians and staff. The crisis left a deep impact on staff which led to the emergence of conflict and emotions based on blame culture which characterized such organizations. This forced the board to look at their culture and support strategies to help the

organization transform, which eventually made them more stable and resilient (Caplan et al., 2011).

Another example was shared by Linda Jussaume (Program Director, Surgery at NYGH) about the changes to the pre-operative clinics. It took a change in leadership to go ahead with proposed changes, which led to increased productivity and volume capacity. She believes major changes are made not just for monetary gains, but also because it might be the right thing to do. I agree and understand the importance of getting people on board. Waring & Bishop (2010) share similar thoughts and highlight the importance of leadership in the process of healthcare reforms. Their focus is specifically on how these leaders articulate the values, and on objectives of lean as a means of convincing and enlisting clinicians in the change process.

For such circumstances, a business case is not enough: the 'people' portion of the business model needs to be taken into account. Leadership has to be aware of these factors and have the necessary instruments to convince and include all major stakeholders in the planning process. These considerations play an important role in the design of a business model.

5.3. Key Findings (FBC process)

The observations made during the workshop led to a better understanding of the way managers in a hospital interact with a design tool and how they look at their own organization.

These findings are based on the interactions I had with the participants during the workshop period and subsequent interview.

Business goal of program area vs hospital

As a first step of the workshop process, the managers from the Mental Health program at NYGH were asked to list their goals. They started listing the goals from the vision document: high quality safe and accessible care, care through partnerships. These were narrow and tied to the hospital's care environment. The goals of these programs are aligned with that of the hospital in most cases. While I am aware why this is necessary for the hospital and the programs, I also believe that it doesn't provide much scope for innovative ideas to flourish.

In the workshop, I asked participants to take a step back and envision the adult outpatient unit of the future, which according to them would be perfect for the patients and staff. They were then asked to think about value co-creations in order to achieve the goals of that specific outpatient unit they have envisioned the same. This leads to creation of a canvas where the business model might not be aligned to that of the hospital, but where it surely brings out the problems (or pain points) faced by the program, its staff, and its patients.

Identifying problems within program

When the participants start identifying different components of the canvas based on their envisioned adult outpatient unit, they start identifying the problems of their program and hospital. The use of the FBC enabled them to identify barriers, which they could overcome by designing necessary services.

For example, they realised the intake process for the adult outpatient unit is currently very ineffective. At present, patients are moving through a linear process, on the basis of what the MH program process, and not necessarily with what the patient, thinks. Some participants believe that this has been happening for so long, that they have outlived that process and now need a change. They saw that the linear process was not the best option and the siloes had to be broken. The staff and patients needed to come together to think about ways to enable and help the patients to decide what they want for themselves. They could offer options that were more goal and outcome oriented.

They also identified resources that were missing currently which would help them capture a value. They talked about the difficulties in documenting patient records. Most of the MH outpatient programs either lack electronic records systems, or are segmented (they use different systems). The present system is not very efficient or accessible. It leads to clinicians having to verify written

information in order to clarify the stories. This causes the patient to be asked to narrate the story repeatedly, which might make them believe that their story is not valued.

Disconnect with Senior Leadership Team (SLT)

The mental health program seems to be getting a lower priority in funding, location in hospital and patient experience. It's hard for them to convince SLT about the importance of having an appropriate space for MH patients. This might be related to the way changes are proposed to the SLT. They are usually done using Business Cases which are often a set of slides giving information about few set areas such as need, benefits to patients, patient outcomes, comparison with other hospitals, current literature on the subject, use of product/service, criteria for use and cost per year. While this does cover a lot of information related to proposed change, it does not show the connections, or implication, of these areas/decisions. For example, the cost per year for running a new mental health outpatient unit might be high: it might have an effect on other programs such as emergency services, in the long run. This can only be examined by using new design based processes involving stakeholders related to these programs.

Capturing value with the canvas

Participants spoke about stigma within the hospital against MH program staff, by other colleagues; "The nurses in MH program sit and talk all day, that can't be

difficult, why do you need offices?". These and many such conversations started building around the different section of the canvas. There was a lot of value in these discussions but they couldn't be fit into the different components of the canvas. There were high level and crucial questions around how mental health is valued, or not valued, in the hospital. I documented these discussions, but could not fit them into the current format of the canvas.

Business models from the workshop

While full scale business models couldn't be completed within the workshop period, few triads were identified by the participants with the help of the facilitator. The motive of the workshop wasn't to design full scale business models anyway, but to introduce the participants to the process and to see if they saw any value in it. The discussions around the triads themselves were revealing. Participants did talk about difficulties in clearly defining these triads in the beginning, which might be attributed to complexities within hospitals, and their structures. The triads identified were overlapping and I had to pull them out into 3 distinct triads later on.

TRIAD 1
(VCC) The story of the patient is valuable - (S) Staff (and clinicians) - (V) Build empathy . The staff need to value the story of the patients in order to build empathy (in a story or narrative).

This triad was formed out of discussions around the importance of making a
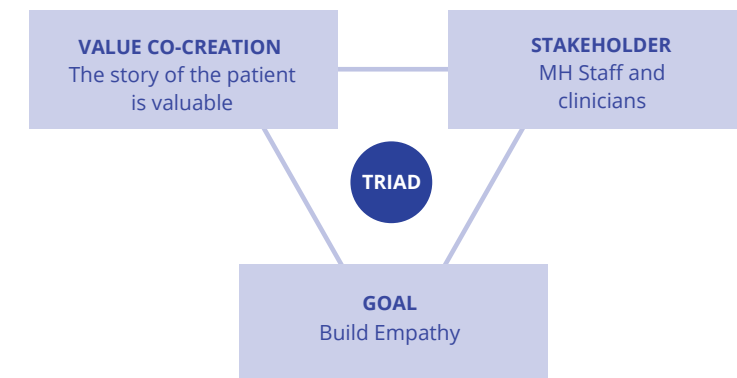
Figure 5.5. Triad created from the FBC workshop data

mental health patient feel that they are a part of the process. The participants talked about the types of patients that they often encounter: motivated, less motivated and treatment resistant. They have to work towards engaging them. Some part of this is done by community partners. Within the hospital several things can be done to make them feel more engaged, which ranges from designing new spaces to de-stigmatizing processes for the patients.

(VCC) Having Appropriate Treatment Options and Availability - (S) Inpatients - (G) Best Practice, Optimizing MH services, accessibility.

This triad was around best practices around patient visits and follow-ups, something very complex to fit into the canvas in one go.

TRIAD 3
(VCC) Having Appropriate Treatment Options And availability - (S) GPs, Community Partners - (G) Best Practice, Optimizing MH services, accessibility.

This triad is built around the discussion of available treatments and building an effective two way partnership with the GPs and community partners. Both parties need to understand which services are available in the hospitals and in the community. The hospitals need to help the GPs serve patients within the community and the GPs need to refer the right patient to the hospitals which are equipped to provide specific treatment options.

My aim was to show how generative these sessions can be, and how the information can be structured. Having all these triads on one canvas was proving to be a little confusing after a point for the participants. I also identified that there was no way of mapping problem areas or pain points other than creating values to address them. The workshop led to the discovery of new patterns and connections which were otherwise not very explicit.

6.0 ——
Conclusion

This research project explored the ways to design a process and method (and a tool) that can represent conditions and elements of flourishing within a healthcare setting. The research findings were based on an extensive study of existing literature on the subject and qualitative design based action research. Based on the findings, I made several recommendations. These ideas are an attempt at modifying the process in healthcare design research, developing new innovative design tools, and redesigning workflows for service designs.

Firstly, I got a deeper understanding of the Canadian Healthcare system. It presented the opportunity to interact with key decision makers in a hospital: people who are involved in the planning and implementation of strategies that affect public health. These interactions have led to rich insights on the goals, problems, organizational culture and future plans of a particular community Hospital in Toronto.

Academically, these findings cannot be generalized since they were specific to North York General Hospital. But it does shed some light into practices which might be common across other hospitals providing secondary care in the province. It provides some evidence which can be presented to other hospitals while persuading them to collaborate in this research over the years to come. Flourishing is an agenda of the Strongly Sustainable Business Model Group and this research could contribute to theirs.

Image credit: Dmitri Popov from https://unsplash.com/@dmpop?photo=uRVU-UQ2qUA

CONCLUSION

I noticed that while there was a lot of operational research on the use of business models in a hospital, very little was written about design research on the same subject. The concept of a business model(a business modelling design tool) is relatively new (2008). The Flourishing Business Canvas was developed post 2013. The BCM has become very popular since then and is being extensively used by businesses in various parts of the world. The FBC has also been used across a lot of sectors since its development. But there is no documented use of the FBC in a healthcare setting (not counting literature based study). The findings of this project are definitely a step towards evaluating the fit of such a tool in healthcare.

Revisiting Porter and Lee's strategies for health care, we can see how the MOHLTC has tried to adopt the value agenda in its quest to move towards a high-value healthcare delivery system. But what is crucial is that all components of that strategy be implemented and advanced together. Based on this study, I believe there are a few areas which need more attention, especially organizing into integrated practice units, and integrating care deliveries across separate facilities within the MOHLTC.

Organizing into integrated practice units within a hospital will be challenging, since it calls for a big shift from the present system of organizing as clinical service lines. It needs relevant planning methodologies, new business models, and a strong leadership. There is a big

opportunity for North York General— which is undergoing a massive re-development— to focus on improving value, by integrating systems to reduce fragmentation and duplication of services, and to optimize the kinds of care delivered at every location. Porter and Lee further argue that in order to achieve true system integration, hospitals have to wrestle with four interrelated choices— defining the scope of their services, concentrating volumes at fewer locations, picking the right location for each service line, and integrating care for patient across locations.

In order to achieve system integration, a hospital can start by determining the overall scope of services a provider can effectively deliver. They can then go on to reduce or drop service lines which do not allow them to achieve high value. North York General has already been doing this as they try to focus on services that they are good at delivering. But due to the new challenges of the present and the future, new service models need to be developed keeping in tune with the changing demands of the population. In practice Potter and Lee's strategies might help us in achieving value based care, but it might not be enough to achieve service excellence, which according to Robert Johnson (2004) has four key elements: delivering the promise of quality healthcare, providing a personal touch, doing a more than adequate job

Revisiting Research Question

How might we enhance the capacity of hospitals to develop effective clinical service models that are consistent with technology, policies, culture and future population changes?

and resolving problems well. While I set out in the beginning to answer this research question, I soon realised that this is too big of a task to accomplish. Not just because of the sheer scale, but also the complexity of the different topics involved. This project aimed to investigate and review ways to design a process that can represent conditions and elements of flourishing within a healthcare setting. But with every stage of the project, which produced new insights, the question evolved and changed. Having said that it will not be wrong to say that the project outcome was on the lines of the initial aim and research question.

Insights about the way hospitals plan their "businesses", from literature and interviews, soon made it evident that before we can enhance the capacity of the hospital to be more flourishing, they need to re-think their business logic. Only can they bridge the gap between business thinking and design thinking The structure and system of healthcare in Canada makes the hospital dependent on the MOHLTC. A massive change in

hospital might only happen when there is a shift in which the MOHLTC plans and looks at business models in a hospital.

The research question answered in the end was more on the lines of

How might we engage and sensitize clinicians, managers and staff in a hospital to participate in a design led business modelling process?

Designing for complex problems requires new design processes and tools which are based on shared understanding of problems and build on collaborative intelligence of people. Based on these observations and factors I have come up with a Innovation direction which can help in designing for complexities in healthcare.

6.1. Innovation direction

Based on the analysis of the data, observations, and discussions, a few areas of innovation have been identified. These ideas are parts of a new process which I believe can help design for complexities in healthcare.

1. A new planning process:

I am recommending a change in the planning process involving business planning. This process is ideal for using design tools such as the FBC in healthcare. This change reflects on the observations and recommendations made from the first FBC study conducted at NYGH. The new process, though longer, is comparatively simpler and more focused on outcomes. It is highly recommended to have a set of generative sessions with key stakeholders in an effort to get them on board, and engaged in the process. To achieve that steps 1 and 2 have been added in the process diagram (figure 6.1).

The steps of the process, each representing a specific session with targeted stakeholder (or many) groups, get more complex gradually. The process is aimed at starting a conversation and not just completing tasks. It enables a researcher to tap into the collective knowledge of the group. The first few sessions are planned to engage volunteers, frontline staff, nurses and patient representatives: participants who do not have much involvement with the business aspect. The discussions

will be more about their experiences since these stakeholders would interact the most in a hospital setting. Research methods such as focus groups, world cafe and embodied storming could be used to draw out information related to the care delivery environment or service area. Additionally, these participants can be introduced to the concepts of sustainability and flourishing. The FBC questions can be simplified for their convenience at this stage and introduced during these sessions. The discussions and observations can be documented for later stages of the research.

Focus Group:

A focus group is a research method which studies the reaction of a small group of people to questions related to market research, political analysis or around a new product launch. This demographically diverse group of individuals is expected to give reactions similar to a larger population. This is a kind of qualitative research which consists of interviews where are a group of people are encouraged to share their perceptions, opinions, attitudes and beliefs about a product, service, concept or idea. The participants are usually free to interact with other group members. Groups member are selected carefully for effective and authoritative responses.

Figure 6.1. The recommended service design process

	WHAT		WHO	HOW
1	Stakeholder Engagement. Board games, Focused Groups, World cafe, Scenario building, Embodied storming (2-3 hours)		Patient representation, frontline staff, nurses, volunteers	Introduce the concept of flourishing. Ask FBC questions, but without the jargon
2	Journey maps and other forms of visualization based on narratives around care delivery (1-2 hours)		Patient representation, frontline staff, nurses, volunteers	Understand the process by visualizing the scenarios and narratives from previous session. Look for areas of intervention.
3	Facilitated FBC Workshop (3 hours)		Frontline staff and Managers	A mapped out canvas based on data from previous sessions. Each canvas has 1 triad. Each table works on one canvas and develops it.
4	FBC discussion and presentation of data (2-3 hours)		Senior Leadership Team and managers	Present insights from previous workshop. Tie it with data from other quantitative research, bench-marking, budget requirements, etc.
5	4C Journey maps and service design proposals		Design team and managers	Translate business models and derive data for service model representation and blueprints.

World Cafe:

The World Café is a simple, effective, and flexible conversational process for the purpose of accessing the collective wisdom and knowledge in a room. It usually involves a large group of participants, and it can be modified to meet a wide range of needs. Each event has a unique invitation, design, and question choice, which has the specifics of context, purpose, location and other conditions factored in (World Cafe Method, 2015)

Embodied Storming:

Embodied storming, a variation of "bodystorming" is an experiential research method which puts people in a circumstantial situation in an effort to understand their response and it's meanings (Schleicher, et al., 2010). Embodied storming, which focuses primarily on the need states, can be applied as a design research method that identifies gaps and opportunities (Guadarrama, 2017).

Analysis of the discussion and other recorded data from the first step of the research process can help the research team sketch journey maps, process diagrams, flowcharts, and FBC based triads. According to Berlin and Kay (1991), 60% of people are visual thinkers.

Use of visual aids and artifacts can help in engaging the stakeholders. Participants can be encouraged to interact with and help develop these visual design artifacts. There can be discussions about pain points, patient and staff experiences, and their needs.

Use of jargon should be avoided or kept to a minimum to make the process more inclusive for people not familiar with healthcare, business or design terminologies. It's important to get the bigger picture and not get stuck with understanding the meanings of the terms.

For the next stage, this data could then be mapped on an FBC by a group of researchers who are well versed in the FBC process. This mapped out canvas, along with other quantitative data gathered, could be then presented to the managers, clinicians, and senior leadership team in the next stage. This process will give the participants of the next stage a set of data to start with. It will also ensure that they don't have to spend extra time mapping the FBC, which can be a lengthy process for first-time users. Each triad and/or narrative could be discussed at depths in a series of planned sessions.

Pros:

1. More inclusive: This process enables the research team to recruit participants from different stakeholder groups. They don't need an in-depth understanding of concepts related to flourishing and sustainability.
2. Shorter and stakeholder-specific sessions: Every session will be designed for specific stakeholders. This will shorten engagement time for specific stakeholders by limiting their participation to sessions which are specifically for them.
3. Scaffolding: Each step of the process builds on the knowledge derived from the previous. This will ensure that the ideas are more grounded and have a solid foundation.
4. Evidence-based: Managers can build and present a business case with a well documented evidence-based study involving key stakeholders.

Challenges:

1. Longer Commitment: This process required a longer commitment from a participating hospital.
2. Time: Frontline staff, nurses and managers are often busy with day-to-day work which keeps a hospital running, and that might discourage them from participating in the process.
3. Leadership: Hospital leadership might be reluctant to try something new if they don't see the capital projects in the traditional formats.
4. It will take a visionary leadership to propose and convince people to be part of this process.
5. Budget: The hospital has to find extra funds from their budget to pay for this. The new economic reform is already putting them under a lot of economic stress.

2. Use of Games for research

I am encouraging the use of new design tools which could be used in research. Using new tools could enable participants to have a fresh perspective or think "out of the box".

Games can be employed as an exploratory research tool with the intention of generating ideas and concepts. They are often used in two ways—testing a hypothesis through interactive gameplay and/or doing a qualitative analysis of data often leading to rich insights through self-reflections of participants. Some games enable researchers to study life patterns for longer life spans by bringing elements from real life into a shorter time span experience. For example, this could be used to study how a current decision shows its impact after 2-3 decades.

Debrief session of some games ensures that the context of every participant is a shared one. Games help in breaking the ice among players and lead to an increased level of comfort. Participants (or players) in a game for research feel as a part of the process and seldom feel that the research is intruding their lives. It often leaves both participants and researchers with questions for a further inquiry which could lead to better clarity of the subject area being discussed (Faiz and Juneja, 2016).

According to an Institute for the Future report, there exists various area where games can impact health, and game dynamics and health needs can intersect to improve outcomes. These are targeted to the patients and providers. Games

that are well-designed can make difficult challenges fun, exactly the reason why games are becoming a valuable tool in promoting healthy behaviour. Virtual reality games which simulate health scenarios are looking really promising to help patients and clinicians. Medical simulation games are fast becoming effective tools for assisting medical students and practitioners looking to develop and refine skills.

Games present an opportunity to take frustrating challenges and turn them into fun opportunities for engagement with obstacles and overcoming them. This very engagement is critical to helping patients who need the motivation to maintain and improve health. The report also stresses that games work, in many cases, because they are designed with clear challenges, set goals and a clear understanding of how to reach each goal.

The workshop at NYGH was held with a group of managers who were used to working in a team and so could start working on the canvas from the word go. But reflecting on the previous plan which was to have people from other program participate in a collaborative session, a warmup and ice breaking session would have been required. Games could be used in this early stage of the research process to create ideal conditions for a collaborative and generative workshop session.

These are some of the games which are specific to healthcare or could be used in specific situations. These could be used at any stage between steps 1 and 3 of the process.

1. Stop the Pressure: Stop the Pressure is a fun and educational board game for all health and social care staff, created as part of the NHS "Stop the Pressure" initiative to eliminate avoidable grade 2, 3 and 4 pressure ulcers.

2. The Nutrition game: The Nutrition Game is an award winning board game created to support learning for all healthcare staff around awareness and prevention of malnutrition and dehydration. The game takes less than an hour to play. Two teams compete to be the first to reach the finish line, providing answers to the discussion based questions delivered by their competitors.

Link: http://www.thenutritiongame.com/
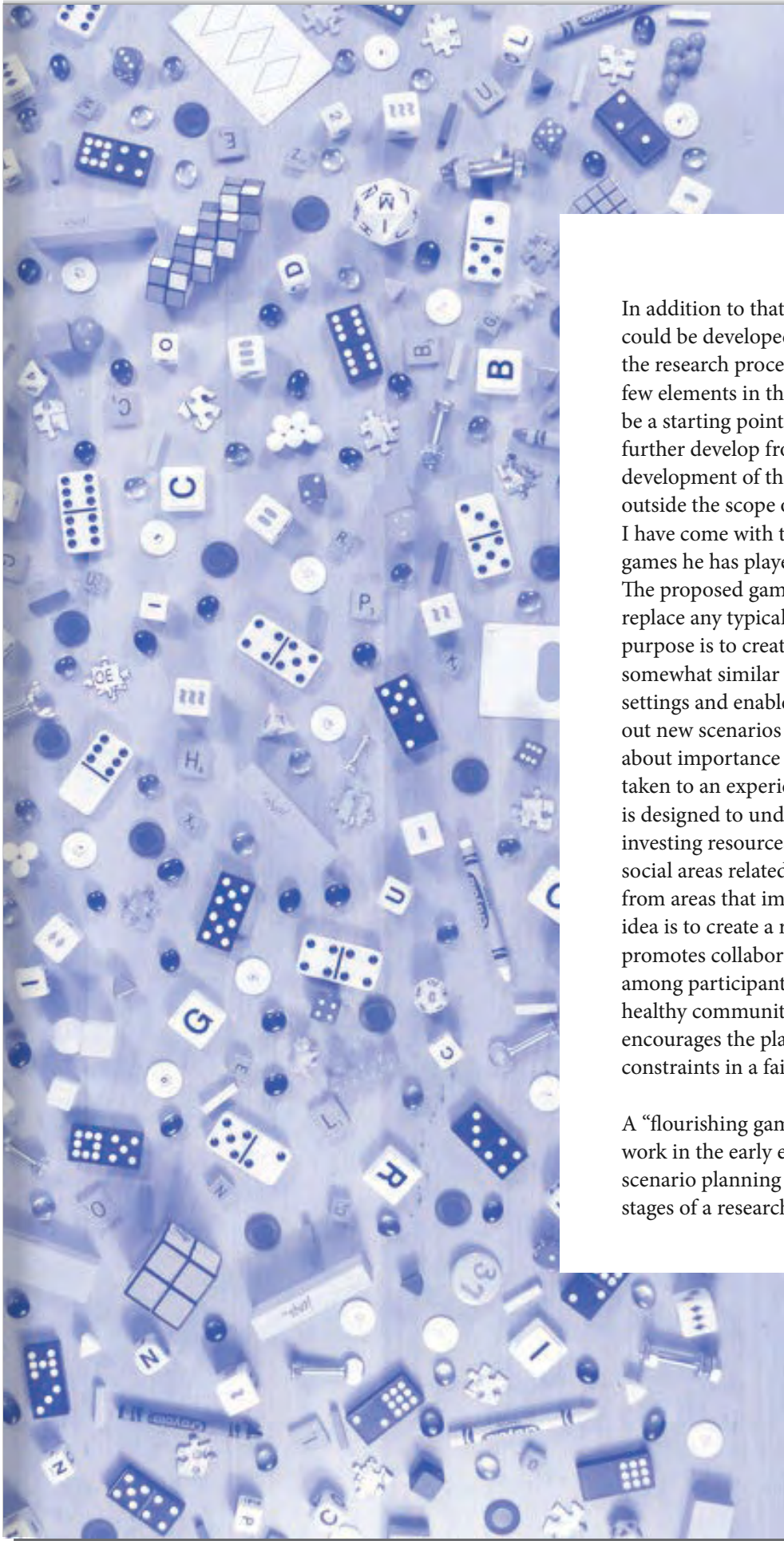
3. Perspectivity Public Health Challenge: Players of this game experience the dilemmas of how to pay for healthcare investments, medicines and research. Which health products offer the best return on investment, preventative or curative products?

Link: http://perspectivity.org/index.php/facilitation/perspectivity-game/

Figure 6.2. Board games that can be used for research in a hospital

In addition to that, a "flourishing game" could be developed for use in step 4 of the research process. I have identified a few elements in the game which could be a starting point or a foundation to further develop from. The design and development of the complete game were outside the scope of the current project. I have come with the ideas based on the games he has played and read about. The proposed game is not designed to replace any typical planning tool. Its purpose is to create an environment somewhat similar to that in healthcare settings and enable participants to try out new scenarios and plans. Discussion about importance of flourishing can be taken to an experiential level. The game is designed to understand the value of investing resources in environmental and social areas related to the hospital, apart from areas that impact economically. The idea is to create a right balance. It also promotes collaborations and partnerships among participants/players in creating healthy communities. The game encourages the players to work around constraints in a fail-safe environment.

A "flourishing game" can be developed to work in the early exploratory stage or for scenario planning and testing in the later stages of a research process.

Image credit: Tom Magliery from https://www. flickr.com/photos/mag3737/5764826175/in/ photostream/. CC license from https://creative-commons.org/licenses/by-nc-sa/2.0/

Pros:
1. Motivation: People love games and usually want to play
2. Feedback: Players are encouraged to collaborate and share ideas with each other
3. Team building: Helps in building teams and also giving a sense of team spirit
4. Practice: Board games often facilitate the practice of existing or new skills
5. Positive emotions: Fun, collaboration and healthy dose of competition can make the learning more memorable
6. Intensity: Players are mostly focused on the game and the discussions.
7. Choices and decisions: Games encourage active engagement with information, ideas, tactics and decision making.
8. Fail safe: Board games present an excellent environment to try out new ideas in a risk-free manner.
9. Partnerships: Games are already being used in healthcare. There could be a partnership between game developers and healthcare planners leading to sophisticated games for scenario planning.
10. Games could help promote healthy behaviors, such as zero footprints (Behavioural economics).

Challenges:
1. Games might not be taken seriously by everyone
2. Development of the flourishing game will take a long time and many rounds of prototyping and user testing
3. Participants might not behave in their usual manner, which could also result in untrustworthy data.
4. A group of game facilitators will be needed, or new ones need to be trained.

3. A design proposal

One of the outcomes of this research is to identify the necessary steps for creating a business model and developing a service based on the needs identified. While the interviews and discussion with the research participants were more around the topic of business model development for new programs or services, I felt it was important to bridge the gap between the two.

The triads from the business models explored during the FBC workshop acted as a starting point. The narratives shared around these triads helped me in constructing a patient journey, based on a few key personas. These journey maps were low fidelity. The analysis of the data from the previous stages of research (especially the FBC workshop) provided a lot of information to work with.

The discussion around the envisioned triads helped recognize the service

delivery of the clinical program, which was represented at the workshop. The concerns around the present model gave an idea of the pain points. This was, of course, from the perspective of the managers. While I was aware of the importance of talking to the patient, it was excluded from the scope of the project due to time limitations. The relationships and channels helped identify the touchpoints and interactions between the patients and the service. Activities and resources of the business model gave an idea of what might be the tangible and the intangible requirements of a new service model.

This will be explained with the help of an example. One of the triads (figure 6.5) has been chosen from the ones mapped in the FBC workshop. The first stage was to map the patient journey through the different care environments in order to have a better understanding of the experience.

Figure 6.6 shows the first draft of the journey map that was created. It tries to represent two possible scenarios of the same kind of patient. A few changes to the experience completely changes the outcome of the journey. The black line shows the patient journey through various levels of care(differentiated by various colours). The black dots on the line mark the various steps of this journey. Also marked are the factors that should be considered at each stage (in dark blue) and pain points (in red). This was an early iteration of capturing that journey, and included the various levels of care, interactions, and areas of intervention (in cyan). It also shows the relationships between levels of care with respect to the journey of the patient. This journey map visualizes the insight which explains the complexity of hospital environments, especially the overlapping of program areas a patient might go through.

Image credit: Emanuel Hahn from https://un-splash.com/@hahnbo?photo=fBFesvEjGOg

PRIMARY CARE

Patient experiences MH issues

Visits GP in the community

Referred to NYGH MH clinic* — How trained are the GPs in handling MH patients?

Any community MH clinic near patient?

Referrels — Between GPs & Hospital

Books date call/ web portal
- Web portal
- Call centre
- Avoid long wait times

Goes to front desk (registration)

Is the facility accessible?*

Arrives at clinic (Car/ public transport)
- Accessibility from drop-off point
- Physical design and way-finding

- Access to Mobility aids
- Attitude of front desk staff

Goes to waiting room*
- Design of space
- Forms and printed package
- Things to keep patients busy while waiting

Enters counselling room

Narrates story to psychiatrist*
- Database for patient records (digital)
- Software or process to input patient story, emotions, narrative
- Design of space (welcoming, open)

Discusses treatment plan?*
Patient doesn't trust the plan?

Patient happy with plan?*
Capturing patient feedback

Finalize next meeting (follow-up)
- Scheduling system
- Automated reminders

AMBULATORY CARE

Patient gives feedback on process?

Interaction with psychiatrist*
- Finding a contact person
- Staff who can call patients
- Electronic records, easily accessible. Design of the interface is imp.

Waiting to meet psychiatrist

Visit again (follow-up)

Taking medicines?

Following treatment plan?

Leave facility

Pick Medication (if any)*
Available on same site?

- Best ways to show the plan
- Collaboration between staff and patient

Changes in plan?

Patient leaves

follow up? (phone/ email)

YES

NO

Increases load on emergency

Volumes of patients

Acute to long-term care, avoidable

Need of specialized care services

- Finding a contact person
- Staff who can call patients
- Collaboration with local MH clinics or GPs

SELF(HOME) CARE

Ends up in long-term care

LONG-TERM CARE

Condition deteriorates

Condition Improves

EMERGENCY CARE

Admitted to emergency department (Crisis)

Moved to inpatient unit (in-case beds are available)
Moved to partner hospitals based on urgency

Taken to MH clinic for counselling

Goes through the same process again

INPATIENT CARE

Hopefully conditions improves

Leaves the hospital
- Connected to community Mental Health partners

PRIMARY CARE

CONCLUSION

CONCLUSION

Figure 6.3. A typical journey map of a Mental Health patient at NYGH

While it was a good way to start visualizing the journey, the map started getting more complex as more data was added to it. So I decided to separate the journey and add the subsequent information sequentially, but in different layers. This was moving it closer to something that looks like a service blueprint. This is still at a level of service conceptualization. Since the proposal was not like any other consumer service, a 4C journey map template (figure 6.6) designed by Dr. Peter Jones(2017) specifically for soft services was used in this case. This map can be used for formulating full lifecycle journeys and defining touchpoints. The four 'C' concepts—Context, Constraints, Cues and Communications are applicable to any soft service application. 'Care' is specific to healthcare and defines the direct touch points and healthcare provision process. This journey map was the missing link between a business model and a service design I had identified in the beginning of the section.

Soft services are designed specifically for the purpose of continuing the health-seeking experience of individuals within a community who are not specifically seeking care. It enables the discovery of sufficient opportunities for peer engagement, communication and community support in the period preceding the need for a service. (Jones, 2017)

When the data from the same triad was transferred on the 4C journey map, a lot more information could be added to it, which gave a better picture. The first pain point for a patient addressing a mental health issue could be a lack of access to a community mental health clinic. Usually in that case a patient will go to a GP who might or might not be trained to address mental health cases. This itself has a potential for a new intervention, such as introducing mental health clinics in specific communities or providing GPs with basic guidelines for interactions with mental health patient. This this is the first interaction of the patient with the healthcare system, it is very crucial.

Another point of intervention represented on the 4C journey map is the accessibility of a facility. This is not just about physical space but also related to the attitude of the front desk staff. Other than being physically accessible for all kinds of patients, the staff's attitude should be welcoming and friendly.

Long wait time is another pain point. But this has potential to be converted into an intervention point when one can think about different ways in which this time could be utilized. Patient could be shown educational or fun movies to calm their nerves. They can be encouraged to fill out their forms in an interactive way while they wait to see the counsellor. The new Journey map is more structured with a different set of information on specific layers. The layers from Context to Journey suggest various touchpoints, signs, and interactions (virtual or physical) in the context of the patient journey on the second-last layer. The timeline flows from left to right and shows the various stages of the patient journey.

CONTEXT   Stage & Time-Frame   What contexts define the situation and service demand?
Pre-Concern   Emergent Concern   Help-Seeking   Diagnoses   Evolution   Disposition   Resolution   Continuing

CONSTRAINTS   Within Stage   What constraints determine the range of interaction?
Place   Location   Channels   Transportation/Mobility   Scheduling   Payment

CUES   Within Locations & Contexts   Context indicators & information at the point of need/awareness
Awareness   Signs & Symbols   Designed Artifacts   Space markers   Ambient references

LINE OF INTERACTION

CARE   Within Service   What health, patient and care services are provided?
Admission   Exam   Tests   Touchpoints   Treatment and Medicine   Care team encounters

LINE OF VISIBILITY

COMMUNICATIONS   Between Agents   Spoken & written requests, prescriptions, information provided
Phone calls   Forms   Handouts   Spoken orders   Talking about care needs

JOURNEY   Full Lifecycle   Experience of the health-seeker, situations, expectations, feelings
Service cycle that follows context timeline, e.g.   Aware   Join   Use   Develop   Leave

Figure 6.4. A 4C journey map template for soft services (Jones, 2017)

CONTEXT

EMERGENT CONCERN	HELP SEEKING	DIAGNOSIS	TREATMENT	EVOLUTION	CONTINUING
			DISPOSITION	RESOLUTION	

CONSTRAINTS

- Easy access to healthcare?
- How trained are the GPs in handling MH patients?
- Availability of dates (wait times)
- Transportation to facility and physical design
- Access to mobility aids. Attitude of front desk staff
- Long wait times, confusing forms
- Access to database and patient records
- Trust between patients and care givers
- Access and/or ability to use internet and phone
- Access to funds for payment
- Finding staff to track treatment plan with patients
- Accessibility of facility and reminders for patients
- Interface of electronic systems and usability
- Design of forms and a process of recordkeeping
- Increased load on emergency wards and services
- Availability of beds and specialized care
- Managing high volumes and finding funds
- Managing monitored patients

CUES

- Any community MH clinic near patient?
- Website or booking app
- Signage
- Front desk
- Welcoming open and bright space
- Well designed space
- Recording device
- Electronic records
- Schedulling system, automated reminders
- Pharmacy
- Scheduling system, automated reminders
- Electronic records
- Storing and studying patient feedback
- Emergency wards
- Long-term care centres
- Regular visits and group sessions
- Group sessions

Line of Interaction

CARE

- Community MH clinic, GPs refer to hospital MH clinics
- Hospital Mental Health Clinic provides counselling, treatment options and follow-ups with patients
- Tracking treatment plan and scheduled visits, collaboration with community mental health clinics and organizations
- Maintaining channels of communication with patients which can help keep track of changes in treatment plan and patients feedback
- Not following treatment plans might lead to other complications
- Specialized care depending on age and complexity
- Patient is connected to community mental health partners and GPs

Line of visibility

COMMUNICATIONS

- Forms
- Phone Calls
- Web Portals
- Text messages
- Forms
- Digital form
- Handouts
- Face-to-face Narration
- Treatment Options
- Booklet
- Scheduling
- Prescription
- Email
- Phone Calls
- Text Messages
- Forms
- Face-to-face Narration
- Email
- Feedback Form(print)
- Questionnaire
- Electronic Records
- Personalized Email
- Medication Reminder
- Automated Email
- Phone Calls
- Text Messages

JOURNEY

PRIMARY CARE
- Patient experiences MH issues
- Visits GP in the community
- Referred to NYGH MH clinic*
- Books date call/ web portal

AMBULATORY CARE
- Arrives at clinic (Car/ public transport
- Is the facility accessible?*
- Goes to front desk (registration)
- Goes to waiting room*
- Enters counselling room
- Narrates story to psychiatrist*
- Discusses treatment plan?
- Finalize next meeting (follow-up)

SELF(HOME) CARE
- Pick Medication (if any)*
- Leave facility
- Following treatment plan?*

AMBULATORY CARE
- Waiting to meet psychiatrist
- Patient Follow-up
- Patient gives feedback on process?
- Interaction with psychiatrist*

- Flourishing Outcomes*
- Leaves Inpatient
- Monitoring and counseling
- Languishing Outcomes
- Continues with medication and close monitoring
- Declining Outcome*
- Admitted to Long-term care

POINT OF INTERVENTION

- Easy access to MH care in the community
- Referrals. How to control volumes
- Can impact the patient experience
- Wait times are very crucial. How to utilitze this wait time?
- Recording the patient story effectively.
- Patient is happy with treatment plan?
- On-site pharmacy is available?
- Appoint staff such as receptionist to keep track of treatment plans
- Patient story is well documented and easily available?
- Recording patient feedback
- Identifying services which will lead to flourishing outcomes
- If avoided could lead to better heath outcomes for patient. Financially critical for a hospital
- Availability of long-term care centres with specialized care delivery

LEGEND

- Communication from Hospital
- Communication from Patient
- Patient journey path and steps
- Connection between steps in the journey and elements on different layers

Figure 6.5. Mapping the patient experience using a 4C Journey map

The top layer (Context) might include different stages of the developmental experience and formal health care stages. The Journey stage, which is on the second last layer, suggests the various stages of experience recognized in and outside the service context. It also represents the expected and typical situations, expectations and feeling of the health seeker throughout the journey. These can be constructed on the basis of the research data from step 1-2 of the recommended process. This could be based on the narratives of actual patients or staff. Constraints represent the various entities or factors that limit the progress of the health seeker. These include channel constraints, waitlists, accessibility of a location, insurance and, financial and legal constraints. It's also important to understand how these constraints impact the experience and decision making of a health seeker. A couple of constraints at the start of a journey might act as a reinforcing bias in the mind of the health seeker, thus convincing him/her that the quality of care will not be satisfactory.

Cues are represented above the line of interaction and serve as context indicators to people within a service system. Cues do not communicate

any direct meaning but might create a kind of awareness for the health seeker. They include signs and symbols, visible artifacts, spatial cues, and printed materials. Cues present excellent opportunities for identifying areas in service that need change.

Care services sit between the line of interaction and the line of visibility. The interaction is direct but the services and artifacts might not be visible to health seekers. It indicates the care services that are provided. The stages show the touchpoints, examinations, treatments, test and encounters of the physicians, counselors, and pharmacists. This gives an understanding of the environment with respect to the service.

The communications layer includes well defined and designed communication material shared with the participants. It can include material forms, physician orders, prescriptions, caregiver conversations, etc. The media could be spoken, printed, online or a combination of all of them. These belong to Design 1.0, but they have a direct impact on the service design.

I have further included a final layer at the bottom called points of intervention. The journey of the health seeker could be lined with pain points, which are also points of opportunity or intervention. It has a separate layer so that it can easily stand out on the map. The corresponding markers at that point across the various layers will give a better understanding of the source of that pain, result and impact area.

Multiple journey maps such as this can be drawn for different personas to get a better understanding of the situation and presented to NYGH managers and clinicians as a design proposal. It will lead to richer insights which could be used to prototype and test service designs.

Each layer of the 4C journey map was created on the basis of the discussions around several areas of the FBC, as seen in figure 6.8.

CONTEXT	NEEDS	GOALS	
CONSTRAINTS	GOALS	What is missing?	
CUES	RESOURCES	CHANNELS	ACTIVITIES
Line of Interaction			
CARE	RELATIONSHIPS	STAKEHOLDERS	PARTNERSHIPS
Line of Visibility			
COMMUNICATIONS	RESOURCES	CHANNELS	ACTIVITIES
JOURNEY	RELATIONSHIPS		
POINTS OF INTERVENTION	BENEFITS	VALUE CO-CREATION/ DESTRUCTION	

Table 6.1. Relationship between components of a FBC and a 4C Journey Map

Pros:

1. Ideal for greater stakeholder involvement.
2. Connecting the business aspects of the service to the human sciences.
3. Will help in creation and development of new services, in areas which were not previously explored.

Challenges:

1. It is important to understand the process and the related terms and this means that the managers and clinicians will have to spend time in learning them in detail.
2. Clinicians might be apprehensive of the motives and legitimacies of the service leaders
3. There might be concerns about the negative consequences for patients due to the changes in service delivery, organizational structure or care delivery environments.
4. Some clinicians might feel this to be something more bureaucratic or an unnecessary task.

6.2. Implementation

In order to implement the proposed process and design, shift has to be brought in the minds of clinicians and managers in a hospital. This is no easy talk and will take considerable time and commitment. In order to convince a NYGH or a new hospital to try out this process, there needs to be a discussion around the merits of the process, maybe in a format they are used to (such as business cases). I have identified few points that this case has to explain:
1. Background of research: current literature, case studies, statements of people from healthcare who might have used it and can vouch for it
2. How is it different from current

practices? Present gaps can be addressed here.
3. The steps of the process has to be explained.
4. They need to know the time frame and there should be some flexibility in it.
5. Design tools that will be used needs to be mentioned, along with case studies and merits.
6. Outcomes of this study needs to be shared. They need to see how a small study led to proportionally larger qualitative data.
7. Propose another small study where this process could be used in a smaller scale and shorter timeline.
8. They need to know how can this be financially beneficial.

In an ideal scenario this study will be continued with NYGH Mental Health program. If they see the benefits of the outcome, they might implement it in their plans for the new outpatient unit. This can then be developed as a strong evidence-based case study and shared with other program directors. If they see the benefits of this, they could test it out on a small scale as well. That might be the ideal approach. The other approach could be to get a leader from the hospital on board, someone who would believe in the process. This person could then convince others to join or try out this process and design approach.

Other hospitals could be connected to using the network of SFI faculty, alumni and student. Connections could also be made via design and healthcare conferences and academic events.

6.3. Next Steps

The next steps can be broadly put into two categories— short-term and long-term. A roadmap has been created based on conservative and realistic expectations, keeping in mind the goals of the project.

Short-Term Steps:

This time frame is from now to about 6 months into the future. This stage would involve sharing the project findings and innovation ideas with peers and subject-matter experts. I plan on doing so by attending conferences on related subjects, sharing the report online, discussing it with people who participated in the research (especially the participants from NYGH). The feedback and suggestions would be analysed to improve the paper. The following are the next steps for each of the innovation ideas:

1. A new research plan: Talk to academicians and practitioners who have written about or used the various research methods suggested for this plan. It's important to know the pros and cons of each method, and to get a more nuanced understanding of each process. The idea will be shared with managers at NYGH and I will try to get their feedback on it. It is important to understand the logistics and time frame required to attempt something like this in a hospital. Ethical concerns, that might arise when involving patients in research, need to be understood and resolved.

2. Games as a research tool: I plan to talk to people and organizations who are using games, as a research tool or to start a dialogue. Based on these discussions more games could be identified which could be introduced to the recommended process. The games mentioned are excellent for starting conversations, and participants do not need to have any background in healthcare. On the other hand, there are some games which can be played by staff and clinicians in a hospital, to improve team-work and to break the ice before a research session. As a first step these games could be introduced to the clinicians and managers at NYGH in small groups of 4-5. More sessions can be planned subsequently on the basis of the feedback.

3. A Design proposal: The patient journey developed in this research is more of a representation. The next step could be to use all of the data collected and then create a few more maps based on other patient journeys or patient types. The journey map with its pain/gain points are related to specific triads built around value the participants of the workshop identified. This could be presented to the NYGH managers, who participated in the research, to find out if it captures their narratives and ideas correctly.

Long-Term Steps:

The long-term plan would look into a 7 to 12 month horizon. The success of the long-term plan will depend on the results of the short-term plan.

1. A new research plan: In the long-term, I am planning to look for similar research involving business-planning to create service models in health care: something which didn't show up in the literature that was available. Other studies can be used to compare and pool the data for a richer and holistic analysis. This research can be continued with NYGH, if they value the outcomes and can see it being used by their managers in the future. Additionally, other community hospitals and research institutes can be approached for collaboration.

2. Games as a research tool: If games are included in the process, the participants' documented feedback and reactions can be studied. A good quality and quantity of data would help me judge if they were indeed helpful, or not. Partnerships with game designers can lead to the creation of meaningful and highly engaging game prototypes.

3. A Design proposal: If the goals of the short-term plan are met, then a longer plan can be developed, which will include creation, development, and testing of detailed service blueprints. The research can be extended to other clinical service areas. Inclusion of clinicians, volunteers and other major stakeholders in the service areas is highly recommended for the research process. An ideal scenario would be to try this in a pilot project. This too could be tried at other hospitals in the region to see if there are other factors (such as location or size) that can affect the process outcomes.

There are a lot of possibilities of moving towards being flourishing within a hospital. This research has identified few steps which will help them in doing so, whenever they decide to. The process proposed in this project would enable them to move towards a flourishing goal which is very different from their current organizational goals. That would require a new planning process, new tools, ways to evaluate data and a change in mindset.

CONCLUSION

"We know only too well that what we are doing is nothing more than a drop in the ocean. But if the drop were not there, the ocean would be missing something."

Mother Teresa

Glossary
of Terms

—

5S

The origin of the 5S tool is from Japanese philosophy, specifically from the five basic elements of the system: Seiri (selection), Seiton (systematization), Seiso (cleaning), Seiketsu (standardization) and Shitsuke (self-discipline). The list explains how to organize a workspace for productivity and effectiveness by identifying and collecting the items used, maintaining the area and items, and sustaining the new order.

Acute Care

Acute care is a branch of secondary health care in which a patient receives active but short-term treatment for a critical injury or episode of illness, an urgent medical condition, or while recovering from surgery. In healthcare terms, acute care is the opposite of chronic care or long-term care.

Ambulatory Care

Ambulatory care, also commonly known as outpatient care, is medical care provided on an outpatient basis and includes diagnosis, investigation, consultation, treatment, intervention, and rehabilitation services. This type of care is not limited to hospitals, and can include cutting edge medical technology and procedures even when provided outside of hospitals.

Behavioural Economics

Behavioral economics studies the effects of psychological, social, cognitive, and emotional factors on the economic decisions of individuals and institutions and the consequences for market prices, returns, and resource allocation (Lin, 2010).

Business Mode

According to Al-Debei, et al., 2008 the business model is "an abstract representation of an organization, be it conceptual, textual, and/or graphical, of all core interrelated architectural, co-operational, and economic arrangements designed and developed by an organization presently and in the future, as well as all core products and/or services the organization offers, or will offer, based on these arrangements that are needed

to achieve its strategic goals and objectives."

Design Thinking

Tim Brown defines design thinking as *"a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success."*

Design thinking is an approach of looking at complex problems in an effort to solve them. It is being applied increasingly in professional design practice, business setting and in solving social issues. Design thinking in business uses various methodologies and tools to understand what the consumer/customer needs, and tries to create viable business strategies which can provide an opportunity to create customer value.

Flourishing

Flourishing has been defined as the possibility that human and all life on earth might flourish forever on our planet (Jones, 2013). In the context of this paper, flourishing can be achieved by an organization if they strive towards economic, environmental and social sustainability.

Innovation

Business dictionary defines innovation as a process which translates an idea or invention into a product or service which creates value for a user, who in turn pays for it. For an idea to be called innovative, it needs to be replicable at an economical price and must serve a specific need of a customer section. Innovation involves a thoughtful application of information, imagination, and drive in deriving greater or different values from resources. In businesses, innovation leads to ideas that when applied by the company, satisfies the needs and expectation of its customers.

Journey Map

A (customer) journey map is a diagram which represents the steps a customer/ user needs to go through while engaging or interacting with a service,

product, online experience, retail experience and any combination of them all. A complex map with many touch points is more useful than a simpler one with fewer touchpoints. Sometimes, customer journeys are "cradle to grave" and looks at an entire engagement curve. (Richardson, 2010)

Lean Thinking

It is an integrated operational and socio-technical approach of a value system, whose main objectives are to maximize value and thus eliminate waste by creating cumulative capabilities. (Joosten et al., 2009)

Service Design

According to the Service Design Network, it is the activity of planning and organizing people, infrastructure, communication, and tangible components of a service in order to improve its quality and the interaction between service provider and customers. One of the major goals of service design methodologies is to design keeping in mind customer(or participant) requirements, in an effort to make the service user-friendly, competitive and relevant to the customers. Personas, user journey maps and service blueprints are some of the common service design tools.

Sustainability

In simple terms, sustainability is the continuation of systems and processes. Sustainable development is the organizing principle for sustainability and it covers ecology, economics, politics, and culture, which are interconnected domains.

Quality-Based Procedures(QBPs)

QBPs were introduced by the MOHLTC as a part of the Health System Funding Reforms. These are specific groups of patient services that offer opportunities for health care providers to share best practices that will allow the system to deliver better quality and system efficiencies. The use of best practices is expected to promote the standardization of care by decreasing inappropriate or unexplained disparity, and ensuring that patients get the right care, at the right place, and at the right time.

List of
Abbreviations

BCM: Business Canvas Model

FBC: Flourishing Business Canvas

GP: General Practitioner

HBAM: Health-Based Allocation Model

HSFR: Health System Funding Reform

ICT: Information and Communication Technology

MH: Mental Health

MOHLTC: Ministry of Health and Long-Term Care

NYGH: North York General Hospital

OCAD: Ontario College of Art and Design

OECD: The Organisation for Economic Co-operation and Development

SES: Socio-Ecological System

SLT: Senior Leadership Team

UNESCO: The United Nations Educational, Scientific and Cultural Organization

WT: Wait-Time

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CHAPTER ONE

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Appendices

APPENDIX A:
INTERVIEW QUESTIONS

Semi-Structured Interviews with experts who have used the Flourishing Business Canvas (FBC) in their research and/or practice:

- Please tell me about the work you perform where business model design is employed.
- What has been your professional experience in using the Flourishing Business Canvas (FBC)?
- What kind of business or stakeholder problems have you used the FBC for?
- What are the key benefits of using the FBC?
- Have you tried using the FBC in a healthcare setting? What were the key insights?
- Have you encountered any resistance in using the FBC as a business modelling tool?
- What else might be need to adapt it better for healthcare?
- Have you used the FBC for social service or public policy development? If so, how did you set up the canvas as a tool for informing the process? How were policy proposals formed from the canvas?
- What constraints, restrictions or barriers have you encountered in using the FBC? Please explain.
- Do you think the FBC can be used as a tool for long-term planning and strategic foresight in an organization? If yes, how?

The key themes here are:
1. Professional experience in use implementing a business modelling process
2. Experience of using a FBC in practice or for research
3. Benefits and challenges of using a FBC
4. Understanding its use in healthcare.

APPENDIX B:
WORKSHOP HANDOUT

Page 1 of 4: Overview

Future Flourishing Business Models Workshop for Mental Health Program
NYGH, Wed Dec 21 9:00 – 12:00
Cliff Harvey, Sandy Marangos, Lorraine Longaphie,
OCADU: Jyotish Sonowal and Peter Jones (remote)

Workshop Plan:
9:00 Introduction and overview
The two purposes of this workshop:
• To train and enable NYGH clinical services to learn use of the Flourishing Business Canvas(FBC) as a tool for envisioning integrated care delivery models
• To participate in the OCADU Strategic Foresight & Innovation research study on the adaptation of FBC to healthcare services.
Peter to discuss the overall use and intent of the Canvas. Jyotish will discuss the MRP research study and the purpose of the research, outcomes, feedback and final report. He will also talk about the Informed consent process.

9:10 Training 20 minute
Q&A presentation explaining the Flourishing Business canvas and the interest in using for FBC.
The Narayana Health case study will be presented for better understanding of the process. A FBC with Narayana Health case (triads in yellow) is up for participants to take a closer look.

Opening exercise: How is NYG exploring Value Based Care? Where are you finding opportunities for flourishing – social & ecological? What new or emerging programs or services are you planning that you might use in the workshop as a model for your team?

9:40 Workshop
Start by clarifying the goals: To learn the FBC canvas as a tool for describing new business models for programs that Mental Health is planning and will (or might) deliver.Form small groups (2-3) by project or new service concept

Start with Goals / Outcomes. Definition of success? List the Goals and then identify Value Propositions / co-creation for the goals. Relationships (For who) and Channels, and then Benefits to all. Then How / Activities & Assets. Find series of Triads based on these propositions. Then Consider Co-Destruction. Within the group answer the questions on the handout as far as possible for the canvas for 50 minutes

10:30 Break: 15 minutes   PJ to dial-in after break again for discussion

10:45 Participants review canvases and discussion of triads. Complete the canvases after brief discussion.

11:15 Present models to other group. Connect them and start finding common relationships.

11.45 Debrief, conclusions and discussions Followed by discussion on the next steps which include follow-up interviews, sharing of photos of maps as they are updated and sharing of the MRP report.

Post Workshop:
Groups can take canvases with them and complete it over a period of ____ days
Schedule interviews with student researcher for next ____ weeks
Can contact the research team in case of any questions related to the canvas

Page 2 of 4: Summary of research

Enhancing clinical service models using the Flourishing Business Canvas
Jyotish Sonowal, OCAD University

The healthcare sector in the Western world is in the midst of significant secular change. Most healthcare organizations are going through the grueling process of making decisions and staying updated in an environment where technology, medical information, patient demographics, and the relationships between other healthcare systems are constantly changing (Cohen et al., 2004). At the same time, governments throughout the developed world are under significant and continuing economic pressure to reduce healthcare costs while improving the quality of care (Howie & Erickson, 2002; McCue, 1997; Segesten, Lundgren & Lindström, 1998). These trends and issues have led to the Triple Aim to enhance the quality of patient experience, reduce per unit costs, and improve population health (Berwick, Nolan, & Whittington, 2008).

In today's healthcare business environment, it is increasingly becoming important for a hospital to understand the far-reaching social, economic and environmental impact and consequences of their delivery of services. This research adopts the perspective of flourishing as an organizational aim to help clinicians and administrators to visualize and assess their current programs (or models of care) and to discover and reimagine new business models supportive of flourishing. Using the Flourishing Business Canvas (Upward and Jones, 2016), the research project explores ways of

impact definition and evaluation, measures social and environmental benefits which will help decision makers in a healthcare setting.

The visual formalism of the Canvas facilitates the presentation to stakeholders of new or proposed models of care as visual business cases. These business cases not only capture the core economic drivers and trade-offs in the business model, but through the concept of flourishing provide a common language for human-centred business proposals.

This workshop presents a unique opportunity for the researcher to understand the use of such a design artifact for major hospital programs, which lends some weight to the possible use of this model in other large, mission-oriented organizations. The purpose of this workshop is also to understand and evaluate the "fit" of the FBC in a hospital. The facilitated workshop will encourage the participants to look at their service lines as business processes, and to map their assumptions and proposals on the canvas in the form of a holistic business model. What's critical to the research at this point is to gather the observations, reactions and data of the participants who hold key decision making positions at NYGH.

The unique contribution would be to identify the elements that will help in the design of a process and method for representing conditions and elements of flourishing within healthcare service lines, a business process that is currently desired but unavailable to organizations (Jones, 2016, personal conversation).

Page 3 of 4: Steps of FBC process

The Flourishing Business Canvas Workshop

Opening exercise:
How is NYG exploring Value Based Care?
Where are you finding opportunities for flourishing – social & ecological?
What new or emerging programs or services are you planning that you might use in the workshop as a model for your team? (These are value propositions)

Workshop:
1. Start with the Value Propositions from the opening. Form small groups (2-3) by program, project or new service concept.

2. Start on the Canvas by defining Goals (idealized outcomes) for your group's value proposition (using yellow notes). Identify Outcomes, and consider your definition of success.

3. Generate (brainstorm) Value Co-Creations that might achieve these goals. Iterate between Goals & Value, at first, to get consensus ideas on Goals/Value together.

4. Identify your key stakeholders

5. Relationships (For who) and Channels, and then Benefits to all. Then How / Activities & Resources. Find series of Triads based on these propositions. Then Consider Co-Destruction.

6. Within the group answer the questions on the handout as far as possible for the canvas for 50 minutes.

7. Review your canvases and discuss the triads. Complete the canvases after brief discussion.

Page 4 of 4: Questions

Questions from the Flourishing Business Canvas

1. Goals: What are the Goals of this enterprise that its Stakeholders have agreed? What is this organization's definition of success: environmentally, socially and economically?

2. Benefits: How does this enterprise choose to measure the Benefits that result from its business model (Environmentally, Socially, Economically)? This includes financial benefits, revenues measured in monetary units.

3. Costs: How does this enterprise choose to measure the Costs incurred by its business model (Environmentally, Socially, Economically) each in relevant units? This includes financial costs measured in monetary units.

4. Value Co-Creations: What value is co-created with each Stakeholder, satisfying the Needs of the associated Ecosystem Actor, from their perspective (world-view), now and / or in the future? Value Co-Creations are also known as the positive value propositions of the enterprise.
Value can only be co-created: value can only emerge when a given Stakeholder role interacts with the enterprise via Channel(s) created by the enterprise's processes.

5. Stakeholders: Who are the recognized stakeholders of this enterprise? A Stakeholder is a role recognized by the Enterprise to have some stake in the enterprise's outcomes. Choosing to recognize a Stakeholder is a

major decision with implications for all other business model elements. (An Ecosystem Actor may play multiple Stakeholder roles at the same time or over time.)

6. Relationships: What Relationships with each Stakeholder must be established, cultivated and maintained by this enterprise via its Channels? What is the function of each Relationship in each Value Co-Creation for each Stakeholder?

7. Channels: What Channels will be used to communicate and develop Relationships with each Stakeholder (and vice versa), enabling the co-creation or co-destruction of each of its value propositions? Examples: Retail, Face-to-Face, Internet, Phone, Email, Mail, Transport, Education.

8. Activities: What value adding work, organized into business processes, is required to design, deliver and maintain the organization's Value Co-creations and Value Co-destructions in order to achieve this enterprise's Goals?

9. Resources: What tangible (physical materials, including fixed assets, raw materials and people) and intangible Resources (energy, Relationship equity, brand, tacit and explicit knowledge, intellectual property, money – working capital, cash, loans, etc.) are required by this enterprise's Activities to achieve its Goals?

Page 4 of 4: Questions (continued)

10. Value Co-Destructions: What value is co-destroyed for each Stakeholder, hindering the satisfaction of Needs? Value Co-Destructions are also known as the negative value propositions of the enterprise. Value can only be co-destroyed: value destruction can only emerge in the Relationship of a given Stakeholder Role interacting with the enterprise via a Channel created by the enterprise's Processes.

11. Governance: Which Stakeholders gets to make decisions about: who is a recognized Stakeholder, the Goals of this enterprise, its value propositions and all other elements of its business model?

12. Partnerships: Which Stakeholders are formal partners of this enterprise? To which Resources do these partners enable this enterprise to gain preferred access? Which Activities do these partners undertake for this organization?

13. Ecosystem Actors: Who and what may have an interest in the fact that this enterprise exists? Which Ecosystem Actors represent the needs of individuals, groups, organizations, or non-humans? Any thing in our world can be considered an Ecosystem Actor.
When a person or organization presents

their own need or the need of a non-human Ecosystem Actor to an enterprise and it chooses to engage with them, they become a Stakeholder. Until that time they remain Ecosystem Actors with the potential for action that is beneficial or that may harm the enterprises ability to meet its Goals.

14. Needs: Which fundamental needs of the Ecosystem Actors does the enterprise intend to satisfy via its Value Co-Creations or that it may prevent an Ecosystem Actor from satisfying via its Value Co-Destructions?

15. Biophysical Stocks: From what ultimate stocks are the tangible Resources moved and / or transformed by this enterprise's Activities to achieve its Goals?

16. Ecosystem Services: Ecosystem services are processes powered by the sun that use Biophysical Stocks to create flows of benefits humans need: clean water, fresh air, vibrant soil, plant and animal growth etc. Which flows of these benefits are required, harmed or improved by this enterprise's Activities?

APPENDIX C: WORKSHOP SUMMARY

Workshop day:
With the help of a fellow SFI student, I set up the room for the workshop. Dr. Peter Jones was present via teleconference.

After greeting the participants, a handout containing a summary of the project, invitation and consent form, and a workshop schedule was presented. Participants were asked to read (if they did not read the soft copy sent via email) and sign the consent forms before starting with the workshop. Dr. Peter Jones, an expert in the field, started explaining the concept of "Flourishing" and the development of the Flourishing Business Canvas with an opening presentation. He also shared an FBC case study on Narayana Health's Telehealth service. A completed FBC mapping of the same case study was stuck on the wall for reference.

After that, the participants started working on the FBC. Since they were all from the MH program, they decided to work on one canvas, instead of working in teams of two (which was initially suggested). They began by listing the current program goals.

"We have to focus on the environment; the environment we are looking at needs to be really conducive to making people feel comfortable and sharing very personal information. We need to create more mechanisms for efficiency and access to our programs–they are our biggest problems now. Need a more integrated approach because currently, everything is very siloed.

A more integrated and focused approach can lead to prolonged healthy life for the patients."

Participants then moved on to identifying the value propositions (value co-creation) by starting to look at the current problems faced by the MH program.
"MH currently has an outpatient program for adults. Starts with the intake process which is currently very inefficient. Right now patients are moving through a linear process, on the basis of what we think and not necessarily with what the patient thinks. This has been happening for a long time, but we have outlived that process and need to bring some change. The linear process might not be the best, so we might need to break those linear silos, come together and think about how to enable and help them to decide where they need to go."

This early session was pretty long and the participants asked a lot of questions related to the FBC process. The participants then were asked to map out the program which they were envisioning and not which currently exists. They were introduced to the concept of triads and were encouraged to form as many as possible.
Value co-creation (VCC) - Stakeholders (S) - Goals (G)
Since most of them found it difficult to understand the meaning of value co-creation in the context of the program that they were envisioning, they were asked to first identify stakeholders and goals. After identifying the key stakeholders, the participants started

listing the value proposition(co-creation) for each stakeholder, which they believed was going to ensure that a goal of the program is met.
"Creating an environment which is safe. To de-stigmatize patients, we need to look at the physical design of spaces. Sometimes the patients feel stigmatized by the processes, for example not being able to use a walker in the inpatient unit or telling their stories again and again."

The following triads were created:

TRIAD 1

(Value Co-creation)The story of the patient is valuable - (Stakeholder) Staff, and clinicians - (Goal) Build empathy The staff need to value the story of the patients in order to build empathy (in a story or narrative).

TRIAD 2

(Value Co-creation) Having Appropriate Treatment Options And availability - (Stakeholder) Inpatients - (Goals) Best Practice, Optimizing MH services, accessibility

"What is really driving the redesign for me is that we don't have appropriate availability right now to have inpatients seen as quickly as the literature tells us that they should be seen. Inpatients that don't go into the day hospital prog. and just need a follow-up with the physiatrist according to literature that should be provided in one to two weeks (or a mental health person) talk or speak with them. It is not available currently. So we are not serving in-patients well right now"

TRIAD 3

(Value Co-creation) Having Appropriate Treatment Options And availability - (Stakeholder) GPs, Community Partners - (Goals) Best Practice, Optimizing MH services, accessibility

"From the appropriate availability is what are the external community partners and GPs looking for. What they are necessarily looking for is not for us to provide here, but we have to look at their needs and see what we can provide here at the hospital. But we can look at the needs of the GPs, and decide what we can provide here at the hospital vs how we can help them see what is available in the communities (there are some people who should never be referred to us)."

Until this point, more than two-thirds of the time was over. So the participants were asked to quickly move on to other components of the canvas. This was done so that they could see the bigger picture, as to how everything is related. Next, the participants looked at the relationships between the stakeholders and the program in order to deliver the value co-creation. Some of the relationships that were identified are the following.

(Value Co-creation)The story of the patient is valuable - (Stakeholder) Staff (and clinicians) - (Goals) Build empathy. The staff need to value the story of the patients in order to build empathy (in a story or narrative) **- Relationship(R)** (be able to book them within 1-2 weeks of

discharge, appointment can be face-to-face or by phone).

After that, key **Activities** were identified. *"In terms of the clinical activities, we are trying to create a more efficient online intake process. We are going to be offering new groups and some focused individual counseling (and maybe space). This is going to inform the kind of space we are looking at."*

The next section was **Resources**.
"We also need our Participants' Council (a group of individuals with personal lived experience of mental illness and/or addiction, elected by their peers who have used our hospital's mental health services. Its members include inpatients, former patients, and outpatients.). They are all involved in our committees and involved in our design process."

After that, the participants went on to look at **Partnerships**.
"Our GPs have to be very engaged as partners. We need to understand what their needs are.We should be able to communicate back to them that those are the things that are appropriate for us but not available in our outpatient setting."

This part of the process seemed easy for them and they were really quick to map out these components of the canvas. Next was Governance which was followed by Value Co-destruction. For every value created, some value is destroyed. I had a small discussion with the participants, but had to keep moving on due to lack of

time. Lastly, Costs were discussed, along with factors that impacted the same.

A few components of the map (mostly environmental) were left out due to the lack of time. The digitized map can be found in appendix D.

I had a quick last minute chat with the MH Program about the process before wrapping up the workshop. Photographs of the mapped out canvas were taken and the canvas was left with the participants so that they could continue working on it, or review it at their own convenience.
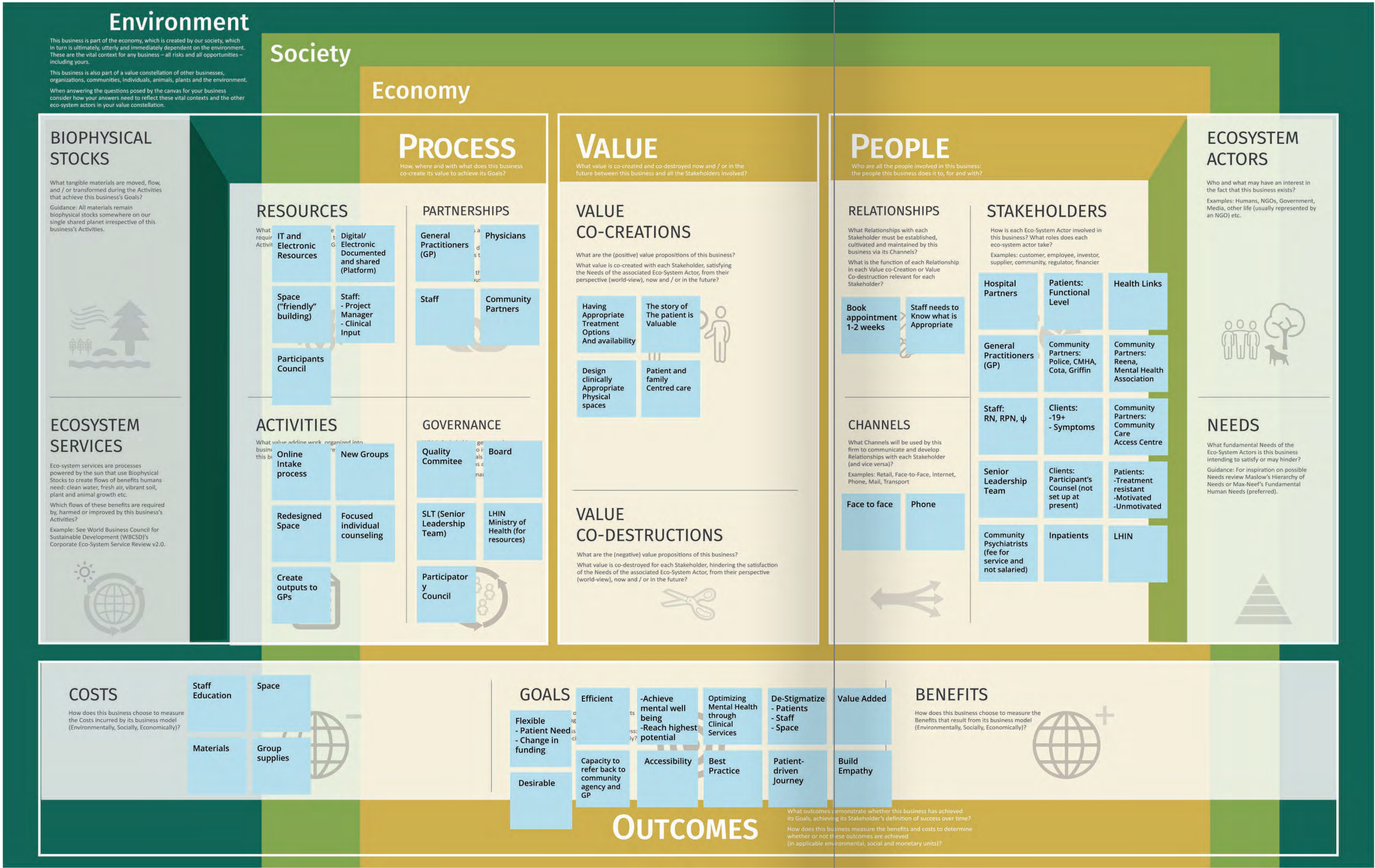
APPENDIX D:
DIGITIZED FBC FROM WORKSHOP

Flourishing Business Canvas v2.0

| Designed for: | North York General Hospital Mental Health Program | Designed by: | NYGH Mental Health Program Director and senior managers | Date: | 21 December 2016 |

Environment

This business is part of the economy, which is created by our society, which in turn is ultimately, utterly and immediately dependent on the environment. These are the vital context for any business – all risks and all opportunities – including yours.

This business is also part of a value constellation of other businesses, organizations, communities, individuals, animals, plants and the environment.

When answering the questions posed by the canvas for your business consider how your answers need to reflect these vital contexts and the other eco-system actors in your value constellation.

Society

Economy

BIOPHYSICAL STOCKS

What tangible materials are moved, flow, and / or transformed during the Activities that achieve this business's Goals?

Guidance: All materials remain biophysical stocks somewhere on our single shared planet irrespective of this business's Activities.

ECOSYSTEM SERVICES

Eco-system services are processes powered by the sun that use Biophysical Stocks to create flows of benefits humans need: clean water, fresh air, vibrant soil, plant and animal growth etc.

Which flows of these benefits are required by, harmed or improved by this business's Activities?

Example: See World Business Council for Sustainable Development (WBCSD)'s Corporate Eco-System Service Review v2.0.

PROCESS
How, where and with what does this business co-create its value to achieve its Goals?

RESOURCES
What resources are required for this business's Activities?

- IT and Electronic Resources
- Digital/ Electronic Documented and shared (Platform)
- Space ("friendly" building)
- Staff: - Project Manager - Clinical Input
- Participants Council

PARTNERSHIPS

- General Practitioners (GP)
- Physicians
- Staff
- Community Partners

ACTIVITIES
What value-adding work, organized into this business's...

- Online Intake process
- New Groups
- Redesigned Space
- Focused individual counseling
- Create outputs to GPs

GOVERNANCE

- Quality Commitee
- Board
- SLT (Senior Leadership Team)
- LHIN Ministry of Health (for resources)
- Participatory Council

VALUE
What value is co-created and co-destroyed now and / or in the future between this business and all the Stakeholders involved?

VALUE CO-CREATIONS
What are the (positive) value propositions of this business?

What value is co-created with each Stakeholder, satisfying the Needs of the associated Eco-System Actor, from their perspective (world-view), now and / or in the future?

- Having Appropriate Treatment Options And availability
- The story of The patient is Valuable
- Design clinically Appropriate Physical spaces
- Patient and family Centred care

VALUE CO-DESTRUCTIONS
What are the (negative) value propositions of this business?

What value is co-destroyed for each Stakeholder, hindering the satisfaction of the Needs of the associated Eco-System Actor, from their perspective (world-view), now and / or in the future?

PEOPLE
Who are all the people involved in this business: the people this business does it to, for and with?

RELATIONSHIPS
What Relationships with each Stakeholder must be established, cultivated and maintained by this business via its Channels?

What is the function of each Relationship in each Value Co-Creation or Value Co-destruction relevant for each Stakeholder?

- Book appointment 1-2 weeks
- Staff needs to Know what is Appropriate

CHANNELS
What Channels will be used by this firm to communicate and develop Relationships with each Stakeholder (and vice versa)?

Examples: Retail, Face-to-Face, Internet, Phone, Mail, Transport

- Face to face
- Phone

STAKEHOLDERS
How is each Eco-System Actor involved in this business? What roles does each eco-system actor take?

Examples: customer, employee, investor, supplier, community, regulator, financier

- Hospital Partners
- Patients: Functional Level
- Health Links
- General Practitioners (GP)
- Community Partners: Police, CMHA, Cota, Griffin
- Community Partners: Reena, Mental Health Association
- Staff: RN, RPN, ψ
- Clients: -19+ - Symptoms
- Community Partners: Community Care Access Centre
- Senior Leadership Team
- Clients: Participant's Counsel (not set up at present)
- Patients: -Treatment resistant -Motivated -Unmotivated
- Community Psychiatrists (fee for service and not salaried)
- Inpatients
- LHIN

ECOSYSTEM ACTORS
Who and what may have an interest in the fact that this business exists?

Examples: Humans, NGOs, Government, Media, other life (usually represented by an NGO) etc.

NEEDS
What fundamental Needs of the Eco-System Actors is this business intending to satisfy or may hinder?

Guidance: For inspiration on possible Needs review Maslow's Hierarchy of Needs or Max-Neef's Fundamental Human Needs (preferred).

COSTS
How does this business choose to measure the Costs incurred by its business model (Environmentally, Socially, Economically)?

- Staff Education
- Space
- Materials
- Group supplies

GOALS

- Efficient
- -Achieve mental well being -Reach highest potential
- Optimizing Mental Health through Clinical Services
- De-Stigmatize - Patients - Staff - Space
- Value Added
- Flexible - Patient Needs - Change in funding
- Capacity to refer back to community agency and GP
- Accessibility
- Best Practice
- Patient- driven Journey
- Build Empathy
- Desirable

BENEFITS
How does this business choose to measure the Benefits that result from its business model (Environmentally, Socially, Economically)?

OUTCOMES
What outcomes demonstrate whether this business has achieved its Goals, achieving its Stakeholder's definition of success over time?

How does this business measure the benefits and costs to determine whether or not these outcomes are achieved (in applicable environmental, social and monetary units)?

APPENDIX E:
STRUCTURED INTERVIEW QUESTIONS

Questions for Clinical Directors

- Tell me briefly about your clinical service area – specifically: what's the NYG "business model" for your model of care?
- What are the most significant changes or plans your service area has in mind in 3-5 years?
- What are the biggest challenges your programs will see in the near future, in terms of population, demographics, patient needs?
- What planning models or tools do you currently use in your program? How do you design, describe or represent proposals to management?
- What are the long-term goals of your service area and programs?
- How well do the program design and management planning tools you have today work for these proposals?

APPENDIX F:
A FLOURISHING BOARD GAME

Game type: Euro-Style Games (Silverman, 2013)
Euro-style games are often about gaining victory points, an arbitrary resource that allows you to win. They usually last a certain number of turns, or continue until one player has a certain number of victory points. These games have strong themes which inform much of the design. There is also usually a system of resource management, and some kind of "political" play between the players as they negotiate the sale and trade of resources. Finally, these games have fewer elements of luck or chance, and most issues the player experiences because of "bad luck" can be mitigated with strong strategic play.

Examples: Settlers of Catan, Power Grid, Carcassone, and Lancaster
Players: 4-6
Time: 1-2 hours including debrief.
Resource: Dollars (funds)

Goals: Ensure that the hospital is sustainable for x amount of rounds. Each turn will be equal to some years. For example 1 turn might come every 2 years. So the goal would be to keep the hospital sustainable for 10 years.
The following table point out the basic features of the game and its rationale

Gameplay:
- Each player gets to own and run a hospital.
- The game has a banker who will give and collect resources from the players. The facilitator will play the role of the banker.
- Before every game, the banker pays a fixed amount of resources to a common pool.
- Players will get a minute to decide their individual share out of that pool. They must reach a consensus.
- If not, then two rolls of a dice will decide who gets to pick first and the rest of the players can pick in a clockwise order (or maybe the player gets to decide everyone's share)
- Additionally each player gets a fixed amount of resources from the banker before each round.
- Players can build their hospital in any part of the board (allocated units). They have to buy the area first by placing the resources on it.
- They can then scale their hospital by placing buildings adjacent to their main building.
- Every hospital generates "x" and community clinic "x/2" units of resource every round.

- They can also spend on items like waste treatment plant, community clinic(has to be linked to a hospital), R&D, etc. Each hospital can only have a maximum of 5 community clinics.(yet to be decided)
- There will be a deck with chance cards—extra resources next round, flu outbreak, property tax (similar to charge for more construction), etc. The Banker will draw this from a shuffled deck at the start of each round. The card will impact only the current round.
- The fixed amount received by each player from the banker goes down after every round. But if a chance card "increase in budget" is drawn, that amount goes up by the amount specified in the card, for that specific round only.
- Flourishing purchases will be expensive and output will be lower. But they will protect players in times of crisis. The returns because of that will be immense, but not apparent in the beginning.
- Players can adapt their strategies to be more flourishing and survive together. Players must have resources($) left with them until the end.
- The player with the most amount of resources at the end of the game wins
- Debrief will have a series of questions which will let the players share their experience and how can they relate this to a real life situation/scenario. They can share their game plans and strategies.

There are, however, many elements that are yet to be decided. These are:
- Number of rounds in a game
- The grid and units on the board. Square, hexagon or organic.
- Resources ($) to be added to the pool and to each player in each round, output from each hospital building and clinics.
- Mechanics of the game needs to be developed further. That will decide what option each player has after every round, how that effects other player outcomes, and other permutations and combinations. This could help in creating a path for the players to reach their goals.
- An optimum number of options for flourishing could be added.
- One of the most important part of the game will be the debrief. There will be a set of questions designed for the debrief session. But the facilitator can also add other questions depending on the participants.
- There has to be a way of documenting the outcome, reactions, discussion and key observations from each game. This would help in further development of the game and could also be used for the purpose of research.

ABOUT THE AUTHOR ────────────

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With a background in graphic design, Jyotish has had a successful career as a typeface designer, specializing in Indic scripts. During his four years at the Indian Type Foundry (ITF), he has designed and collaborated on typeface design projects for the ITF's font library and organizations such as Apple, Sony, Google fonts and Monotype Imaging. He was also a core team member for the India based legal innovation startup, LawforMe. This organization simplifies the conveyance of Indian laws and legal processes with the use of design and technology. Equipped with well-honed SFI skills, he is planning to take on complex problems facing the developing world especially in the field of healthcare, poverty alleviation, waste management and access to law.

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