

# Feasibility Study

A Vermont Innovation Center as  
a Means to Foster Entrepreneurial  
Efforts to Improve Rural and Elderly  
Access to Quality, Sustainable Care

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## Executive Summary

The Vermont Futures Project is investigating potential means to address challenges presented by the state's ageing demographics and generating additional economic opportunity. This report assesses the feasibility of an innovation center that fosters market-based, sustainable care solutions for rural and elderly populations. It aims to provide the Vermont Futures Project with the information needed to determine whether an innovation center is the optimal approach to achieving these goals. The outbreak of COVID-19 limited the study's stakeholder outreach but was still able to gather sufficient input to generate high-level findings and recommendations.

Vermont's demographic and economic trends present a challenge and opportunity. By 2030, 25% of Vermont's population will be 65 years old or older. Long-term elderly care costs Vermont more than \$200 million of Vermont's annual budget, a sum projected to increase. The decreasing availability of professional care providers in Vermont shifts the burden of care to informal providers such as partners, neighbors, and family, which can have detrimental economic and health implications for the care providers and in turn, the state.

The very drivers of these challenges may also make Vermont an ideal innovation environment for products and services of the "Caregiving Market," which consists of products and services that enable non-acute care oneself or another. Solutions address daily essential activity, health, safety awareness, transition support, caregiver quality of life, care coordination, and social wellbeing needs. Nationally, 150 million potential customers comprise the Caregiving Market and its projected 2021 value is \$62 billion. Few platforms exist at the national level to foster and commercialize Caregiving Market solutions. Thus, there exists an opportunity to create a unique value offering for entrepreneurs by facilitating strategic partnerships with health systems, insurers, private providers, advocacy groups, and other stakeholders in the caretaking ecosystem. The platform could facilitate rich engagement with target demographics during product design and validation phases through on-site events with caretakers and care recipients. Based on conversations with local and regional stakeholders, such a center would complement current caregiving and innovation ecosystems, with limited risk of competition.

Of the innovation center models examined, an accelerator business model that externalizes much of the service offerings through partnerships aligns best with the Vermont Futures Project's overarching objectives of addressing rural and elderly healthcare challenges while simultaneously spurring economic opportunity. However, the financing of such an operation presents significant barriers. A fee-based model is not viable according to initial projections. An investment-based model would require a new fund of approximately \$30 million. Even with the participation of national and institutional investors, raising a fund of this size in Vermont would prove challenging under normal circumstances and particularly difficult in the current economic climate. Compounding this challenge, the accelerator would not likely attract a sufficient volume of high-potential ventures within the fund's initial investment period.

In summary, establishing a private, independent innovation center as a means to creating economic opportunity and increasing access to quality care for rural and elderly populations would likely be operationally challenging and not cost effective.

Bearing in mind that the above conclusion is based on assumptions and preliminary financial projections, the study recommends further examination of the assumptions and financial model to ensure that the barriers are genuine. It is necessary to build out the innovation center's business model prior to doing so.

Assuming these barriers are genuine, the study recommends consideration of two alternative approaches to the objectives set out by the Vermont Futures Project:

- *Explore the potential of a catalyst fund that supports targeted efforts of preexisting innovation centers.* The financial projections suggest that events and services, which deliver the bulk of the value offering, account for approximately 20% of the total cost of the potential accelerator. Consider creating a fund that enables these events and services in partnership with existing innovation centers in Vermont. The fund's purpose would be to incentivize established centers to take on ventures focused on the caregiving, aging-at-home, and COVID-19 recovery markets; and, to provide those ventures immediate and broad access to relevant expertise and strategic partners at the local and national levels. Such an approach requires a fraction of the resources yet holds the potential to yield equal impact.
- *Consider shifting the focus from the generation of innovative products and services to the utilization and deployment of innovative products and services.* Instead of, or in addition to, catalyzing the launch of startups, the Vermont Futures Project could focus its efforts on spurring new small business creation and growth by facilitating awareness and integration of existing innovative technologies into business models of Vermont-based small businesses. The Caregiving Market contains many product offerings that are underutilized. It is possible that several of these provide foundations for novel, more efficient or effective approaches to long-term care upon which small businesses could be founded or transformed. The Vermont Futures Project could increase awareness of existing tools by working with established partners to offer new technology integration workshops for current and prospective Vermont small business owners.

Finally, the study owes a debt of gratitude to Lori Smith and John Burton of the Vermont Futures Project, and the interviewed stakeholders. Lori and John provided perspective throughout the process to help hone the scope of business model considerations and guidance when the impact of the COVID-19 outbreak became evident. The stakeholders' insights ensured that the study remained grounded in the practical realities of the developing partnerships that foster collaboration between innovators, caregivers, and care recipients; the daily challenges of long-term elderly care; and the current investment environment in Vermont and beyond.

## Study Background

### Section Summary

- The Vermont Futures Project is investigating the feasibility of an innovation center that fosters market-based sustainable care solutions for rural and elderly populations.
- The report aims to do the following in order to inform the Vermont Futures Project's next steps: identify the challenges and opportunities, propose business model guiding principles, validate stakeholder interest, review operational and financial feasibility, and offer recommendations.
- The extent of original research was limited by the onset of COVID-19.

The Vermont Futures Project is investigating the possibility of leveraging Vermont's entrepreneurial culture and ecosystem of innovative institutions to foster market-based solutions that increase access to high quality, sustainable care for rural and elderly populations while simultaneously spurring economic opportunity in Vermont. This innovation center is referred to as the Vermont Caregiving Innovation Center (VCIC).

This assessment diverges from a conventional feasibility study format in order to test the viability of the concept prior to investing the significant resources necessary to generate and validate a sound business case. The absence of a business case imposes limits on the precision of this assessment. In such circumstances, precision and accuracy can become countervailing forces. The priority of this study is accuracy in its assessment of feasibility and thus, the precision is limited in instances. Such instances are noted herein as requiring further validation.

With the intent to provide directional guidance on the feasibility of an innovation center, the study includes preliminary research on relevant marketplaces and proposes principles to guide the development of a business model. These guiding principles aim to capitalize on the natural and structural advantages Vermont offers. The viability of a model founded on these principles is assessed in general terms -- not with the goal of providing an absolute conclusion; but rather, to frame the concept and test significant drivers and assumptions. The intent is to provide the Vermont Futures Project and the Vermont business community with a framework upon which to consider the path forward in an efficient and effective manner.

A second and perhaps more consequential factor is the timing of the study and the COVID-19 pandemic. The study was designed to take place January-April 2020. The initial stages of the COVID-19 pandemic occurred in parallel. The stakeholders of this study are also those most severely affected by the outbreak (e.g., care providers, medical professionals, public servants, health systems executives, business owners). Many of the more than thirty identified stakeholders sought out for this assessment

were limited in their availability. Midway into the external input phase of the study, the author consulted the Vermont Futures Project. It was mutually determined to not pursue further stakeholder interviews due to stakeholders' need to prioritize pandemic response efforts. It is likely that the COVID-19 outbreak may alter the caregiving landscape in ways that are yet to be discovered and so this study will need to be updated as the current outbreak evolves.

Despite this, the study managed to capture insights from experts, business leaders, practitioners, and entrepreneurs. The preliminary findings resulting from these conversations require further validation but they do form an initial understanding of the marketplace and the incentive structures of various stakeholders, from which a business case can be formed, should the Vermont Futures Project determine this to be the next step.

Given these circumstance, the objectives of the assessment are:

1. **Identify the challenges and opportunities.** Identify specific, systemic challenges of the in-home support and healthcare space that can serve as the focal point, and a corresponding opportunity that the Vermont economic ecosystem is well positioned to capitalize on through an innovation center.
2. **Propose business model guiding principles.** Outline business model principles likely to capitalize on the identified solution and offer relevant value propositions.
3. **Validate stakeholder interest.** Collect sentiments of stakeholders, in Vermont and beyond, in the proposed business model and its value proposition.<sup>1</sup>
4. **Review operational and financial feasibility.** Assess the access to and interest of key resources; provide directionally accurate financial projections.
5. **Offer recommendations.** Summarize findings in prior sections and suggest next steps.

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<sup>1</sup> Unlike other objectives, which are largely captured in specific sections of the report, stakeholder interest, to the extent collected, is integrated throughout the report.

## Challenges and Opportunity

### Section Summary

- By 2030, 25% of Vermont’s population will be 65 or older.
- Long-term elderly care costs Vermont more than \$200 million of Vermont’s annual budget, a sum projected to increase.
- The lack of access to professional care providers shifts the burden of care to informal providers such as partners, neighbors, and family.
- The national Caregiving Market is comprised of approximately 150 million potential customers and is projected to be worth \$62 billion in 2021.
- 71% of caregivers report interest in digital caregiving solutions; only 7% utilize current offerings.<sup>2</sup> Less than 10% of elderly persons use safety technology already available.

### Challenges

The population of Vermont is rapidly aging. By 2030, 25% of Vermont’s population will be 65 or older, likely leading to the designation as the most elderly state in the nation.<sup>3</sup> 90% of US seniors prefer to “age in place” at their homes rather than move to a retirement community or assisted living home.<sup>4</sup> While aging in place can be less costly than assisted living, the annual cost of long-term elderly care (LTEC) remains high at a national average of roughly \$48,000 per individual per year. LTEC already accounts for more than \$200 million of Vermont’s annual budget, a cost projected to increase as the state’s population ages and lifespans increase.<sup>5</sup>

Another implication of the preference for aging in place is the growing need for caretakers and this preference may grow stronger as a result of the COVID-19 outbreak and recovery. Vermont is likely to see an increasing need to support COVID-19 recovery patients as they work through the respiratory, neurological, and psychological implications of the disease. Unfortunately, relevant workforce shortages already exist in Vermont and are nearing crisis levels. The numbers of licensed RNs, LNAs, and LPNs, and primary care physicians have each decreased, some by as much as 25% in recent years.<sup>6</sup> The downstream effects include increased cost of care, reduced access to care, reduced quality of life, and ultimately, increased risk of reduced life expectancy.

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<sup>2</sup> Caregivers & Technology

<sup>3</sup> 2018 VT State Plan on Aging

<sup>4</sup> Technology for Aging in Place, MIT AgeLab, Mayo Clinic Center for Inno...

<sup>5</sup> Medicaid by the Numbers: Vermonters with disabilities and long-term care needs are the most expensive patients

<sup>6</sup> Vermont Health Care Workforce Report:

The lack of access to professional care providers also shifts the burden of care to informal providers such as partners, neighbors, and family.<sup>7</sup> Driven in part by the lack of access to affordable, professional long-term care services, more than 40 million Americans are providing care to loved ones.<sup>8</sup> Family caregivers' ability to contribute to the economy is often limited as a result, and these caregivers are at increased risk of poor health outcomes and financial insecurity themselves.<sup>9</sup> Furthermore, there is a general consensus that the responsibility can have a significant impact on caregiver's stress levels and quality of life, especially those caregivers that attend to both parents and children of their own simultaneously.<sup>10 11</sup>

The implications of the abovementioned trends are two-fold for Vermont. First, the combination of more residents requiring long-term care and a continued workforce shortage will put at risk quality of life for the elderly and financial health for the state, households, and individuals alike. Second, the inevitable assumption of long-term care responsibilities will risk younger generations' ability to contribute to Vermont's economy, invest in their children's and communities' futures, and work to ensure their own health and financial prosperity.

## Opportunity

Over the past decade, an increasing number of scholars and investors have come to appreciate the potential of the economic power of the 65+ population. While this cohort makes up roughly one-third of the nation's population, it generates over half of the nation's consumer spending.<sup>12</sup> Economists have come to call this segment of the economy, the Longevity Economy. In addition, 40+ million caregivers each spend more than \$500 out-of-pocket annually on caregiving solutions with over 50% of that on digital solutions. Combined, these two groups represent enormous economic potential to grow what AARP terms the Caregiving Market. The Caregiving Market is comprised of approximately 150 million potential customers.<sup>13</sup> Prior to the COVID-19 pandemic, this market was projected to be worth \$62 billion in 2021 with significant growth potential of 17% CAGR.

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<sup>7</sup> 2018 VT State Plan on Aging

<sup>8</sup> Caregivers & Technology

<sup>9</sup> 2018 VT State Plan on Aging

<sup>10</sup> 'It's Pretty Brutal': The Sandwich Generation Pays a Price

<sup>11</sup> 'I Feel Very Torn Between My Child and My Dad'—Demands Intensify for the 'Sandwich Generation'

<sup>12</sup> How People Over 50 Are Driving Economic and Social Value in the US

<sup>13</sup> Assumption: 25% of family caregivers (10M of 40M) also qualify as members of the Longevity Economy, which contains ~120M members).



**The Caregiving Market is made up of six segments:<sup>14</sup>**

Market	Size*	CAGR*	Solutions Categories
Daily Essential Activities	\$220B	11.6%	Meals, Chores, Personal Care, Home Repair, Deliveries
Health & Safety Awareness	\$23.1B	18.3%	Telehealth, Nutrition, Medication Management, Safety, Alerts
Transition Support	\$23.3B	9.3%	Home Retrofit, Legal, Insurance, Hospice & Funeral, Care Referral
Caregiver Quality of Life	\$20.9B	12.4%	Backup Care, Social Support, Health and Wellness, Financial (Job) Security
Care Coordination	\$11.9B	15.5%	Care Planning, Records & Benefits, Care Professional Engagement, Recovery Support
Social Well-being	\$8B	30.9%	Community Networking, Life Companion, Digital Inclusion, Life Enrichment & Empowerment
Total	\$308B	17%	--

\*Aggregate amounts based on 2017-2021 projections

Much of the Caregiving Market’s potential has yet to be realized. While 71% of caregivers report interest in digital caregiving solutions, only 7% utilize current offerings.<sup>15</sup> Less than 10% of elderly persons use safety technology already available.<sup>16</sup> Several of the reasons for low utilization rates do not stem from a lack of understanding the potential benefits. Rather the products are not inadequately designed in terms of marketing, consumer onboarding, and user experience either due to a generally poor understanding of the customer or because they are designed for the wrong customer altogether.<sup>17 18</sup>

## Innovation Center Model Considerations

### Section Summary

- Few platforms exist to foster Caregiving Market solutions.
- The Vermont entrepreneurial ecosystem offers a mix of benefits and challenges.
- There is an opportunity to create a unique value offering for entrepreneurs by facilitating strategic partnerships throughout the caretaking ecosystem and rich

<sup>14</sup> Caregiving Innovation Frontiers

<sup>15</sup> Caregivers & Technology

<sup>16</sup> Technology for Aging in Place, MIT AgeLab, Mayo Clinic Center for Inno...

<sup>17</sup> e-Connected Family Caregiver: Bringing Caregiving into the 21st Century

<sup>18</sup> Paving the Path for Family-Centered Design

engagement with target demographics during product design and testing phases.

- Based on conversations with local and regional stakeholders, such a center would complement the caregiving and innovation ecosystems, with limited risk of competition.

In order to understand the potential for a Vermont based innovation center that capitalizes on the Caregiving Market opportunity as explained above, this study included a marketplace assessment of caregiving innovation at the national and state levels. The subsequent sections explore strategic opportunities uncovered by the landscape assessment and propose principles to guide the development of a comprehensive business model following the feasibility assessment.

## Marketplace Assessment

### National

At that national level, dozens of academic institutions house centers that focus on aging. This includes regional entities such as MIT's AgeLab and Yale's Center for Research on Aging.<sup>19 20</sup> Of the centers assessed, few indicated a focus on the application of research and the ecosystem in which aging and caregiving take place. This consideration is important because the inclusion of application of research within the scope of work improves the utility of that research. Furthermore, health and quality of life outcomes for elderly persons are becoming progressively dependent on technology utilization.

Beyond academic institutions, the landscape assessment identified only two programs that consider the application of research and technology, and take a comprehensive view of caregiving. One organization is the Florida-based GuideWell Health Innovation Challenge. GuideWell offers up to four companies and nonprofits in the caregiving space non-dilutive funding and access to strategic partnerships each year.<sup>21</sup> The second organization is Upward Lab's AgeTech Lab in Connecticut. AgeTech Lab's model is consistent with traditional incubator practices. Neither organization responded to requests for interviews but other interviewees familiar with the programs confirmed that their respective models substantively address the issues of application and ecosystem.

Ultimately, the landscape assessment and conversations with national experts confirmed that a dearth of innovation platforms exists to foster Caregiving Market solutions.

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<sup>19</sup> [MIT AgeLab: Home](#)

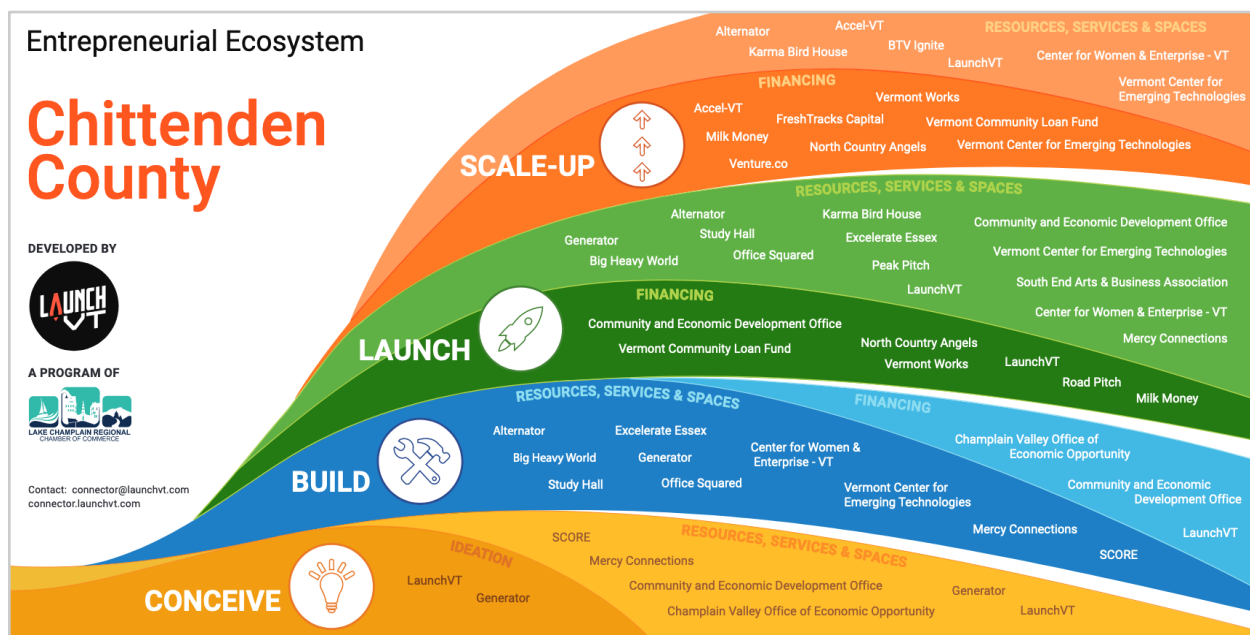
<sup>20</sup> [Yale Center for Research on Aging \(Y-Age\)](#)

<sup>21</sup> [Health Innovation Challenge](#)

## Vermont

Review of the Vermont landscape offered mixed results. Vermont's entrepreneurial ecosystem continues to face several barriers to providing a startup- and business-friendly environment that can compete at a national level.<sup>22 23 24</sup> However, the growth and maturation of the entrepreneurial ecosystem has in part led to national recognition of the Burlington area as an innovation hub.<sup>25 26</sup> The state's entrepreneurial ecosystem continues to expand the variety and quality of services offered to entrepreneurs. Elements of the ecosystem can be found throughout Vermont but they are geographically concentrated in Chittenden County, which contains the Burlington metropolitan area.

### Chittenden County Entrepreneurial Ecosystem Map<sup>27 28</sup>



Building on the language of the ecosystem map above, innovation center offerings may include resources, services, space, networks, and financing. Based on conversations with entrepreneurs and stakeholders that have run innovation centers and/or participated in innovation challenges, innovation centers in mature metropolitan innovation hubs (e.g., San Francisco, Boston) can focus on maximizing a few offerings and relying on the ecosystem of complementary products and services. In less robust markets, such as Vermont, conventional thinking is that innovation centers must be

<sup>22</sup> [Vermont ranked low as place to start a business](#)

<sup>23</sup> [Forbes: Best States for Business](#)

<sup>24</sup> [Top States for Business 2019: Vermont](#)

<sup>25</sup> [It's Time to Start Considering Vermont as an Entrepreneurial Hub-- Here's Why](#)

<sup>26</sup> [The 10 Most Innovative Tech Hubs in The U.S.](#)

<sup>27</sup> [Entrepreneurial Ecosystem - Chittenden County \(PDF\)](#)

<sup>28</sup> The State of Vermont supports a number of programs beyond Chittenden County, which are [mapped out here](#).

more self-reliant and thus provide the full portfolio of competitive offerings, either in-house or through direct partnerships.

While a handful of innovation centers in Vermont are able to provide members access to a comprehensive set of services, they tend not to limit membership to a market-specific focus. According to one innovation center manager and investor, the pool of Vermont-based startups is not large enough to support such specialization. Therefore, an innovation center focused on caregiving would need to recruit from beyond Vermont’s borders and thus, compete for talent at the national level.

**Vermont’s Potential Strategic Opportunity**

The study uses the Strategic Canvas method to visualize a competitive profile of local and national innovation centers. Based on research and interviews, of more than 30 competitive factors associated with innovation centers, the following 12 factors weigh significantly in an innovator’s decision to engage an innovation center:

**Priority Competitive Factors**

Category	Factor	Summary
Basic Services	Working Space Infrastructure	Physical spaces were heavily favored over virtual spaces. May include: productivity and communication tools; convening space for the cohort; and coverage of services like utilities, property management, etc.
	Business Support Services	Basic guidance in areas such as: accounting, marketing, HR, legal, etc.
	General Networking	Informal and formal convenings that provide cohort members opportunities to cultivate relationships with one another and influential members of relevant professional communities.
Expertise Access	Commercialization	Guidance regarding the process of taking a technology from concept to market.
	Regulatory	Guidance regarding the regulatory process and stakeholders, navigating and engaging each so as to minimize delays and costs. Especially important for innovation in the healthcare market.
	IP Management	Guidance regarding intellectual property protection and the IP marketplace.
	Subject Matter	Guidance specific to the subject matter of the business; often experts with deep experience and networks in the relevant space(s).

Network Access	Funders (Equity & Debt)	Receive serious consideration from a curated group of investors, and introductions to the broader funding community.
	Institutional Strategic Partners	Collaborate with researchers, government bodies, and others that can provide unique access to insights and markets
	Commercial Strategic Partners	Collaborate with organizations that provide services complementary to the startup with the hope of accessing market and product insights, and customers.
	Consumer Insight	Routinely interact with people of the target consumer profile directly during the product design phase.
	Consumer Environment	Engage the living environment of the target consumer segment during the product design phase in order to understand its application in context.

Importantly, the priority factors do not include cost or reputation. The marketplace assessment of major, non-institutional innovation centers at the national level indicated they tend not to charge fees. Instead, these programs favor the financial model in which they take a portion of equity in exchange for in-kind resources and oftentimes, seed funding. Reputation is not considered because this factor is not a driver unto itself but rather a byproduct of an innovation center’s ability to attract high-potential ventures by delivering priority competitive factors.

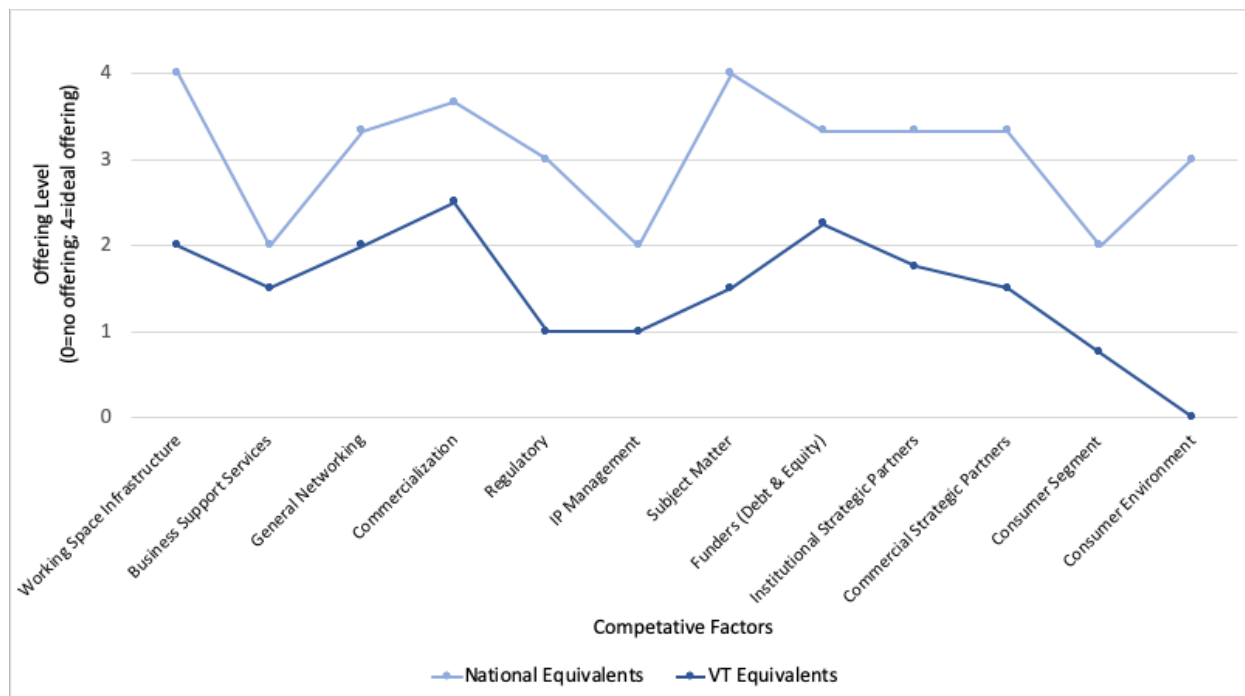
The study aggregated results of a local and national sampling of relevant innovation centers to develop the Strategic Canvas profile at both levels and thus, understand where there may be opportunity to fill market gaps and compete at the national level.<sup>29</sup> Note that the sample size of applicable innovation centers is limited.<sup>30</sup>

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<sup>29</sup> Not all innovation centers were selected based on relevant aspects of their models, goals, and/or profile of the target entrepreneur; not all focus on aging, caregiving or healthcare.

<sup>30</sup> N=8. A larger sample was filtered further based on the factors mentioned in the footnote above. Additional research may be required.

## Caregiving Innovation Strategic Canvas Profiles Relevant Innovation Centers at the Local and National Levels



### Strategic Opportunity

The Strategic Canvas profiles suggest that at present Vermont innovation centers are not positioned to compete with other centers around the United States for innovators focused on the Caregiver Market. Given the robust entrepreneurial ecosystems in which the national equivalents reside, a Vermont-based innovation center should avoid the trap of attempting to match the strengths of these equivalents. Rather, it ought to consider those factors not prioritized by the equivalents that the Vermont ecosystem can address in a cost-effective manner.

As described in the Challenges section above, much of the current aging in place technology lacks design optimized for caretakers who are often influential in the selection, introduction, and management of such products. Design oversights include incorrect assumptions about levels of technological literacy and limited ability to integrate products into the users' environments and practices. Caregiving and innovation experts suggest that such oversights result from entrepreneurs' lack of consistent input from consumer segment feedback and real-world observations during the product design phase. The landscape assessment did not identify any initiatives addressing these issues.

Given Vermont's demographic composition and cultural openness to collaboration, facilitating routine, productive interactions between ventures and representatives of consumer segments is one potential strategic advantage VCIC could offer. Local and

national stakeholders are enthusiastic about the idea of Vermont hosting an innovation center that facilitates regular interaction between entrepreneurs and relevant consumer segments, noting that this would be both a meaningful and unique value proposition. Entrepreneurs interviewed confirmed that in addition to access to investor communities, one of the most valuable features would be low-barrier access to consumer segments and their environments. None had found this elsewhere.

A second potential strategic advantage to consider is the creation of a platform that facilitates relationships with a set of strategic partners tailored to each entrepreneur. Entrepreneurs and investors interviewed highlighted the benefits of innovation centers fostering networks of strategic partners to serve as collaborators, marketing channels, and/or customers themselves. Vermont and national partners could offer access to data and expert advice during the product design phase.<sup>31</sup> Local councils on aging, health systems managers, care providers, and academic institutions indicated broad levels of enthusiasm for such partnerships. Specifically, they are interested in serving as advisors, opening their networks, and in some cases offering physical space at their facilities. Interview requests were made to potential corporate partners; no responses were received during the external input phase of this study.

### Business Model Guiding Principles

While the Vermont entrepreneurial ecosystem offers a mix of benefits and challenges, there is an opportunity to create a unique value offering for entrepreneurs by facilitating strategic partnerships throughout the caretaking ecosystem, and rich engagement with target demographics during product design and testing phases. Based on conversations with national level stakeholders, few if any innovation centers offer both of these features at present. Implemented successfully, this offering could establish a sustained competitive advantage significant enough to draw entrepreneurs from beyond Vermont's borders thus allowing for a specialized innovation center. Based on conversations with local and regional stakeholders, such a center would complement the caregiving and innovation ecosystems, with limited risk of competition.

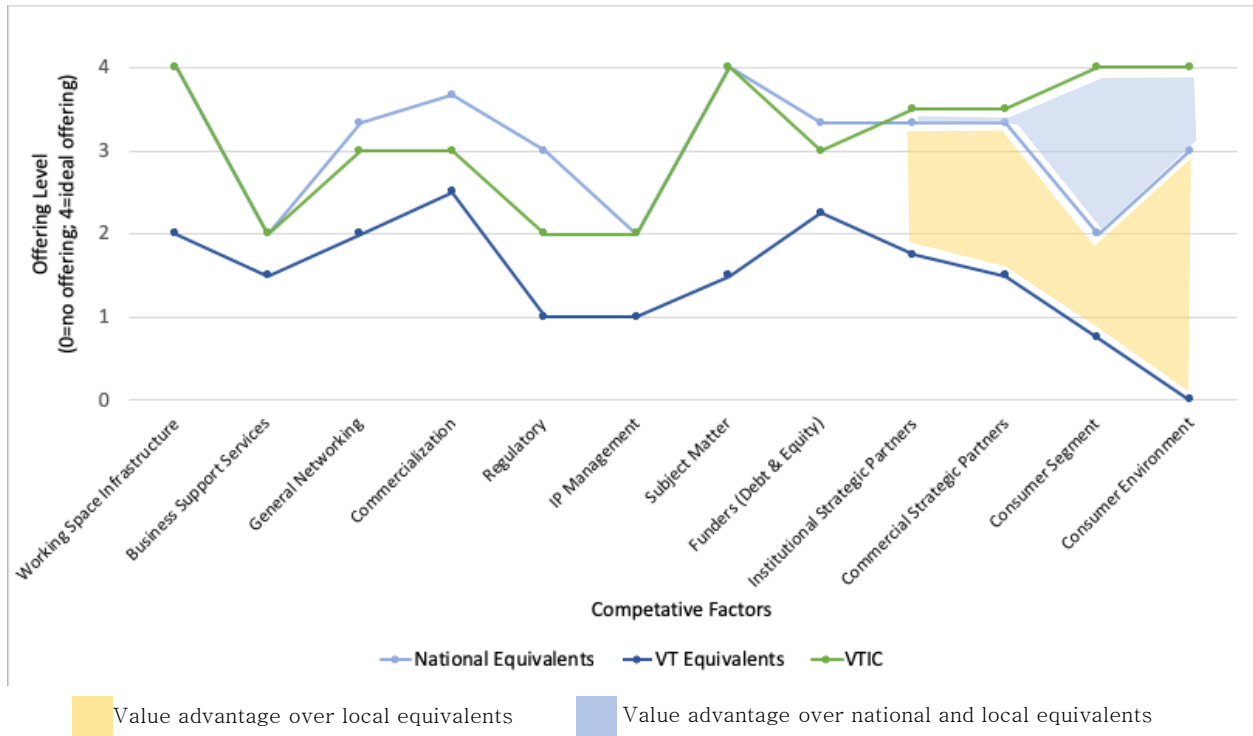
The Strategic Canvas below depicts a profile (in green) of such an innovation center. The shaded regions on the right-hand side of the chart signal the marginal value between equivalents at the local and national levels, should an innovation center be structured to facilitate access to strategic partners and to consumer segments and environments. Pursuing the maximization of these is appealing not only because of the strategic opportunity but when compared to staffing regulatory and IP experts or housing the latest scientific instruments, they are relatively inexpensive to implement and maintain.

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<sup>31</sup> MassChallenge and Upward Labs offer similar services through agreements with major insurance and financial instructions. The offer was referred to as a "data sandbox."

## Caregiving Innovation Strategic Canvas Profiles

VCIC Profile in Contrast to Equivalents at the Local and National Levels



In essence, prioritizing the maximization of a narrow set of core offerings – relationship cultivation with local and national strategic partners, and facilitated access to consumer segments and their environments – at levels superior to that of equivalents is a likely path to sustained competitive advantage. Access to funding would be a priority as well: the innovation center would work to ensure that access to financing is on par with the typical offering at the national level. Other competitive offerings would be matched to the degree that they do not compromise the core offerings.

How these objectives are accomplished is relatively flexible. It is recommended that the geographic location of the innovation center, the physical space, the composition of personnel, events hosted, and financial dynamics all be determined through the lens of core offering maximization.



## Operational and Financial Feasibility

### Section Summary

- An accelerator business model that externalizes much of the service offerings aligns well with the Vermont Futures Project's overarching objectives of addressing rural and elderly healthcare challenges while simultaneously spurring economic opportunity.
- Events and services, which are predicted to generate most of the value, account for ~20% of projected costs. Therefore, the Vermont Futures Project may want to consider a business model that reduces the resource demands of the physical space and personnel costs, which account for ~80% of costs.
- Fee-based financial model projections indicate such an approach is not viable. An investment-based financial model is likely a better fit.
- An investment-based financial model would require a new fund of ~\$33 million. Even with national and institutional investors, this would be a fairly unique occurrence in Vermont and represents a significant challenge to the viability of the innovation center as modeled in this study.
- Attracting a sufficient volume of high-potential ventures within the fund's initial investment period would likely prove extremely challenging.

As discussed in the Study Background section above, the absence of a business case inherently limits the degree of granularity of a feasibility assessment of a business model. In lieu of precise analyses, this section considers operational and financial factors prerequisite to the realization of the strategic vision stated above.

### Operational Considerations

The operational section considers three fundamental variables: services, people, and place. The financial section will suggest cost implications of the operational factors and guidance on financial models and investor approach.

### Services and Activities

Innovation centers offer a variety of services and activities, each in an effort to improve their respective value propositions to the most attractive startups that in turn attract funding for the innovation center and startups alike. VCIC is no different. As identified in the section above, the majority of VCIC's unique value comes through partnership and consumer access offerings. Therefore VCIC would focus its resources into services and activities that bolster entrepreneurs' access to meaningful relationships with strategic partners and productive interactions with consumer segments.

Determining these services prior to building out additional operational considerations is essential as they drive the operational requirements. For the purpose of assessment, the study assumes that the business model requires the following services and activities:

General	Priority
Working spaces for teams	Strategic partnership facilitation
Business support and mentorship	Consumer segment research relationships
Professional network cultivation	Access to funder networks & events

**Personnel**

Hiring the right team to execute the services efficiently and effectively is the most critical resource decision. Personnel not only ensure the strategic trajectory and operational functionality of an innovation center, these individuals determine its cultural foundation and are relied upon by entrepreneurs and investors alike to offer counsel. They serve as the heart of the entity as well as its operators. The staff must collectively command the necessary technical skills and respect of the local entrepreneurial ecosystem. They must project the appropriate ethos in order to successfully navigate the early years of VCIC and do so while instilling confidence and commitment amongst all stakeholders.

A review of innovation centers across the United States revealed no absolute composition of personnel. Generally, three kinds of roles exist: leadership, operations, and community.

- Leadership: The source of the center’s operational and strategic success or failure. Internally this individual typically serves as the chief executive, setting the strategy, managing investor relations, and serving as the aspirational figurehead for all members. Externally, she/he utilizes social and professional capital to build partnerships and attract funding. In both cases, established bona fides within the relevant fields is essential. Equally critical is the intrinsic motivation and entrepreneurial spirit to build an innovation center from scratch.
- Operations: Operational management ensures that the innovation center continues to function and effectively serve its stakeholders as stated day-to-day. A skilled operations manager will free leadership from spending limited time and energy on logistical issues so that she/he can dedicate their efforts to the growth and success of the center within the entrepreneurial ecosystem.
- Community: The community manager executes the daily functions related to member experience and community partnerships. She/he also manages communications and events in a way that fosters brand and culture. In the initial stages of an innovation center launch, this and the operations roles may be merged into one.

## Cohort

Research and interviews suggest that the ideal cohort size of an innovation center is between ten and forty ventures. A cohort of fewer than 10 is less appealing to participants due to its inherent network limitations. Likewise, investors are less confident that cohorts of this size will consistently produce at least one successful startup. With some exceptions, cohorts of more than 40 struggle to maintain the culture and intimacy that drives innovation centers and their participants. Likewise, investors' concern about the dilution of quality of the cohort tends to increase.

For the purposes of the feasibility assessment, the study will assume a cohort size of 20. While ambitious, it is not inconceivable that the program could scale to this size cohort in a relatively short period of time. In addition to the potential investor concerns of a smaller cohort, a cohort of less than 20 may translate to losses of economies of scale and disproportionately high fixed costs.

## Physical Space

Interviews revealed divergent opinions regarding physical space. Some entrepreneurs, particularly those residing in Vermont, noted the benefits of a program that offers a physical workspace with the appropriate amenities. Two experts separately suggested that it would be difficult to attract entrepreneurs at the national level to temporarily relocate to Vermont full-time. These factors may change after the COVID-19 outbreak as there may be an increased interest in moving to less populated areas.

The latter group's assumption is that most entrepreneurs not already based in Vermont would not view Vermont as a viable long-term hub due to the perception of its entrepreneurial ecosystem relative to San Francisco, Boston, and New York. Therefore, a relocation for several months would be perceived as a high-opportunity cost. If it is determined that VCIC implement an onsite program model, the following approaches may be considered in an effort to counter this perception:

- *Accentuate non-program benefits.* Highlight the quality of life aspects of the Vermont and the accessibility to outdoor amenities. The program could be framed as not only an opportunity to engage consumers in their environment, but also for the core team to break its routine in order to refresh and rejuvenate.
- *Spotlight the local entrepreneurial ecosystem.* Offer statistics and testimonials of long-term success stories and current strengths of Vermont's entrepreneurial ecosystem in order to counter the general perception of opportunity in Vermont by non-Vermont residents.
- *Offer seed financing to mitigate the opportunity cost.* Discussed in detail in the Financial Considerations section below, assuming that VCIC serves as an investment fund, seed investment in each venture would counter at least in part the opportunity costs associated with relocation.

- *Remove the need to relocate.* Restructure the program to offer a series of short-term, intensive sessions every several weeks over the course of several months. This would allow participants to travel to Vermont for the sessions and then return to their home base to integrate learnings. The Montpelier-based DeltaClime<sup>VT</sup> program offers a localized version of this model. One drawback to this model is the decreased likelihood of innovators founding or relocating their business to Vermont resulting in less long-term economic opportunity generated for residents of Vermont.

Should it be established that a physical space is necessary, two factors will determine the characteristics of that space. The first and perhaps most consequential factor is the degree to which the business model internalizes access to consumer cohorts and to the living environment. Preliminary findings advise against this for three reasons:

- Creating a venue that facilitates these interactions would be costly.
- Meeting with care givers and recipients in settings unfamiliar to them may lower the quality of insights collected.
- Perhaps the most practical and influential reason: caregivers and recipients generally have limited free time or ability to deviate from schedules. Furthermore, transportation of the care recipient can be onerous and so they avoid additional trips to the extent possible. These two points were stressed by several practitioners.

Interview results suggest that instead of hosting innovator-user interactions and/or setting up living labs at a centralized location, leverage the events and infrastructure already established by strategic partners. (Guidance on these arrangements can be found in the Strategic Partnerships section below.) In addition to lowering participation barriers for care givers and recipients, the externalization of all such activities carry operational and financial benefits. First, it would allow VCIC to iterate formats and test with different partners in order to optimize the experience for all parties. Second, it would remove significant fixed costs from the VCIC's budget. Third, it would provide versatility to tailor engagements on a per cohort basis. Finally, it would allow innovators to engage users in the latter's environments. There, innovators can collect contextual data unavailable in an interview room and potentially critical to the product design.

### **Location**

A second factor that would determine what kind of space is suitable to house the innovation center is proximity to entrepreneurial ecosystems and convenient access to regional and national partners. Regarding the latter factor, interviewees noted that convenience of travel influences the likelihood of national partner engagement. The rough guideline that emerged from these conversations is that VCIC should be either within a two-hour drive of a major metropolitan area or within twenty minutes of a commercial airport.

Combining this insight with the general consensus that innovation centers offer greater value when located in an established entrepreneurial ecosystem, a survey of Vermont revealed two candidate locations: Chittenden County and White River Junction. Due to the well-established ecosystem in Burlington and the city's airport, Chittenden County offers a critical mass of entrepreneurs and ancillary services as well as travel proximity. White River Junction demonstrates the greatest potential of all non-Chittenden County locations since it is adjacent to the Dartmouth innovation ecosystem in Hanover, New Hampshire and regionally proximal to Boston.

### Strategic Partnerships

Strategic partners can serve three different functions:

- Knowledge providers: Researchers, care providers, physicians, and community coordinators interviewed expressed varying degrees of frustration with current product offerings and an enthusiasm to participate as advisors. At a national level, health networks and insurers are opening up their databases to entrepreneurs through partnerships with innovation centers. Entrepreneurs interviewed suggested that direct access to experts and data would result in more effective product design processes and superior outcomes.
- Engagement facilitator: Practitioners interviewed suggested that the innovation center could “piggy back” on regularly scheduled events. VCIC could set up activities to occur before, after, or adjacent to an event. During this time innovators and members of the consumer segment can brainstorm, test products, and offer feedback. Interviewees generally agreed that this approach would be optimal. This minimizes the disruption to caretaker and beneficiary schedules, and reduces the need for additional transportation.
- Early buyers and marketing channels: Insurers, healthcare systems, and care provider companies note that they welcome new innovations that allow care recipients to receive care of equal or greater quality in a more efficient manner. Interviewees signaled the potential for commercial partnerships should their involvement in product design reveal an opportunity to cut costs and/or improve quality of care. As noted in the Challenges and Opportunities section above, consumers rely heavily on the recommendations of healthcare professionals. In addition to being potential customers, strategic partners can also serve as an effective marketing channel.

Regardless of which function a strategic partner fulfills, all require the transparency in and influence over the structuring of partnerships. VCIC leadership would need to place at the center of every relationship the goal of creating shared value for all parties. Formalization of such partnerships can be complex, time-intensive processes but if done well, the resulting partnerships are cost effective and often result in a value for entrepreneurs that is rare to find in more common, transactional relationships.

## Financial Considerations

Key to determining the feasibility of the VCIC is establishing the best fit financial model, understanding the cash flow demands, and identifying the interest and expectations of investors. The following analyses are based on figures generated on the guiding principles identified above. They are to be considered illustrative, generated to guide conversations regarding the financial structuring of VCIC, should the Vermont Futures Project and Vermont business ecosystem determine to move forward with the initiative.

### Financial Model

While several innovation center models exist, two prevail. The first is the *fixed-term program*: a cohort-based, time-bound program often referred to as an accelerator. Centers select top startup applicants. Admitted startups receive in-kind services in exchange for equity. Well-resourced programs may offer cash in addition to in-kind resources. In-kind services may include office space, legal counsel, financial services, and consultations with industry experts. With the exception of office space and associated costs, much of these services can be secured by centers at a significant discount or at no cost by means of partnership. The program's financial model is often structured like a venture capital fund, backed by limited partners who agree to a variation of the standard management fee and carried interest structure.

The second model is the *open-term program*: new businesses join a center on a rolling basis and their participation duration is not time-bound. Similar to the first model, members benefit from in-kind services provided. Less common is the built-in exchange of equity and funding. Instead, members pay a monthly fee determined by the level of service and amount of space they require. Venture capital funds are often associated with such innovation centers and will invest in promising members on cycles independent of the recruitment process.

Each presents benefits and drawbacks. While the study did not locate data to verify the following, general sentiment favors fixed-term programs. They are thought to draw higher-potential startups because those startups seek out intensive, rapid development and scaling programs; and by virtue of pursuing investors early, they must reconcile flawed business models in the early stages. Furthermore, the financial incentives of fixed-term programs and cohort members align. The program's primary means of revenue generation is through liquidity events of the companies they've admitted and in which they have a stake. Equally important, fixed-term programs tend to more easily excite stakeholders and generate earned media. However, the operational intensity and resource demand of the participant churn of a fixed-term model is significantly greater than that of an open-term model. Likewise, pressure to scale and create a liquidity event (i.e., to be acquired or go public) can at times result in conflict between prioritizing the consumers' interests and that of investors.

Open-term models collect fees for access to the space and services. The less prescriptive format allows programs to cater to a wider variety of start-up models,

especially those that have an inherently longer product development timeline. The downside is that their financial motivations may not align with that of the members. One resulting risk is the incentive to take on a margins management mindset: paring down services to be just good enough to retain members instead of optimizing services to create an exceptional program that attracts top talent and generates successful businesses. Another risk is the incentive to admit startups based not strictly on their long-term potential but in large part by their ability to pay fees. Members with flawed business models or members whose priorities do not align with the stated mission of the innovation center not only limit their own growth and success, they can affect the center’s culture and relationships with strategic partners, and they can occupy resources that could be better utilized by other entrepreneurs.

**Cashflow Demands**

Per the mentioned limitations of this study, a precise cashflow projection is not feasible until operational and financial models are identified. The table below offers a general sense of cashflow demands for VCIC.

**Estimated Ten-year Operational Costs (\$1000s)<sup>32</sup>**

Cost Category	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	TOTAL	Cat %
Physical Space	\$ 302	\$ 259	\$ 264	\$ 270	\$ 275	\$ 280	\$ 286	\$ 292	\$ 298	\$ 304	\$2,829	43%
Events & Services	\$ 108	\$ 110	\$ 112	\$ 115	\$ 117	\$ 119	\$ 122	\$ 124	\$ 127	\$ 129	\$1,183	18%
Payroll	\$ 219	\$ 223	\$ 228	\$ 232	\$ 237	\$ 242	\$ 246	\$ 251	\$ 256	\$ 261	\$2,395	36%
Operating Costs	\$ 21	\$ 16	\$ 16	\$ 17	\$ 17	\$ 17	\$ 18	\$ 18	\$ 18	\$ 19	\$ 177	3%
<b>Total</b>	<b>\$ 650</b>	<b>\$ 608</b>	<b>\$ 621</b>	<b>\$ 633</b>	<b>\$ 646</b>	<b>\$ 659</b>	<b>\$ 672</b>	<b>\$ 685</b>	<b>\$ 699</b>	<b>\$ 713</b>	<b>\$6,584</b>	<b>100%</b>

Illustrative only. Further details required to develop precise cost projections.

Several assumptions were generated to produce the projections above and thus, it may overstate year one’s costs; subsequent years’ figures may vary by 20% or more. Nonetheless, the projections offer two initial insights: the physical space and payroll account for ~80% of costs; and events and services, which are predicted to generate most of the value, account for ~20% of costs. One interpretation of these insights is to build a business model that strategically reduces the resource demands of the physical space and personnel costs. Considerations on potential actions to mitigate these costs are as follows:

- *Shift from 2.5 FTEs to 2.0 FTEs.* Shifting the responsibilities of the part-time Community Manager into the scope of work of the Operations Manager and eliminating the former position entirely results in ~5% reduction of overall costs. Doing so risks overloading the two remaining employees. Requiring additional workload can easily compromise the quality of their work. “Soft” responsibilities, such as relationship management are particularly prone to suffer as a result.

<sup>32</sup> Major assumptions: 20 startups per cohort with an average of 2 people per startup, 2 cohorts per year for years 1-10; Executive Director at \$100, Ops Manager at \$55k, 0.5FTE Community Manager at \$20k; externalized strategic partnerships; lease of 7,500 ft<sup>2</sup> at \$30/ft<sup>2</sup>.; general inflation 2%, salary increase 3%; fully loaded FTE 125% of salary.

- *Reduce salaries.* Salaries built into the cost projections are based on anecdotal evidence of comparable positions on other Vermont payrolls and publicly available data. The salaries are already below their respective national medians. To reduce them further may jeopardize the recruitment and retention of the top talent.
- *Implement member fees.* Even at an average of \$500/month per startup, a potentially steep price to ask of entrepreneurs and above market rates in Vermont, total fees earned would be \$120,000 only. This amounts to less than 20% of the first year's budget. With marginal upside, fees carry the risk of creating financial barriers to entry that could be counterproductive to the long-term objectives of VCIC.
- *Seek funding partners early.* A large insurer and advocacy organization indicated interest in supporting VCIC. Specific amounts and the type of financial participation were not provided but the conversation offered two important insights. First, it is possible to attract an influential, national level funder in the early stages of the VCIC's launch, which can serve as a signal of market advantage to other investors. Second, it may be worth pursuing in tandem strategic partnerships and sponsorships with Vermont-based corporations whose business models are affected by the status of the elderly community's wellbeing. There may be additional opportunities for funding partners as organizations turn their attention to caregiving for the recovering COVID-19 patients.
- *Subsidize workspace requirements with partners' facilities.* Leased space accounts for ~36% of the annual budget. One interviewee indicated an openness to VCIC's use of underutilized space at their facility. While it is unlikely that VCIC could completely avoid the need to lease space. The use of partners' underutilized space could significantly reduce the total square footage required and in turn, lease costs. For example: instead of paying monthly for an office that can accommodate larger events, lease a smaller, dedicated workspace and host events at partners' facilities. Not only does this save up to 50% of lease costs, it allows partners to showcase their commitment to local innovation and provides entrepreneurs additional engagement opportunities with partners. It may also make sense to engage in discussions with the existing Vermont coworking/incubator spaces to consider inexpensive space if available. For example, the BRIC space in Springfield, which is near Dartmouth, recently launched and has underutilized space.
- *Finance through an ongoing investment funding model.* Investors may be willing to cover all or part of annual costs. As mentioned, co-financing from influential partners in this space could signal increased likelihood of program and startup success. This option is explored in further detail below.



## Investing Structures and Considerations

Per the discussion on member fees above, initial projections indicate that a fee-based revenue model accessible to new ventures and innovators would not cover projected operational costs, even if the latter were reduced significantly. Furthermore, conversations with the Vermont Futures Project indicate interest in exploring an investment-based financing model. Therefore, the remainder of this section will consider relevant investment-driven structures and their applicability to VCIC.

Investors fund fix-term innovation programs around the world. While details of investment structures vary, several draw from the “2-and-20” standard. Investors, known as Limited Partners, agree to an annual 2% management fee, which is drawn from total funds invested and used to cover operations and salaries of the program. LPs also agree to an amount of carried interest – the “20” from above as this is a standard rate – which is the percentage of all investment profits that the general partner retains as its profit. Investors typically expect returns within 10 years of the fund’s initiation, with seed investments being made in the first 5 years and follow-on investments made in the subsequent years.

Additional research is required to determine the appeal of this model to investors in the case of VCIC. However, an initial practical consideration is to determine what size the fund would need to be to cover the center’s projected costs at or below the 2% management fee threshold. To cover 10 years of projected operating cost of ~\$6.7 million and not breach 2%, the minimum fund size would be ~\$33 million. The study identified one fund in Vermont of this size but research suggests that such a fund size is above average. Pitchbook, a private capital markets database, indicates that recent Vermont-based funds typically raised between \$5-20 million. According to local venture fund managers interviewed, it would be difficult to raise a \$33 million fund in Vermont without having established a track record.

This emphasizes the need to seriously consider the cost reduction measures listed above. While the reduction of costs and minimum threshold of fund size is proportional, in absolute terms, relatively small reductions in operating costs will amount to a more palatable fund size from the investors’ perspective. For example, a 25% reduction in operating costs would lower the minimum fund size from ~\$33 million to ~\$25 million. Early financial assistance from national partners with significant granting capacity or corporate social responsibility budgets would further reduce the minimum fund size threshold. If a 25% savings were achieved and two corporate or government sponsors were to grant VCIC \$50,000 each on an annual basis, the operational cost would be ~\$4 million, requiring a minimum capital volume of \$20 million. Lastly, VCIC could negotiate a higher management fee in exchange for a reduced or waived carried interest rate. Raising the management fee to 3% with total operating costs of \$4 million translates to a relatively small minimum fund threshold of \$13 million.

As mentioned at the top of this section, all figures are illustrative only. It is possible that adjustments to projected costs and fee structures could bring the minimum fund

size down significantly. Regardless, the resulting figures emphasize the need to finetune the business model, seek out financial assistance to subsidize initial management costs, explore variations of the fund management model, and identify an influential national level investor to signal to Vermont investors the legitimacy and upside potential of a VCIC fund. While accomplishing these steps does not guarantee investor interest, failing to do so would greatly decrease the likelihood of attracting sufficient capital.

Finally, a second practical consideration is the program's ability to source smart investments. As an example of this potential challenge: the VCIC raises a fund of ~\$33 million at a 2% fee, recruits 20-member cohorts twice a year, uses the first fund to support the first 5 years of cohorts, and assumes that it will invest one-third of the fund's available capital as seed investments into accepted companies. The remaining two-thirds is reserved for follow-on investment in those companies that demonstrate early success. These assumptions translate into a seed investment of approximately \$44,000 per startup. While less than what some accelerators offer as seed investing in hubs like San Francisco and New York, this amount appears to be above average in Vermont and would likely appeal to ventures seeking not just funding but access to the core offerings proposed above.

The above also assumes that VCIC could attract sufficient interest from high-potential ventures immediately. Given national entities' interest in partnership and Vermont's more general brand, attracting 40 high-potential ventures annually is possible, eventually; to do so starting in year one without compromising standards would be difficult. Publicly available data on the cohort history of legacy programs such as Y Combinator, TechStars, and MassChallenge are limited; however, available information suggests that each of these programs built their cohort sizes over several years. Furthermore, they did so in relatively robust entrepreneurial ecosystems and by leveraging the reputations of their founders who were well established in the venture community. VCIC would not benefit from either advantage initially. Due to standard venture investment timelines, investors would expect a return on investment based on the first five years of cohort intake. Reconciling these timelines while simultaneously ensuring sound investment of limited partners' funds would be difficult to achieve.

### **Investor Interest and Expectations**

As noted above, a novel entity raising a new fund of \$33 million, even with national and institutional investors would be a unique occurrence in Vermont under normal circumstances. Investors emphasized the degree to which private capital's risk tolerance has decreased in the weeks since COVID-19 reached the United States. Conversations with investors indicate that while there is interest in the concept, raising sufficient capital would prove extremely difficult for the foreseeable future. These same conversations suggest that prior to formal engagement with investors, the preliminary VCIC business model be developed, Letters of Intent from strategic partners be collected, and summary documents be produced. Finally, a possible focus on COVID-19 caregiving technology and innovations may be another avenue to explore in order to attract public and private investors in the near future.

## Timeline

Assuming the investment-based model, a minimum 10-year timeline should be considered. A more detailed timeline will become clear during the development of the business case.

### Timeline of VCIC Priorities in Years 1–10

Year 0	Build the team and operations. Fundraise. Recruit first cohort.
Years 1–2	Initial cohorts. Refine operations and strategic partnerships. Recruit next cohorts.
Years 3–5	Same as Y1–2 plus initiate subsequent funding rounds.
Year 6	Wind down seed investments from the first fund. Continue follow-on investments in Y1–5 cohorts. Guide successful ventures through liquidity events. Consider raising a second fund depending on the performance of the initial fund.
Years 7–8	Additional cohorts depend on the status of the second fund. Finalize follow-on investing. Support ventures through liquidity events.
Years 9–10	Additional cohorts depend on the status of the second fund. Support ventures through liquidity events. Close first fund; return profits to investors. Consider raising a third fund based on the performance of the first two funds.

## Findings and recommendations

### Section Summary

- Examine the assumptions built into the preliminary financial projections to ensure that barriers are genuine. It may be necessary to build out the VCIC business model prior to doing so.
- Consider alternative paths that leverage the knowledge gained and relationships initiated in the course of this study in order to seek out more cost-effective approaches to boosting innovation to strengthen healthcare services for rural and aging populations. Such approaches utilize a fraction of the resources to incentivize established stakeholders to focus on priority issues, potentially yielding the equal impact more rapidly while requiring fewer resources.
- Consider the impact of COVID-19 on the recovery of rural and elderly health, its implications on caregiving markets, and the possibility of spurring small business generation and growth as another alternative path to creating economic opportunity and increasing access to quality, sustainable care.

In conclusion, Vermont and many other rural states face a significant demographic challenge. This challenge brings with it the opportunity to create not only LTEC solutions for the state but to serve a \$62 billion market in the United States alone. Furthermore, growing the businesses that deliver these solutions in Vermont would benefit the state's economy.

Vermont's demographic and cultural profiles suggest that an innovation center focused on facilitating strategic partnerships and rich engagement with target consumer segments would likely succeed in creating a nationally competitive program. Stakeholders across sectors and beyond the borders of Vermont express enthusiasm for such a model. Influential, national groups express interest in the potential to partner.

The challenge for VCIC rests in the financing model. Based on the proposed operational model and cost projections, neither of the two well established business models suggest a clear path forward. A fee-based service will not generate sufficient revenue and an investment-based model would require VCIC to raise a fund of a minimum of ~\$33 million, well above the average fund size in Vermont.

Should the fund be raised, a second significant challenge would be to attract large volumes (i.e. 40 or more) of high-quality ventures each year. This is possible over the course of many years as the business model is refined and brand recognition grows. However, investors would expect a return on investment based on the first five years of cohort intake. Reconciling these two timelines would be difficult to achieve.

In light of these conclusions, the study suggests the following:

**Recommendation One: Verify the study's assumptions.**

As mentioned, the precision of these projections is limited due to the absence of a business model. Given that the financial model appears to be the primary barrier, examine the assumptions built into the preliminary financial projections to ensure that this barrier is genuine. It is necessary to build out the VCIC business model prior to doing so.

**Recommendation Two: Explore the potential of a catalyst fund to leverage aspects of the existing innovation centers to achieve the VTC's objectives using a fraction of the resources.**

On the assumption that the financial barrier is genuine, the Vermont Futures Project may explore alternative paths to the same end objective. The financial projections suggest that events and services, which deliver the bulk of the value offering, account for only 20% of the total cost of the potential accelerator. Consider creating a fund that enables these events and services in partnership with existing innovation centers in Vermont. The fund's purpose would be to incentivize established centers to take on

ventures focused on the caregiving, aging-at-home, and COVID-19 recovery markets; and, to provide those ventures immediate and broad access to relevant expertise and strategic partners at the local and national levels. Such an approach requires a fraction of the resources yet holds the potential to yield equal impact.

**Recommendation Three: Consider shifting the initiative’s focus from the *generation* of innovative products and services to the *utilization and deployment* of innovative products and services.**

Instead of, or in addition to, catalyzing the launch of startups, the Vermont Futures Project could focus its efforts on spurring new small business creation based on existing innovative technologies and business models. The Caregiving Market contains many product offerings that are underutilized. It is possible that several of these provide the foundations for novel, more efficient or effective approaches to long-term care upon which small businesses could be founded or transformed. The Vermont Futures Project could increase awareness of existing tools by working with established partners to offer new technology integration workshops for current and prospective Vermont small business owners.

COVID-19 has introduced increased demand for novel kinds of services, several of which fall into the Daily Essential Activities, Health and Safety Awareness, and Social Well-being pillars of the Caregiving Market discussed above. At present, supply of these services struggles to keep pace with demand. Even once stay-at-home orders are eased, vulnerable populations will be slow to return to prior routines and thus require novel services for the foreseeable future. Furthermore, once consumers grow accustomed to such services, a percentage of them will likely integrate the services into their routines and become long-term customers.

While it is possible to develop technologies and platforms from scratch in order to meet these needs, one investor suggested first surveying existing service platforms to determine if there is an opportunity to create an “onramp” for current and prospective small business owners in Vermont to adopt new technologies in order to launch or transform their businesses. As mentioned in the Challenges and Opportunities section, many current technologies are underutilized. Several of these may provide the foundations for new, more efficient or effective approaches to elderly care. In partnership with entrepreneurial organizations or the Small Business Administration, the Vermont Futures Project could increase awareness of existing tools and work with partners to offer new technology integration workshops. The goal could be to catalyze the growth of small business employment and improved service delivery across the state by updating business models and tools utilized by small businesses. This approach is unlikely to result in a single business finding success through exponential growth; however, the collective impact of a cluster of new and growing small businesses may have an equivalent if not greater payoff for the Vermont economy, workforce, and rural and elderly populations seeking access to care services.