Silver Pines at Stowe

Medically Supervised Withdrawal Treatment Center
for Substance Use Disorders

Docket No: GMCB-016-19con

Presentation to the Green Mountain Care Board

March 25, 2020
Montpelier, VT

Introduction

This presentation is a summary of the information provided to the Green Mountain Care Board (GMCB) in the Original CON Application (November 5, 2019) and in the responses to three sets of questions from the GMCB dated December 17, 2019 (37 questions), January 21, 2020 (13 questions), and February 20, 2020 (30 questions).

Outline

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Need

- **We are currently in the midst of an addiction epidemic with significant rates of morbidity and mortality**.
- The treatment of addiction has evolved over the past few decades.
  - Phase 1 - abstinence-centered treatment model and use of prescribed medications discouraged
  - Phase 2 - Progress in medication assisted treatment (MAT) leading to improved efficacy and increased hope for patients
- **However, treatment is often fragmented** with limited ability to customize treatment at a highly specific level for individual patients.

Need

The need for specialized Substance Use Disorder (SUD) treatment in the United States and Vermont is undeniable.

United States

- **21.2 million people** (age 12+) in need of SUD treatment in 2018.
  - Less than **18%** (3.7 million people) received it.
  - Only **11.3%** (2.4 million) received it at a specialty facility.

Vermont

- **54,000 people** (age 12+) had a SUD in the past year.
- Of these, in a single-day count on March 31, 2017, only **7,015 people or 12.9%** were enrolled in treatment.

SAMHSA, 2019

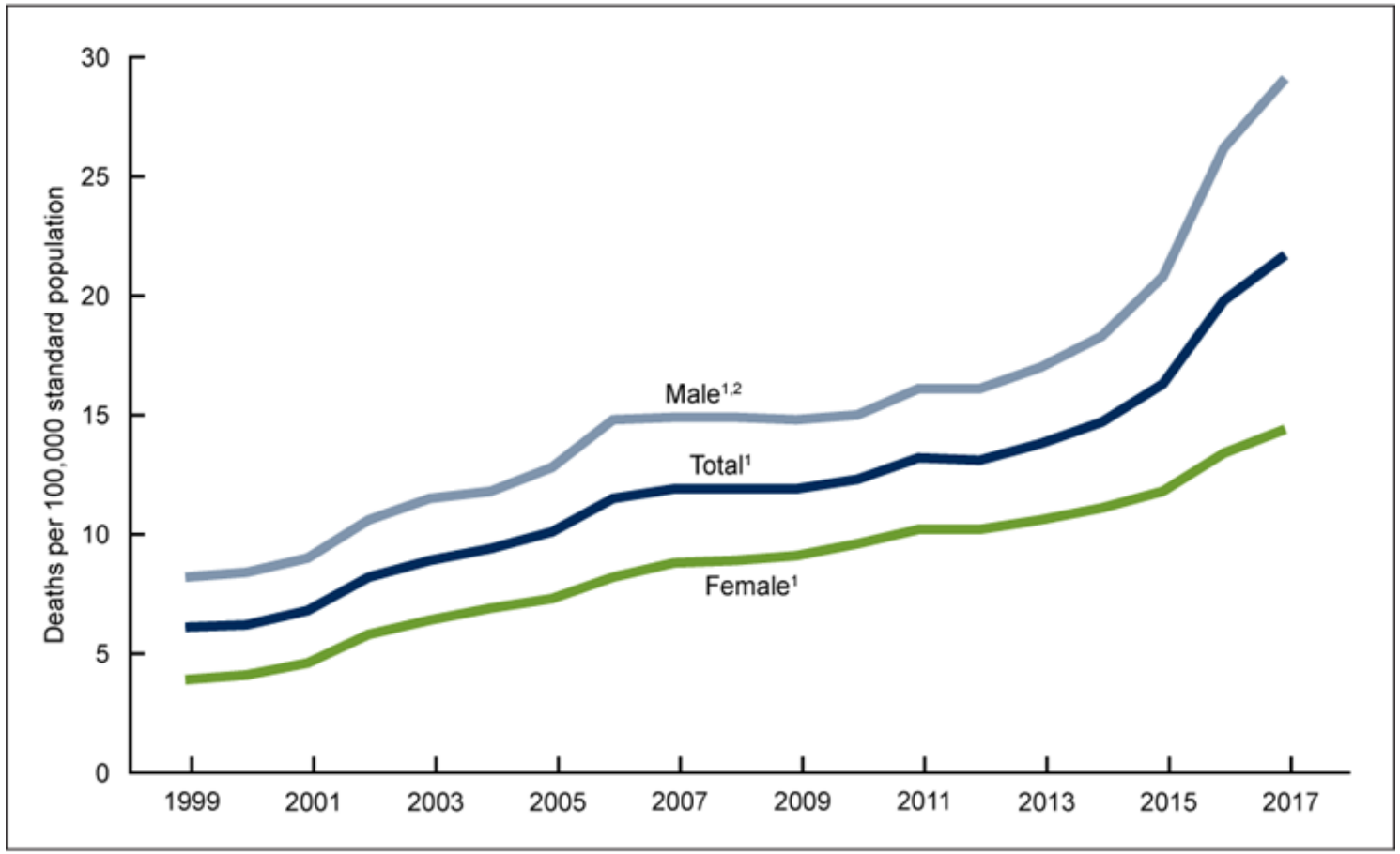
Need

Consequences and Costs

- In 2017, more than **70,200 Americans died from drug overdoses,** and an estimated **88,000 people die annually from alcohol-related causes**, which makes alcohol the third leading cause of preventable death in the United States (1 in 10 total deaths among working-age adults).
- According to the latest data, in Vermont there were approximately over **100 drug-related fatalities**, and **300 alcohol-attributable deaths per year**.

NIDA, 2019; CDC, 2020; VT Dept. of Health, 2019; VT Dept. of Health, 2017

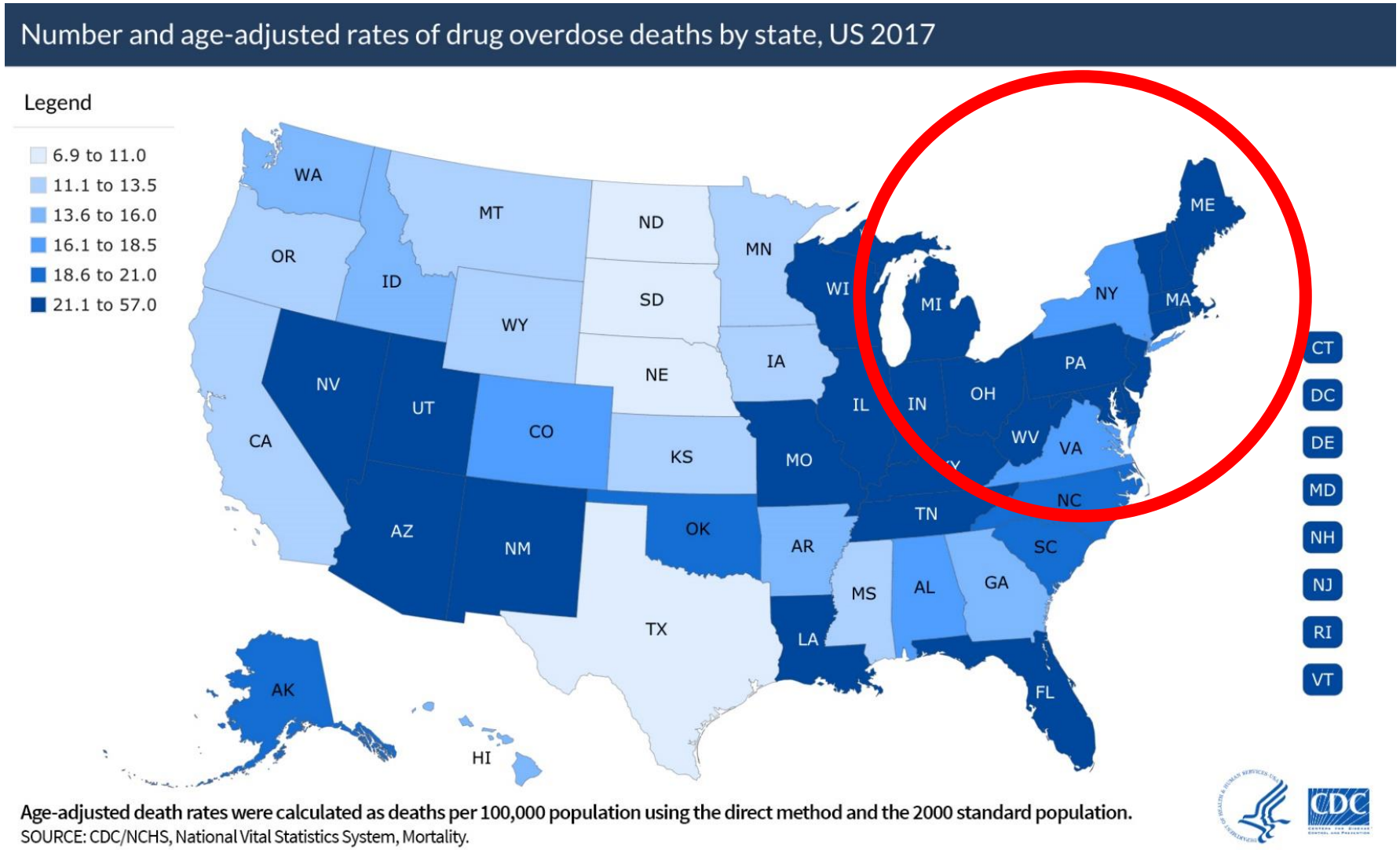
Need – Overdose Death Trends



[1]Significant increasing trend from 1999 through 2017 with different rates of change over time, $p < 0.05$.
[2]Male rates were significantly higher than female rates for all years, $p < 0.05$.
NOTES: Deaths are classified using the *International Classification of Diseases, 10th Revision*. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. The number of drug overdose deaths in 2017 was 70,237. Access data table for Figure 1 at: https://www.cdc.gov/nchs/data/databriefs/db329_tables-508.pdf#1.
SOURCE: NCHS, National Vital Statistics System, Mortality.

CDC, 2019

Need – Overdose Deaths



Need

- **Currently in Vermont, there is only one ASAM 3.7-level facility located in the southern part of the state**.
- If a patient does not get treatment at a ASAM 3.7 facility, they may be more likely to access care in an ED with a potential admission to an inpatient unit. **The typical costs of an ED visit and inpatient hospitalization per day are $1,917 and $2,244**, respectively. An ED visit and hospitalization can provide medical stabilization but may not address the underlying etiology of addiction.
- **Timely addiction treatment is cost effective. Every $1 invested in addiction care yields a downstream return of $12** in reduced drug-related crime, criminal justice costs, theft, and healthcare savings, fewer interpersonal conflicts, greater workplace productivity, decreased legal issues, and fewer drug-related accidents.

Health Care Cost Institute, 2018; Ellison, 2019; NIDA, 2018

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Vision/Mission

Our vision is **to be one of the best treatment centers offering medically supervised withdrawal for substance use disorders in the country.**

Our mission is **to help patients**—and their loved ones who suffer deeply from this pernicious illness—**achieve recovery** by **providing evidence-based, comprehensive, individualized, coordinated, and compassionate medical care.**

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Project

Location

- 32-bed facility for individuals with substance use disorders
- Located at 3430 Mountain Road, Stowe, VT
- Private 4.25-acre lot, buildings totaling 12,534 sqft. – peaceful and beautiful

Treatment

- ASAM 3.7 – 24-hour care for patients with subacute biomedical and emotional, behavioral, or cognitive problems, staffed by addiction treatment, mental health, and medical personnel
- Medically supervised withdrawal management of opioid, alcohol and sedative use disorders and accompanying co-occurring disorders
- Counseling and coordination of care in a community-based setting
- Individualized 7- to 10-day treatment and post-discharge planning
- Systematic tracking of medical outcomes

Project

- Establish a national reputation and attract patients from across the United States and Canada. Initially, we will focus on a region 800 miles in radius (2 hours flight) from the Burlington Airport.
- Facility is privately funded. All proceeds to pay for operations. Projected breakeven in Year 2.
- Allocating 1% of profits as grants to community-based organizations addressing addiction ("1% for Recovery").
- Reimbursement model - private pay only, allows for:
  - High-quality care
  - High staff-to-patient ratio (2 to 1 in Year 1; 1.3 in Year 3)
  - High-quality ancillary services
  - Individualized treatment, ongoing follow-up, and continuity of care
  - State-of-the-art information technology
  - Creation of ~55 well-paying jobs in Vermont
  - Financial independence and sustainability
  - Increased tax revenues for VT, and no adverse effects on State budgets

Project

Expected Admissions Years 1 to 3

	Total Expected Admissions (% of capacity)	Expected VT Residents	% of Silver Pines Patient Population	Expected Out-of-State Residents	% of Silver Pines Patient Population
Year 1	**365 (31%)**	**39***	**10.7%**	**326**	**89.3%**
Year 2	**660 (57%)**	**64**	**9.7%**	**596**	**90.3%**
Year 3	**921 (79%)**	**90**	**9.8%**	**831**	**90.2%**

* 9,634 admitted patients 18 and older in SUD Treatment in VT X 14.8% (paid by private insurance or cash) X 18% (people in need of residential treatment) = 257 x 15% “market share” = 39

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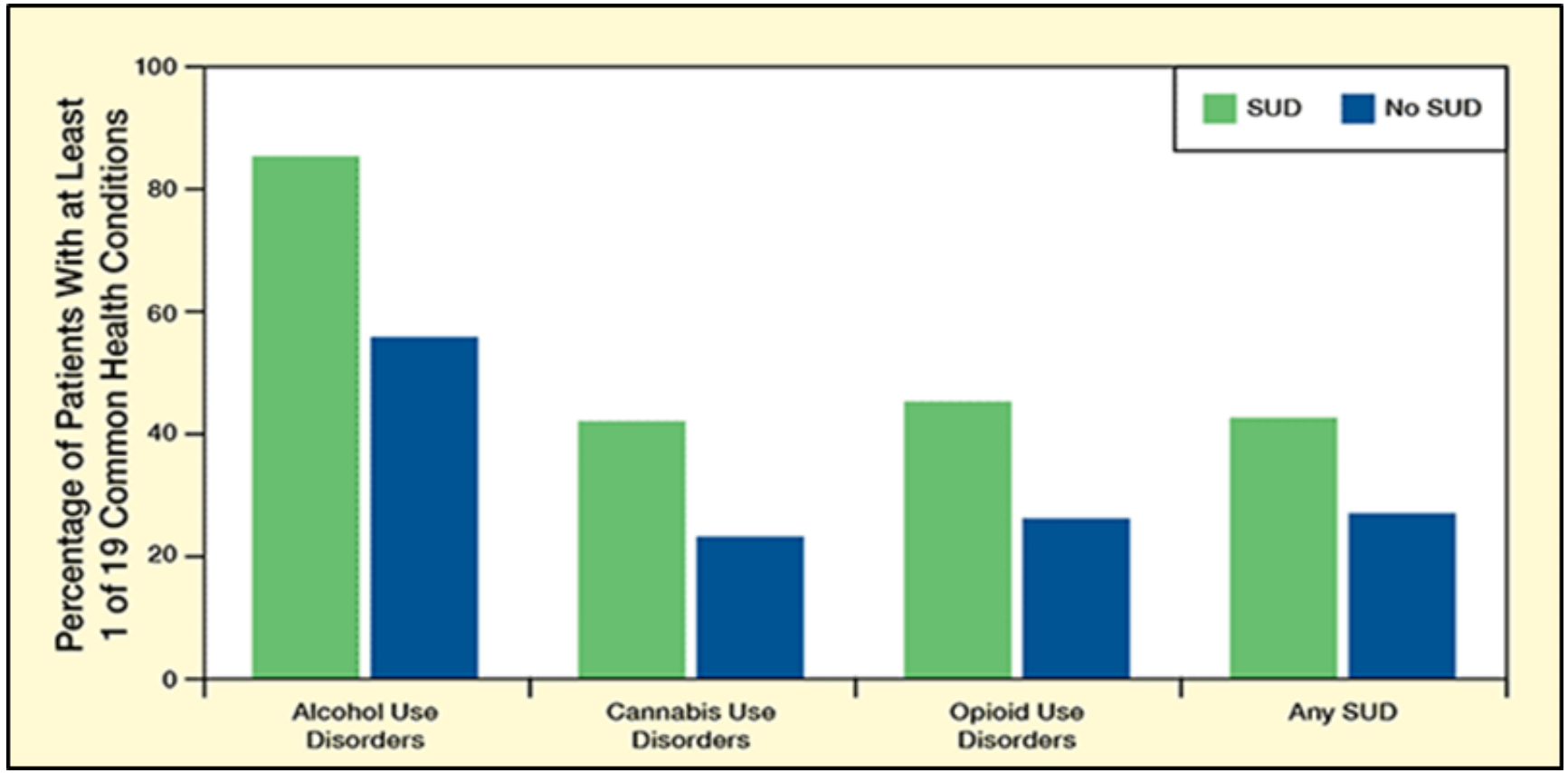
Clinical Care

Silver Pines' high-quality, comprehensive, evidence-based, individualized, integrated, compassionate care will:

- **Lead to Better Outcomes** (increased long-term abstinence, higher rates of sobriety, decreased rates of relapse, and fewer medical and psychosocial complications).
- **Yield Cost Savings** for the healthcare system at large (decreases in downstream adverse events, potentially fewer emergency department visits, decreased inpatient admissions, and improved overall health).
- **Continually Improve.** We will be analyzing data on a continual basis and will iterate our treatment based on what works best.

Clinical Care – SUD Impact on Major Medical Conditions

Patients With SUDs Have an Increased Risk of Major Medical Conditions



NIDA, 2012

Clinical Care

Silver Pines' Process	Components of Care
Pre-Admission	✓ Rapid and efficient initial phone evaluation ✓ Optional escorted transportation services to and from Silver Pines for adherence, privacy, and safety
Accurate and Comprehensive Diagnostic Process	✓ Collateral information from individual's supports and providers ✓ Medical evaluation ✓ Diagnostic and Statistical Manual of Mental Disorders 5-based psychiatric evaluation
Individualized Evidence-Based Treatments	✓ Neural network-augmented initial treatment plan ✓ Medication assisted treatment ✓ Individual, group, couples, and family therapy ✓ Iterative, optimized treatment plan based on individual response
Complementary and Integrative Health Modalities	✓ Yoga, acupuncture, massage, nutrition ✓ Health, fresh farm-to-table food ✓ Life and health coaching ✓ Stress reduction and resiliency building
Pre-Discharge Coordination of Care	✓ Individualized outpatient appointments ✓ Family meetings ✓ Overdose prevention protocol ✓ Coordinated handoffs from Silver Pines' treatment team to outpatient providers
Post-Discharge Outreach and Follow-up	✓ Outreach to individuals after discharge to assess state of recovery ✓ Monthly follow-up and support for up to a year after discharge ✓ Data collection and outcomes assessment

Clinical Care – Post Discharge Follow-up

	Within 24 hours post-discharge	1 week post-discharge	3 months post-discharge	1 year post-discharge
Telephone calls	**X**	**X**	**X**	**X**
Tele-counseling		**X**	**as indicated**	**as indicated**
Urine drug tests		**as indicated**	**as indicated**	**as indicated**
Family/provider follow-up	**X**	**X**	**as indicated**	**as indicated**

Clinical Care – Outcome Measures

- Collect data on all of our patients for one year post-discharge
- Staff will be trained to collect this data through direct contact with patients via phone, email, survey, and video as well as contact with family members, social supports, labs, and service providers for which the individual has signed releases of information.
- Examples of Outcome Measures: treatment initiation, treatment retention, successful completion
- of program, rates of abstinence and substance use reduction, aftercare follow-up, client satisfaction, and a reduction in ED visits and hospital admissions

Clinical Care

- Average length of stay is ~ 7 to 10 days.
- Our program is voluntary. In the event that an individual does not wish to continue, our staff will be there 24-hrs/day to develop a comprehensive aftercare plan and arrange transportation.
- Every effort will be made to achieve a safe, planned and structured departure for all of our patients.

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Team

Project Leader: William L. Cats-Baril, PhD

- 37 years in Vermont; Stowe resident (winter); Charlotte resident (summer)
- Avid outdoorsman: long-distance swimmer, skier and mountaineer
- Proud father of two amazing daughters
- Faculty of the Grossman School of Business with over 35 journal publications and two books
- PhD in Cognitive Psychology and Behavioral Decision Making with concentrations in Management Information Systems and Statistics
- Founder Director of the nationally ranked MBA on Sustainability and Innovation
- Several teaching awards; voted Faculty of the Year in 2018
- Several research grants, awards, and recognitions
- Latest: Social Determinants of Deaths of Despair
- 40 years of consulting experience in Health Care with Medical Associations, Specialty Boards and Hospitals on medical outcomes and reputation management
- Entrepreneur; first Inductee in the UVM Entrepreneur's Hall of Fame
- One of my latest ventures: SERAS (Systematic Expert Risk Assessment of Suicide), neural network-based tool to assess imminent risk of suicide (won best innovation award at the National Patient Safety Movement 2017; SBIR I grant)

Team

- Management
  - Chief Medical Officer: Addiction Fellowship trained and/or Board-certified Psychiatrist or Primary Care Physician
  - Executive Director: LADC with 5+ years of operational leadership experience
  - Clinical Director: LADC with 5+ years clinical leadership experience
- Clinical
  - Providers (4): Onsite and on-call, MDs, DOs, APRNs, PAs with 5+ years of clinical experience
  - Nurses (12): Licensed Registered Nurses
  - Counselors (4): Dually Licensed LADC and Mental Health Clinicians/Social Workers (Master's level)
  - Direct Case Staff (14): Medical Assistant
  - Aftercare Specialists (3): Bachelor's Degree
- Administrative
  - Receptionist (1)
  - Intake Coordinators (5)
  - Database Manager and Analyst (0.5)
  - Human Resource Specialist (0.5)
  - Accountant (1)

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Timeline

CON Application Process*

November 5, 2019: Original CON Application
December 17, 2019: Response to first set of questions (37)
January 21, 2020: Response to second set of questions (13)
February 20, 2020: Response to third set of questions (30)

*Many thanks to Donna Jerry and Reviewers for their quick turnaround time and incisive questions.

Timeline

- Credentialing with private insurance companies - as soon as CON is awarded
- Hiring, licensing, and credentialing of critical staff - June 1, 2020
- Implementation of IT infrastructure/EMR - July 1, 2020
- Construction currently underway, projected to end - July 15, 2020
- Initiating certification processes (e.g., DAIL; CARF) - August 1, 2020
- Initiating contracts with vendors - August 1, 2020
- Hiring/training staff - August 1-30, 2020
- Commence operations - September 1, 2020

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Summary

- New 32-bed facility in Stowe, VT
- Evidence-based medically supervised withdrawal services at ASAM 3.7 level of care, 24-hr staffing
- Individualized, comprehensive, integrated treatment delivered by specialists in addiction and psychiatric conditions
- High staff-to-patient ratio
- Holistic care that includes medical treatment coupled with complementary treatment modalities for an overall healthier lifestyle
- Dedicated post-discharge support and follow up
- Added layer of innovative machine learning and neural network modeling
- Sound and sustainable financial model

Summary

- Substance Use Disorders with accompanying psychiatric conditions are a source of immense anguish and pose a significant burden to individuals, their loved ones and our communities.
- As a society, we see the pernicious effects of this chronic medical condition on a daily basis. Timely intervention and efficacious management of this condition can decrease future suffering and be cost effective.
- Nationwide there is a dearth of high-quality specialty addiction treatment. Silver Pines will offer individuals an opportunity to receive this quality of care in Vermont and will be an important addition to the system of care in Vermont.
- Benefits to Vermont:
  - New treatment option that does not currently exist in Vermont
  - High-quality SUD treatment for ~90 Vermonters/year
  - ~55 well-paying jobs
  - Financial grants to community organizations (“1% for Recovery”)
  - Minimal demands on the Vermont health care system
  - Substantial tax revenues for the State

SILVER PINES
— STOWE, VT —

Thank You!
Questions?

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Questions from ADAP and DMH

5 from ADAP

- Workforce Shortage
- Workforce Compensation
- Aftercare
- Connection to VT System of Care
- Neural Network Model and Algorithm

1 from DMH

- Utilization of VT Services

ADAP - #1 Workforce Shortage

"State-certified addiction treatment providers having insufficient staff to provide services."

- In January 2019, there were 424 LADCs actively providing direct care to patients in Vermont.
- In Year One – Silver Pines will hire 3 LADCs, which **represents less than one percent (0.7%)** of the total LADCs in VT.
- In Year Three – Silver Pines will have 6 LADCs, which represents **1.4%** of the total LADCs in VT.
- Additionally, Silver Pines will recruit candidates from outside Vermont if need be and provide relocation assistance to non-residents.

VT Dept. of Health, 2019

ADAP - #2 Workforce Compensation

“Salaries indicated are significantly higher… which will negatively impact the workforce.”

- Consistent with our mission of providing the highest quality level of care, Silver Pines will offer competitive salaries to attract and retain the best staff possible.
- Silver Pines’ salaries are within the range of the industry standard in Vermont and given our small size should have minimal impact on salaries or workforce in the state.
  - Silver Pines will offer LADCs $70,000/yr. The Blueprint for Health provides $55,000/yr for one FTE Licensed/Master’s Level Clinician, but treatment providers frequently pay their clinicians supplementary funds in addition to the compensation, and there is great variability in salaries across the state.
  - Silver Pines will offer nurses $80,000/yr. The Blueprint for Health provides $85,000/yr for one FTE Registered Nurse Care Coordinator.

DVHA, 2012

ADAP - #3 Aftercare

“Lack of connection to the rest of the specialty treatment system… Without this, individuals discharging may have inadequate discharge plans.”

- Aftercare planning is a key priority and critical part of recovery. Silver Pines will identify post-discharge resources for each patients and facilitate transition to follow-up services to ensure continuity of care.
- While Silver Pines will not be funded through ADAP or DVHA, we will have strong and sustained connections to other treatment providers within VT’s substance use disorder system of care.

ADAP - #4 Connection to VT System of Care

"Stand-alone 7- to 10-day detox program because research has shown that less than 90 days of continuous treatment (at any level of care) is not effective."

- Research has demonstrated that **brief residential treatment produces lasting effects on substance use and is similar in efficacy to longer treatment courses**.
- A meta-analysis of the literature also found **short-term residential treatment is associated with decreased substance use** at 1-year follow-up, with **no significant difference between brief programs of less than 2 weeks and those lasting up to 13 weeks**.

Chutupe, 2001; Hser, 2007; Stein, 2019; Eastwood, 2018; Foster, 2000; Zhang, 2003

ADAP - #4 Connection to VT System of Care continued

"Not all states have access to medication assisted treatment (MAT) for opioid use disorder… putting individuals who discharge after 7 to 10 days at risk of overdose."

- Silver Pines will connect patients with accessible treatment in their respective communities, with options among more than **113,000 buprenorphine-waivered prescribers** and **1,741 Opioid Treatment Programs** in the United States, as well as non-waivered prescribers able to provide injectable naltrexone.
- Also, access to office-based treatment has been improving steadily throughout the US. In 2018 **more than 92% of the population lived in a county with at least one waivered buprenorphine prescriber**.
- For patient that have limited local options, Silver Pines will explore the availability of telemedicine to expand access to MAT.
- Silver Pines will deliver education on the importance of ongoing treatment and assistance in dealing with barriers.

Andrilla, 2019

ADAP - #5 Neural Network Model and Algorithm

“Machine learning and neural network models have not been fully tested on the population they will be serving.”

- Silver Pines will classify patients using a series of characteristics (e.g., type of addiction, history of treatment, demographics) to allow staff to individualize treatment and leading to achieve better outcomes (e.g., decreased relapse rates, improved engagement in treatment, and ultimately lower total costs related to the illness). The patient classification will be done by trained staff and in-parallel by a neural-network model.
- Neural-network models that are used for classification purposes are based on “labeled” or classified datasets. For a neural-network model to “learn” the correlations between the “labels” and “data,” human experts must transfer their knowledge to the model by clustering and organizing the data. For example, a labeled data set could be labeled “low risk patient”, another could be labeled “successful outcome” or “treatment A”, etc.
- As the model is exposed to more patients and their respective outcome data, it is able to establish more defined correlations between present labels (e.g., type of patient, and type of treatment) and future events (e.g., successful medically supervised withdrawals). Eventually, the model will help refine our classification method.

ADAP - #5 continued

- Professor Cats-Baril is experienced in developing neural-network-based decision support tools. He worked with University of Vermont Medical Center (UVMMC) colleagues to develop the Systematic Expert Risk Assessment for Suicide (SERAS) that replicates the critical thinking of expert clinicians in weighing risk factors to assess an individual's near-term risk of suicide. SERAS is a patient self-administered assessment delivered on a tablet or mobile device and triages patients by level of near-term risk. On average it takes less than 1 minute to self-administer and, 91% of patients rate the use favorably.
- SERAS was:
  - validated in 550 patients drawn from the UVMMC medical-surgical units and ED to replicate the assessment of near-term risk of suicide made by Board-certified psychiatrists with an accuracy greater than 90%.
  - The recipient of multiple competitive research awards including the UVMMC, SPARK-VT innovation award, NIH SBIR Phase I grant, and the National Patient Safety Movement best innovation competition.
- The use of SERAS as an integral part of Silver Pines' clinical process provides one more dimension of innovation and constitutes another factor differentiating Silver Pines from other clinics.

DMH - #1 Utilization of VT Services

“Anticipated increase in utilization of local medical and psychiatric emergency department and inpatient services by non-Vermonters, [which will] will further overwhelm our system.”

- There were 265,643 visits to Vermont hospital EDs in 2018.
- Copley Hospital's ED saw 13,115 total patients in 2018, including VT residents and non-residents. The estimated 25 non-Vermonters who may require local EMS and hospital services per year represent **0.1% of Copley Hospital’s total annual ED visits**.
- UVMMC had 915 inpatient discharges with a high level diagnosis of mental disorders in 2018. The estimated 8.3 non-Vermonters who will need inpatient psychiatric care per year from Silver Pines represent **0.9% of UVMMC’s total**.

VT Dept. of Health, 2020

DMH - #1 continued

- **Residential treatment reduces the risk of behavioral health admissions.** In a sample of more than 30,000 patients with substance use disorders in 10 states including VT, residential treatment was associated with lower risk of behavioral health admissions in the 90 days following hospital discharge. In contrast, outpatient and IOP treatment were associated with increased admission rates.
- **Brief residential treatment helps patients decrease substance use**.
- **Ongoing substance use is associated with more frequent and resource-intensive use of emergency departments.**
  - A meta-analysis of 92 studies showed that people who use illicit substances are 4.8 times as likely to present to an emergency department and 7.1 times as likely to be admitted to a hospital.

Reif, 2017; Chutupe, 2001; Hser, 2007; Stein, 2019; Lewer, 2019

DMH - #1 continued

- Taken together, this evidence shows that substance use is a significant risk factor for increased utilization of emergency departments, inpatient psychiatric services, and health care resources, and that the treatment model offered by Silver Pines can **produce meaningful and lasting reductions in this risk factor.**
- Silver Pines will ultimately decrease demands on ED and inpatient psychiatric facilities by providing VT residents with effective treatment for SUDs and co-occurring psychiatric disorders. The positive effects will more than offset the minute increases in utilization due to out-of-state residents requiring EMS and acute hospital care during treatment at Silver Pines.
- We believe that the 90 VT residents projected to be treated annually at Silver Pines will have an overall **decreased demand** for use of VT emergency departments and inpatient psychiatric facilities related to their substance use disorder.

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