

CASE STUDY | August, 2021

AUTHORS

Exemplary Integrated Pain Management Programs: University of Vermont Medical Center Comprehensive Pain Program

Jonathan Gonzalez-Smith, MPAff
Katie Huber, MPH
Robert Saunders, PhD
Christine Goertz, DC, PhD
Trevor A. Lentz, PT, PhD, MPH

SUMMARY

Background

The University of Vermont Medical Center Comprehensive Pain Program (CPP) was established in 2017 to improve treatment options for patients struggling with opioid use for musculoskeletal pain conditions. CPP developed “Partners Aligned in Transformative Healing” (PATH), a customized intensive 13-week outpatient program that includes an array of integrative therapies to optimize patients’ function and maximize their well-being. Through a partnership with BlueCross BlueShield Vermont (BCBSVT), the PATH program is supported by bundled payments that allow BCBSVT members to access a variety of CPP services for a fixed price.

Care Delivery Approach

CPP created the PATH program to equip patients with tools to improve pain self-management, offering services traditionally inaccessible through commercial or public Fee-For-Services (FFS) insurance models. The integrated care team includes physicians, nurses, nurse practitioners, psychiatrists, psychologists, psychologically informed physical therapists, social workers, occupational therapists, clinical dietitians, chef educators, movement specialists, acupuncturists, Reiki practitioners and massage therapists.

Results to Date

- Quantitative assessment of patient-reported data shows statistically significant improvements in patient satisfaction, well-being, chronic pain acceptance, ability to recover from stress, self-compassion, physical function, and depression following the program.
- Analysis of medical and pharmacy claims from the twelve months prior to and following participation in the PATH program has shown reductions in health care costs and utilization.

Key Features of the Program

- **Innovative payment model to support comprehensive, coordinated care.** CPP, in collaboration with BCBSVT, developed a novel bundled payment arrangement to cover services not traditionally offered in commercial or public insurance. CPP and BCBSVT worked closely to develop the administrative, financial, and technical resources necessary to create the payment model. The bundled payment limits patient financial burden by requiring only three patient co-pays over the course of the program. The care pathway for patients in the bundle is known as the PATH program.
- **Group-assisted Care.** Patients complete the PATH program in 13-week cohorts. The program’s group sessions include six weeks utilizing an Acceptance and Commitment Therapy approach led by the psychologist or licensed clinical social worker and six weeks utilizing a medical group visit format led by the Registered Nurse/Reiki practitioner and physician. The group structure also provides time for patients to interact, helping patients learn from each other, make sense of their pain, and develop relationships that can help reduce feelings of isolation. CPP also created an alumni group for patients who have completed the PATH program to continue to meet monthly, recognizing that change is an ongoing process that takes time.

- Reduced Emergency Department (ED) visits (all-cause and pain-related) for patients in six cohorts that participated in the PATH program for at least one month.

Challenges with Implementation

CPP encountered a variety of challenges establishing and implementing the PATH program. Major challenges included educating referring clinicians about the program, getting patients to commit to completing a group-oriented intensive program, administrative difficulties

setting up the coding and back-office support for the bundle, technological infrastructure to streamline data collection and sharing, cultural challenges integrating practitioners that offer integrative services into the health system, and regulatory limitations on provider scope of practice. CPP is also looking to expand eligibility for the PATH program but has had difficulty getting the program covered by additional payers due to a range of issues, including behavioral health carveout models that limit coverage for integrated services.

CPP Details

Location: Burlington, VT

Website: <https://www.uvmhealth.org/medcenter/departments-and-programs/comprehensive-pain-program>

CASE STUDY

TABLE 1. Overview of Pain Management Program

Organizational Description	CPP is a center within the University of Vermont Medical Center (UVMHC).
Pain Management Services Offered	Acupuncture, Art Therapy, Behavioral Medicine (individual and group therapy), Cannabis Education, Craniosacral Therapy, Clinical Hypnosis, Eye Movement Desensitization and Reprocessing (EMDR), Group Psychotherapy, Massage Therapy, Medical Management, Movement Therapy, Mindfulness, Nutrition, Culinary Medicine, Occupational Therapy, Psychologically Informed Physical Therapy, Reiki, Yoga, Health Coaching.
People Served by the Model	CPP originally served mostly middle-aged and older patients with lengthy medical histories and a chronic pain diagnosis. As CPP expanded, younger patients have increasingly participated. Many patients have a history of physical or psychological trauma (e.g. adverse childhood experiences (ACEs) and post-traumatic stress disorder). In order to join the PATH program, participants must be mentally stable (no psychiatric hospitalization within previous three months) and committed to the program. CPP also provides services to non-native English speakers.
Key Innovations	Bundled payment model with limited co-pays; transdisciplinary care model; services co-located in building intentionally designed for patients with pain; emphasis on group-assisted care
Local Market and Context	CPP operates in Burlington, VT, the most populous city in Vermont with a population of 42,000. CPP intends to expand its geographical reach by creating a hub-and-spoke model, enabling service delivery in rural areas of the state. There are no major competitors in the area.
Evolution and Buy-In	UVMHC began CPP in response to its awareness that conventional approaches to the management of chronic pain had not been successful. UVMHC convened its Family Medicine, Psychiatry, Anesthesia, and Integrative Health departments to develop a stand-alone program that would provide comprehensive care for patients with complex pain. Statewide interest in addressing the ongoing opioid crisis engendered political support for the project, and legislative reforms around opioid prescribing accelerated the shift towards non-pharmaceutical approaches to pain management. Simultaneously, BCBSVT was seeking to develop a pilot in partnership with a provider to test new approaches to treat and pay for musculoskeletal pain.

CASE STUDY

TABLE 1. Overview of Pain Management Program *continued*

Financing and Infrastructure	The program began with initial funding from UVMMC and a commitment to backstop any budget overrun annually. Working closely with BCBSVT, CPP developed a novel bundled payment model to support its care delivery program. CPP and BCBSVT go through financial reconciliation every six months to take into account the actual bundled payments in comparison to how the utilized services would have been reimbursed via fee for service rates.
Implementation Challenges	Patient commitment to the intensive program, workforce burnout, administrative difficulties setting up the coding and back-office support for the bundle, technological infrastructure to streamline data collection and sharing, cultural challenges integrating practitioners into the health system, and regulatory limitations on provider scope of practice.
Results and Key Outcomes	Results to date have been based on limited sample size. None of the patients with high levels of opioid use that were enrolled in the PATH program at its inception has had a pain-related or opioid-related ED visit. Analysis of patient-reported data has shown significant improvements in patient satisfaction, well-being, chronic pain acceptance, ability to recover from stress, self-compassion, physical function, and reduced depression over the course of the program. Analyses of claims data from 12 months prior to and following participation in the PATH program have shown reductions in costs and ED visits for the first six cohorts that participated and completed the PATH program.

Historical Context

The CPP PATH program grew out of a concerted effort across policymakers, payers, and providers to address the opioid crisis in Vermont. At the state level, legislators enacted harm reduction policies and tightened regulations around opioid prescribing, which helped catalyze collaboration across stakeholders to consider how to better treat and manage pain.

At the same time, UVMMC was considering reforms to better treat a cohort of patients who were prescribed high doses of opioids. UVMMC had an existing pain management clinic that offered medication and interventional treatments, which was not optimized to provide longitudinal care for patients with complex, chronic pain. As a result, patients often lacked continuity of care as they cycled through different providers. As their care became de-stabilized, ED usage increased. UVMMC feared that these patients might be at risk for self-harm or overdose without a clinical home responsible for their care. This concern motivated several UVMMC departments (Family Medicine, Psychiatry, and Anesthesia) to jointly develop a center responsible for managing patients with complex pain.

CPP hired a family physician to lead the program at its inception. This physician assumed ongoing care for the group of ‘legacy’ patients who had been treated at the existing pain clinic. CPP also has a large patient population that is covered by commercial insurance, and state and local employers were interested in supporting services that could improve employees’ functionality and reduce absenteeism.

Partnership with BlueCross BlueShield Vermont (BCBSVT). CPP initially planned the program utilizing a traditional FFS payment model with the expectation that the program would receive support from the university hospital as a financial backstop in case the program overran its annual budget. However, after the first 9-10 months, CPP began considering alternative payment models for sustainable funding and approached public and commercial payers to support the project.

At the same time, BCBSVT was exploring the expansion of coverage for non-interventional approaches to treat pain that could beneficially impact members’ health outcomes. This interest was spurred in part

by members with chronic pain frequently presenting in the ED and high utilization of medical home services, which had not yielded significant improvements in their care and drove up costs. BCBSVT's ultimate goal was to create multiple Centers of Excellence that could serve as centralized hubs for chronic pain management. To do this, they partnered with CPP to create and pilot a standardized pain management bundled program. BCBSVT dedicated resources to support UVMHC, including data analytics, data processing, and financial analysis to support the new reimbursement model.

Infrastructure. UVMHC provided a building to house CPP services, which was designed to fit the needs of the unique patient population. The renovations made the space less “clinical” and more relaxing, and included rooms for yoga and meditation, a quiet corner for people with light and sound sensitivities, and a teaching kitchen. Co-locating services in this building also facilitated trust and coordination across providers while reducing transportation barriers for patients.

Program Details

CPP developed two integrative therapy programs, “Partners Aligned in Transformative Healing” (PATH – for BCBSVT subscribers) and “Continuing On My Path And Strengthening my Story” (COMPASS Living – for all other patients, including those covered by Medicaid and Medicare). While both programs offer access to an array of integrative therapies, this case study focuses on the PATH program, which provides customized intensive outpatient therapies, including group visits, supported by bundled payments. COMPASS Living also offers access to outpatient integrative therapies facilitated by a psychologist, but does not provide group medical visits and is offered to patients in traditional FFS payment arrangements.

PATH Program Design

CPP initially designed the PATH program to be eight weeks long. However, patients found the number of group sessions (twice per week) and integrative visits to be too taxing over that short timeframe. The program was later expanded to 13 weeks during the COVID-19 pandemic, offering the same volume of services over

a longer time period. The program is structured around closed cohorts, with an average cohort consisting of 12 patients. At the time of publication, six cohorts have completed the PATH program.

Each cohort receives both a core set of services and an additional individualized care plan. Group sessions, based on Acceptance and Commitment Therapy, are offered by the psychologist or licensed social worker in the first half of the program. The second half of the program utilizes a group medical visit format and is focused on helping participants frame their experiences with chronic pain. Group sessions are provided once a week and include planned didactic lessons with time for free-flowing discussion. Participants understand that attendance at group sessions and engagement in therapies is critical to their success in the program. Individuals who struggle with attendance are identified and supported as possible. Frequent absences may lead facilitators to suggest withdrawal from the program and re-engaging at a better time, but this is an uncommon experience.

Patients in PATH can also choose treatment options best suited to their needs, interests, and schedules. CPP provides a broad array of services to address pain and pain-related disability that are not traditionally covered by health plans. These services, listed in detail in Table 2 below, include therapies like cooking classes, Reiki, Cannabis Education, Aqua Therapy, and Sleep Education. Some of these services, like aqua therapy, are provided in off-site facilities and some services, like massage therapy, acupuncture, and physical therapy are contracted to local providers.

While the CPP does not provide medical management services, they collaborate with primary care providers and provide consultation about traditional medication or interventional options as helpful.

Before the participant begins the program, the transdisciplinary integrative clinical team - composed of traditional medical clinicians and integrative therapists - meets regularly to review each person's history and make suggestions about what therapies may be most helpful for the individual. Each participant's situation is reviewed again at the program's midpoint

and end. Weekly case conferences are used to facilitate collaboration among providers and generate additional perspectives on patients' treatment plans.

“Change does not happen in 10-14 weeks, it is an ongoing process.”

CPP provides additional resources and networking to assist individuals in maintaining progress after graduating from the PATH program. Participants work to develop a “Momentum Plan” to identify goals for life after the program and ways to maintain progress made in the program. As noted above, the transdisciplinary integrative clinical team makes recommendations for therapies to be maintained after program. CPP provides a copy of these recommendations to the patient's primary care provider along with a list of community providers offering integrative therapies. CPP also offers alumni groups to promote engagement after the program. Social media platforms allow cohorts to connect and groups meet monthly, sometimes receiving additional service from providers like Reiki, yoga, or virtual cooking classes.

TABLE 2. Services Offered in PATH

- Acupuncture
- Aqua Therapy
- Art Therapy
- Behavioral medicine (individual and group therapy)
- Culinary Medicine
- Cannabis Education
- Craniosacral Therapy
- Clinical Hypnosis
- Eye Movement Desensitization and Reprocessing (EMDR)
- Group Psychotherapy
- Health Coaching
- Massage Therapy
- Movement Therapy
- Mindfulness
- Nutrition – individual consultation and group
- Occupational Therapy
- Psychologically Informed Physical Therapy
- Reiki
- Sleep Well Program
- Yoga

Provision of Care

Patient Identification. BCBSVT assisted in identifying potential candidates for the program by developing a sophisticated algorithm to identify beneficiaries that may benefit most from the program. Ideal candidates for the program are those with a high risk of persistent health care use for their musculoskeletal pain condition. Although the algorithm initially used an array of inputs, BCBSVT realized simpler metrics like utilization rates could serve as a proxy for condition severity. Other inputs, like functional status, were less useful for identifying eligible patients as they are imperfect measures of how pain can interfere in one's life and increase the need to seek health care. Defining eligibility based on costs and utilization also has its limitations. For example, some surgeries may be very costly (e.g., hip replacement) but confer high value because of the significant improvements in disability and quality of life that result from the procedure. The patient identification strategy continues to be refined over time. For subscribers who might benefit from participation, BCBSVT notified their primary clinicians about their eligibility to enroll in the program, and eventually sent letters of invitation directly to subscribers.

Population Characteristics. The patient population is generally comprised of middle-aged and older adults, although recent cohorts have been younger. Many of the patients have substantial Adverse Childhood Experiences and many of the beneficiaries are Veterans who have experienced post-traumatic stress disorder.

Patient Outreach and Referral. Patients are referred to the CPP through specialists (e.g. neurology, rheumatology, orthopedics), primary care providers, and self-referral. To raise awareness of the program and increase referral rates, CPP initially directly notified local primary care physicians of the program. These efforts yielded suboptimal results, in part because primary care physicians have limited bandwidth to identify and refer eligible patients. CPP subsequently worked with BCBSVT to directly notify eligible BCBSVT members of the program. Through direct mailers, CPP notified

these patients that they may be candidates for the PATH program. These direct notifications resulted in a 10-15 percent response rate and an influx of new referrals.

“The biggest success of the program is that it gives patients hope. They come here and see something new in their pain condition and in the way that they are approached. This is probably the first time they have had a provider sit down and give undivided attention to their story from beginning to end. It begins the healing process.”

Intake Process. When CPP began, a physician and psychologist provided intake, but this created bottlenecks and was not an efficient use of time or resources. Now when patients are referred to CPP, a physician or nurse practitioner holds a “high-touch” comprehensive conversation with the patient. This discussion can last up to 90 minutes, covering a patient’s medical and psychological history and information about their pain and broader living situation (examples of questions listed in Table 3 below). The intake process is also used to assess the patient’s mental health stability, both for their wellbeing and the safety of other patients in the cohort. Exclusionary criteria include psychiatric hospitalization within the last three months and active suicidality. The intake provider then discusses logistics and program expectations for adherence, including the types of therapies offered, patient goals, and program finances. Patients who do not speak English are also referred to one-on-one services, assisted by an interpreter.

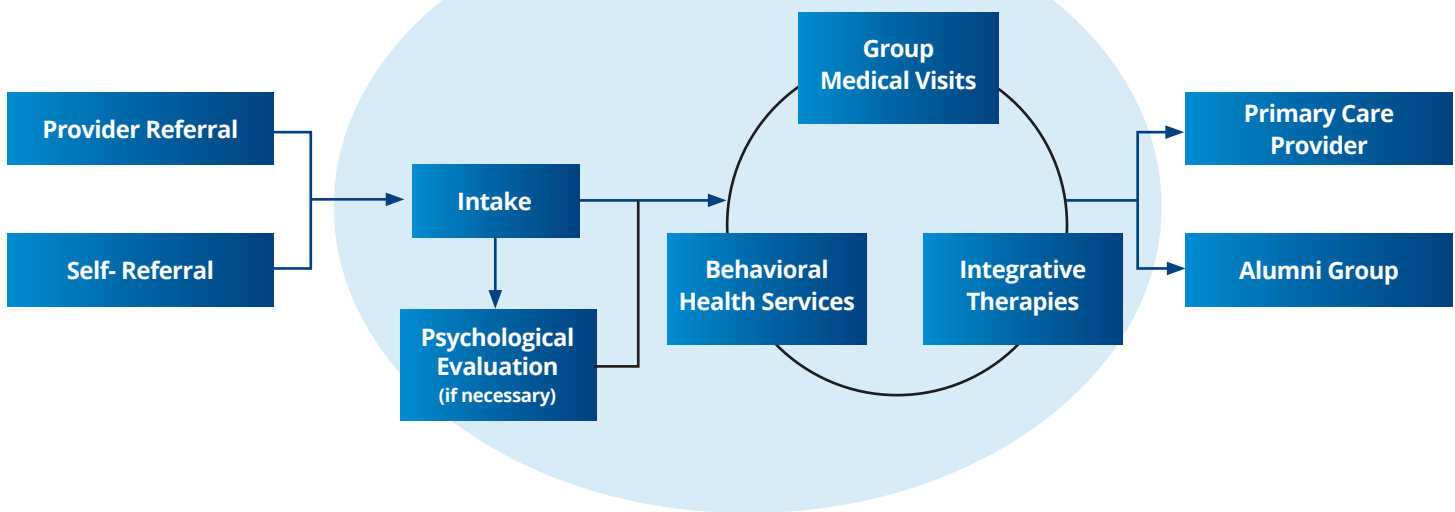
This comprehensive intake process can be validating for the patient. Not only does it help patients to set meaningful, value-based goals, it also gives patients a medical “home” for their pain management and a chance to be heard. As one provider noted, “I let [patients] know that I understand that pain affects all aspects of their lives. It affects their work life, their home life, their relationships, their social connections, their hopes for the future, all of that. So, I just want to go through all of that with them.”

Information collected during the intake process is documented in the electronic health record (EHR), and providers from various disciplines meet for an hour to conduct an integrative intake review. They review the patient’s history and recommend treatment options. These recommendations are provided to the participant once they begin the program and are used to guide the treatment regimen.

TABLE 3. Examples of Intake Questions

Medical History	<ul style="list-style-type: none"> • What has been your pain treatment chronology? • Who else is in your circle of care? • How would you describe your back pain? Is it aching, stabbing? Are there things that make it better or worse? What does your pain feel like to you? • How has this affected your life?
Psychological and Behavioral History	<ul style="list-style-type: none"> • How has pain affected your life? • How have you coped with pain? • What traumas have you experienced? • In what ways are you strong? • Family history and childhood experiences
Program Expectations	<ul style="list-style-type: none"> • What are your expectations and goals for the program? • What therapies are you interested in?

FIGURE 1. Patient Flow Diagram



Outcomes Measurement and Program Evaluation

CPP and BCBSVT jointly agreed to establish a set of measures to evaluate PATH's success across different quality domains. BCBSVT identified a core set of performance domains (side box) and deferred to CPP to select standardized tools to assess those domains. Key domains include quality of life measures (assessing a patient's physical, mental, functional, and social health), process measures, and financial indicators. In addition to helping evaluate the overall success of the PATH program, these tools are used regularly during case reviews to help practitioners assess individual patients' progress and determine the need to change treatment plans. An overview of specific measures used are detailed below and summarized in Table 4.

Outcome Measures. CPP chose a variety of survey tools to develop a comprehensive evaluation of patient well-being. The most widely used tool, the Patient-Reported Outcomes Measurement Information System-29 (PROMIS-29), is a 29-question survey that assesses pain and health-related quality of life across seven domains, including physical, mental, and social health. Others survey tools, listed in the table below, include the Defense & Veterans Pain Rating Scale (DVPRDS), Chronic Pain Acceptance Questionnaire 8 (CPAQ-8), Patient's Self-Identified Pain Assessment, the Brief Resilience Scale (BRS), and the Self-Compassion Scale - Short Form (SCS-SF). CPP also collects qualitative

evidence, like anecdotal vignettes of patient experiences, to assess program performance. Some surveys were collected manually and are not yet incorporated into the patient's EHR.

BCBS Key Evaluation Domains

- Treatment/clinic wait times
- Quality of Life Scale
- Patient satisfaction
- Demonstrated trends toward improvement and/or potential for improvement in:
 - ER and Urgent care usage
 - Pain related procedure rates
 - Advanced Imaging rates
 - Surgical Rates
 - Opioid use rates including total MME
- Measures of pain interference/function
- Methods to assess emotional distress
- Employment status measures

Process and Utilization Measures. CPP and BCBSVT measure quality performance by tracking various process and usage indicators, including how frequently patients are presenting at the ED or using urgent care services, surgical office visit rates, and advanced imaging use. This allows CPP to understand which elements of the PATH program the patient is

using, including services outside of the bundle. CPP also tracks the delivery of care, like clinic wait time, to ensure care is delivered in a timely manner.

"If a patient's personal belief is they feel better, their quality of life has improved, their pain levels have gone down ... all of that actually should be translating into cost savings, because you're less likely to feel like you need to go to the ED, or that you need to have an interventional pain service."

Financial Measures. Tracking projected costs is a significant part of the program evaluation. CPP and BCBSVT compare actual costs to projected costs to demonstrate cost savings within the PATH program. This is done by comparing beneficiaries' health care claims (medical, pharmaceutical, etc.) 12 months before program participation to health care claims 12 months after graduation, with interim analysis starting 8 weeks after graduation.

TABLE 4. Overview of Measures Used

Measure	Description	Components	Collection	Use
PROMIS-29	Assesses pain intensity using a single 0-10 numeric rating item and seven health domains	Physical function, fatigue, pain interference, depressive symptoms, anxiety, ability to participate in social roles and activities, and sleep disturbance	Pre- and Post- program participation	Program evaluation
CPAQ-8	Survey instrument to assess acceptance of pain in chronic pain patients	Activities engagement – whether the patient is able to pursue life activities in a normal manner even while pain is being experienced. Pain Willingness – extent to which patient recognizes that pain avoidance or control strategies can be ineffective	Pre- and Post- program participation	Program evaluation
Self-Compassion Scale – Short Form	Assesses self-compassion and kindness during difficult life situations	12-question survey on five-point Likert scale. Six questions related to positive constructs of self-compassion (self-kindness, common humanity, and mindfulness) and six questions related to the absence negative constructs (self-judgement, isolation, and over-identification)	Pre- and Post- program participation	Measure patient self-care Program evaluation
Brief Resilience Scale	Assesses ability to recover from stress	Six-item on five-point Likert scale survey comprised of equal number of positively and negatively worded questions designed to assess psychometric characteristics related to resilience.	Pre- and Post- program participation	Measure patient self-care Program evaluation
Defense & Veterans Pain Rating Scale	Assess patient-reported pain intensity levels	Numerical rating scale (1-10) of pain intensity supported by functional word descriptors, color coding and pictures of facial expressions to describe pain levels. Additional questions assess how pain affects normal activities and sleep.	Every visit	Measure pain intensity Program evaluation

Financing and Infrastructure

Initial Financing. CPP started with an initial financial investment from UVMMC, which included the provision of a physical building to house services. Some ongoing philanthropic funding helps to support very specific program components, such as the purchase of items for food kits for participants to use during the culinary medicine curriculum.

“The entire program costs about the same as one epidural.”

Bundled Payment. Services for patients in the PATH program are covered by a fixed prospective bundled payment. BCBSVT and CPP worked together to determine the price of the bundled payment by estimating the number of services a patient would likely use multiplied by the cost of those services (based off of a fee schedule). For services not listed on a fee schedule, CPP and BCBSVT negotiated an amount based off general industry costs for those services. The bundle is paid in two installments to CPP (at the midpoint of the program and at the end); recently updated to three installments with the increased program length. Patients pay two primary co-pays over the course of the program; which has also been updated to three co-pays with the increased program length.

To assess whether the bundle reflects actual service utilization and costs, CPP continues to track how they would have charged BCBSVT in a FFS arrangement. Every six months, CPP and BCBSVT conduct a financial settlement to reconcile the difference between the bundled payment rate and the actual intensity and costs of services delivered.

CPP noted that this reconciliation process helped them understand the importance of accurately capturing all the costs of administering the program. To accurately track utilization rates, CPP had to strengthen clinical documentation practices and ensure providers had consistent methodologies for documenting care. However,

the reconciliation process is itself administratively burdensome and, while costly, not reflected in the bundle price.

Barriers to Implementation and Strategies to Address Challenges

Financing. Non-procedural services like acupuncture or physical therapy do not bring in as much revenue as those offered in a traditional interventional pain clinic, such as injections. While lower costs are beneficial to patients and BCBSVT, the lack of procedural services limits CPP's access to financial resources and infrastructure that is commonly available to interventional pain clinics.

“Any provider that wants to set this up ... needs to start out with not only the clinical side, but the business side of the organization.”

The infrastructure and administrative support needed to implement the bundle was significant. However, upfront planning could help alleviate the administrative burden for future bundles. For instance, service intensity is not reflected in claims, since CPP is only billing the bundle through one code. To accurately capture service intensity, CPP needed to stand up infrastructure to track service delivery at the outset. However, CPP did not include their contracting and analytics team in building this infrastructure from the beginning. As a result, they had to backtrack utilization information, assign CPT codes for each patient, and ascertain service usage.

CPP noted that the staff time dedicated to administering the bundle – coding, reconciling payments, etc. – is not reflected in the bundle rate. The intake case review, an intensive hour-long discussion with an array of providers, was not initially billable. Additionally, a few patients who participated in the program had particular BCBSVT policies that do not cover participation in the bundle, despite an increased focus on coding accuracy and an eligible diagnosis. CPP has now established a prior authorization review to mitigate this concern.

Garnering Support from Additional Payers. CPP would like to expand the PATH program to other parts of Vermont, but they have experienced challenges getting additional payers to support the program. The Vermont Medicaid program expressed interest but did not have sufficient resources to support the program, though there is a possibility of using Section 1115 waivers for Medicaid flexibility to support the program in the future. CPP has also found that providers are less willing to spend resources on adopting a PATH-like program if it only applies to a small proportion of their patient population.

Adopting a bundled payment model is also administratively burdensome for payers. For instance, BCBSVT had to re-configure their system to accept a new type of claim.. They needed a code that was not being used for any other services, so they found a Healthcare Common Procedure Coding System code that could be configured for primary care. The code did not match the service provided, but it could work for their closed system. However, this coding issue would become challenging if other payers were participating in the program. Additionally, some plans are not comfortable offering a benefit that includes services not traditionally covered, and face challenges extending this to patients with high-deductible health plans since patients would have a harder time meeting the deductible.

“A health plan has to be willing to be very flexible and know that it’s not about fitting the idea into their system but recognizing that the system has to adapt to the idea. And that creates a lot of tension.”

Patient Engagement. The PATH program is an intensive program that requires patients to dedicate a significant amount of time over the 13-week period. Some patients encounter challenges with this time commitment. For instance, employed patients have to take time off or coordinate around their work schedule. To provide more flexibility, CPP modified the program to better accommodate patient schedules and has offered programs late in the day or during the early evening hours.

Culture. CPP found it initially challenging to foster relationships across providers from various clinical backgrounds that traditionally operated in siloed academic departments. CPP also faced challenges bringing integrative practitioners into a traditional medical system, due in part to stigma associated with integrative therapies. As one provider noted, “[integrative providers] have been ‘othered’ by the traditional approach to pain management and there’s some skepticism and cynicism to overcome in terms of building a team.” There were logistical challenges as well, since many integrative practitioners were not accustomed to working in a large medical institution with different layers of administrative oversight. CPP found it particularly difficult to make contracted integrative providers feel like they are part of a team. Weekly case conferences have facilitated a collaborative culture across providers.

Data and Research Capacity. CPP initially lacked adequate resources for the research component of the PATH program, creating gaps in data collection and analysis. For instance, patient-reported outcome data are incomplete for the first cohort. CPP suggested that other organizations looking to replicate the PATH model should collect data at the outset and consider how to automate data collection. UVMMC software programmers had to build out the capability of the EMR to collect data for the program. Data collection and analysis also created additional downstream work and CPP found it challenging to provide adequate staffing for these tasks.

Regulatory Constraints. Vermont is one of a few states that does not provide state licensing for massage therapists. Insurers will not reimburse services provided by non-licensed practitioners and UVMMC will only credential licensed providers. As a result, CPP decided to develop a credentialing process for massage therapists based on specific criteria (e.g. number of patients, continuing education requirements, membership of society, annual monitoring or proctoring period, and passage of massage therapy exam required by other state boards) to enable massage therapists to provide services within the PATH program.

COVID-19. Due to the pandemic, CPP transitioned to virtual delivery of services, including group visits. However, many providers were concerned that virtual care would undermine the efficacy of interactive group visits, which are often very personal and can touch on sensitive topics. One provider mentioned that “Making sense of pain can lead to deep places quickly.” Providers expressed concern about patient safety without being able to monitor patients in person. Virtual support groups can also lack the informal interactions that can help build relationships. Others noted that, despite these concerns, the virtual platform has actually helped patients talk more openly.

TABLE 5. Barriers and Facilitators to Implementation

Contextual Factors	Barriers	Strategies
Institutional	Cultural challenges with bringing integrative providers into health system Securing referrals Significant infrastructure and administrative support needed to implement the bundle	Weekly case conferences Direct mailers to patients and outreach to local primary care providers Analytic and administrative support from BCBSVT helped reduce provider burden and augment existing capabilities
Local Market	Rural expansion Scaling across providers and payers	Telehealth services helped provide care across rural settings Getting other payers and providers to buy into the model
Regulatory	State credentialing/licensing barriers limit coverage of some therapies	Developed internal credentialing process

Recommendations for New and Developing Programs

Foster Trust Across Stakeholders. Developing the bundle required trust and a shared vision between UVMHC and BCBSVT. To help foster trust and deepen their relationship, both institutions created lines of communication and had weekly calls and monthly meetings throughout the development of the program. There was collaboration at all levels from leadership down to research teams. For instance, BCBSVT provided administrative support recognizing that providers lack the time, personnel, and administrative infrastructure to implement the bundle.

Both institutions had champions that shared similar visions and values. This helped both partners prioritize long-term benefits over short-term costs, since the return on investment would not materialize for several years.

“As much as this is a clinical program, it is also an exploration into treatment that no one has approached before.”

Build a Supportive Culture. CPP facilitated a collaborative culture by encouraging providers to work together in various ways. Practitioners from various disciplines would meet regularly to review patient cases

at in-take, midpoint, and graduation from the program. Team huddles, and regular one-hour weekly meetings fostered a group dynamic. CPP also intentionally hired providers that practice in an integrative way. Stakeholders also noted that co-location also facilitated coordination.

“It’s a very unique type of person who wants to work with this population.”

Garner Leadership Buy-in and Identify Champions.

Senior leaders at UVMHC supported the program from the outset, which enabled the program to get off the ground. Program champions were also critical to launching PATH. For instance, the clinical director was a strong advocate for the program. Stakeholders

also noted that including all key decision makers at the beginning of program development can garner support across clinical departments while mitigating potential challenges throughout development.

Be Willing to Try New Things. Stakeholders in both CPP and BCBSVT were willing to pilot new approaches to treating pain.

“As long as something isn’t demonstrated to cause harm, the feeling is that we ought to be at least open to trying it.”

Acknowledgements

This project is part of the Duke School of Medicine Opioid Program portfolio, a grant funded by the Duke Endowment and administered through the Duke Department of Population Health Sciences. The Opioid Program portfolio projects are designed to save lives and reduce the harmful impact of opioids in North Carolina through the development, implementation, and/or evaluation of sustainable, system-level interventions. We would like to thank the staff and stakeholders at the University of Vermont Medical Center Comprehensive Pain Program and BlueCross BlueShield Vermont who participated in interviews and informed this case study.

About the Duke-Margolis Center for Health Policy

The Robert J. Margolis, MD, Center for Health Policy at Duke University is directed by Mark McClellan, MD, PhD, and brings together expertise from the Washington, DC policy community, Duke University and Duke Health to address the most pressing issues in health policy.

The Center’s mission is to improve health and the value of health care by developing and implementing evidence-based policy solutions locally, nationally, and globally. For more information, visit healthpolicy.duke.edu.

About the Duke Department of Orthopaedic Surgery

For more than 90 years, the Department of Orthopaedic Surgery at Duke University has attracted the best and brightest physicians, researchers, residents, fellows, and trainees to deliver world-class orthopaedic care, education, and research. Continually serving the vision of being the global standard of excellence today, developing the leaders of tomorrow in orthopaedics and rehabilitation research, education, and patient care, Duke Orthopaedics clinicians deliver both surgical and non-surgical, thoughtful care to patients from around the world. For more information, visit ortho.duke.edu.

For more information about this case study, please contact Trevor Lentz at Trevor.Lentz@duke.edu.

For information about this project, including other publications and case study reports, please visit <https://healthpolicy.duke.edu/projects/integrated-pain-management-lessons-north-carolina-health-systems-and-beyond>