Long-Term Care Facilities in the Time of COVID-19: Lessons in Crisis Management

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INTRODUCTION

Even though Vermont was spared the massive surge of COVID-19 experienced in other states, we witnessed similar troubling COVID-19 outbreaks at long-term care facilities (LTC). Two skilled nursing facilities (SNF) in Chittenden County were particularly impacted: Burlington Health and Rehabilitation (BH&R) and Birchwood Terrace (Birchwood). At the time of this writing residents at these two facilities accounted for 32/55 (58%) of COVID-19-related deaths in Vermont. The University of Vermont Medical Center (UVMMC), Vermont’s only tertiary academic hospital, collaborated with BH&R and Birchwood to assist with outbreak management, a process which required partnerships with numerous other entities across our rural region. The Operations and Transitions of Care (TOC) branch of UVMMC’s COVID-19 Incident Command provided administrative support for this response.

SNF residents are a highly vulnerable population. BH&R and Birchwood house a mix of residents receiving short-term rehabilitation following medical illness or surgery, and those requiring long-term care for conditions such as dementia. While residents vary in overall health status, many are elderly, frail, and medically complex. Any acute illness in this congregate population can deteriorate into a life-threatening event. As we are all now aware, COVID-19 is a particularly devastating illness.

The purpose of this report is to share our experience in responding to the COVID-19 crisis, including data, successes, challenges, and recommendations from lessons learned. Our hope is that this report will serve as an educational tool for LTC facilities as they prepare for future COVID-19 outbreaks. We also hope that it will highlight the importance of collaboration, as outbreaks at one facility impact people and organizations far beyond the facility’s walls.

In preparing this report, we sought the input of key stakeholders, including facility leadership, nursing, geriatrics, palliative care, and the TOC team. The report combines the shared experience of our many clinical, operational, emotional, and ethical dilemmas. It is an honest account of how a diverse health care team responded to crises at critical locations in our care continuum, and an illustration of how we all share in the honor of caring for our community.
BH&R FACTSHEET

<table>
<thead>
<tr>
<th>Location</th>
<th>300 Pearl Street Burlington, VT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total beds</td>
<td>126</td>
</tr>
<tr>
<td>Services provided</td>
<td>Subacute rehab, long-term care, neurologic care, respite care, PT, OT, SLP, orthopedic rehab, audiology care, dementia care, wound care, pain management, IV therapy, heparin therapy, hospice care, and x-rays</td>
</tr>
<tr>
<td>Ownership</td>
<td>Genesis Healthcare</td>
</tr>
<tr>
<td>Provider staffing model</td>
<td>Mix of embedded physician and advance practice provider (APP) team employed by Genesis and part-time embedded physician team employed by UVMMC</td>
</tr>
<tr>
<td>Physical layout</td>
<td>High-rise/ floors with elevator access. Mix of single and shared rooms.</td>
</tr>
<tr>
<td>Outbreak dates</td>
<td>First COVID-19 case: 3/16/20  COVID-19-free: 5/7/20</td>
</tr>
<tr>
<td>Number of COVID-19 cases: residents</td>
<td>39</td>
</tr>
<tr>
<td>Number of COVID-19-related deaths: residents</td>
<td>11</td>
</tr>
<tr>
<td>Resident death location</td>
<td>8 deaths at BH&amp;R, 3 at UVMMC</td>
</tr>
<tr>
<td>Number of COVID-19 cases: employees</td>
<td>28</td>
</tr>
<tr>
<td>Number of COVID-19-related deaths: employees</td>
<td>0</td>
</tr>
</tbody>
</table>

BIRCHWOOD FACTSHEET

<table>
<thead>
<tr>
<th>Location</th>
<th>43 Starr Farm Road Burlington, VT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total beds</td>
<td>144</td>
</tr>
<tr>
<td>Services provided</td>
<td>Subacute rehab, long-term care, Alzheimer’s and Dementia care on a secure memory care unit, respite care, PT, OT, SLP, advanced wound care, IV therapy, post-stroke care, hospice care, oncology care, cardiac care, trach care, enteral nutrition, orthopedic rehabilitation, and bedside lab and x-ray</td>
</tr>
<tr>
<td>Ownership</td>
<td>Birchwood Operations, LLC</td>
</tr>
<tr>
<td>Provider staffing model</td>
<td>Embedded geriatric-trained physicians and APPs employed by UVMMC</td>
</tr>
<tr>
<td>Physical layout</td>
<td>Single level, long hallways off main entrance. Mix of single and shared rooms.</td>
</tr>
<tr>
<td>Number of COVID-19 cases: residents</td>
<td>60 lab confirmed, 32 presumed positive</td>
</tr>
<tr>
<td>Number of COVID-19-related deaths: residents</td>
<td>20 lab confirmed, 1 presumed positive</td>
</tr>
<tr>
<td>Resident death location</td>
<td>All at Birchwood</td>
</tr>
<tr>
<td>Number of COVID-19 cases: employees</td>
<td>25 Birchwood staff, 5 additional contracted employees</td>
</tr>
<tr>
<td>Number of COVID-19-related deaths: employees</td>
<td>0</td>
</tr>
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SUCCESSES AND CHALLENGES

It is not easy to tell the story of these two outbreaks. Common themes have emerged, but each outbreak had its own character and indelible anecdotes. Individual narratives differed, each irrevocably colored by the stress, chaos, exhaustion and grief common to crisis management. In the end, we elected to tell this story in terms of successes and challenges.

**Successes:**

**Advanced care planning:**

Prior to the first COVID-19 case at either facility, physicians and APPs met with every resident and surrogate to discuss the reality of COVID-19. This included an overview of what we knew of the disease, how we planned to protect the residents, and detailed value-centered conversations about what their wishes would be should they become infected. Advanced care planning formed the basis of our response and there was universal agreement that we would have been rudderless without it.

**Care in place:**

In our advanced care planning we learned that the majority of residents preferred to remain in their facility, even in the face of decline and death. This was particularly true of long-term care residents, who considered the facility their home and their caregivers their family. Understanding this priority, we geared our response to honor the residents’ wishes whenever possible. This is supported by the data: 29/32 (90.6%) of resident COVID-19-related deaths occurred at the facility level. Maintaining care in place was not without its costs and challenges.

**Strong collaboration, sense of community:**

Strong collaboration and teamwork are cornerstones of successful crisis management. UVMMC has a long-standing collaborative relationship with both BH&R and Birchwood. This is based in part on our staffing arrangement and buoyed more recently by the UVMMC Transition of Care team, who over the past two years have partnered with both facilities to improve systems of care. Team members know each other well and have a shared sense of trust and dedication. The Vermont Department of Health, State and City of Burlington leadership, UVM Health Network Home Health & Hospice, and local transportation services were just some of the key partners that stepped forward to offer high-functioning inter-professional support. Crises bond people together and as one facility APP noted, their “sense of community and family never felt stronger.”

**Challenges:**

**The disease:** Perhaps the greatest challenge was managing a disease that the world had never seen before. There was little data, no evidence-based guidelines, and a great deal of misinformation. Ultimately it was impossible to know what to expect and how to plan. Several times we were forced to make emergent decisions based on what we knew in the moment, only to reverse them shortly thereafter. As one UVMMC leader noted, we were – along with the rest of the world –“in the dark.” This was a major contributor to the stress and chaos we all experienced. The popular conception was that COVID-19 presented with fever, shortness of breath, and cough. However, many presented with more vague
symptoms, such as lethargy, weakness, falls, poor oral intake, behavior changes, nausea, diarrhea and headache. We now recognize loss of taste or smell as a cardinal symptom of COVID-19, but it was new to us then.

Disease progression was also unpredictable, particularly the often abrupt transition from clinically stable to actively dying. One provider termed it “going over the respiratory cliff.” This aligns with webinars from the University of Washington (Seattle) and Mount Sinai (New York) which stress the importance of not underestimating the potential speed and intensity of dyspnea in COVID-19. Simultaneously managing multiple residents in this phase required enhanced staffing, rapid access to medications, and an endless supply of compassion. At Birchwood, additional staffing was provided by the UVMMC Division of Palliative Medicine, who partnered with the UVMCC Geriatrics Division to provide inter-professional 24/7 in-facility care for five weeks. As detailed below, UVMMC also augmented nurse staffing. Changes were also required to the pharmacy formulary, as subcutaneous opioids were found to be especially helpful in managing critical dyspnea due to their faster onset and as an alternative route of administration.

Unclear accountability: Despite strong commitment from all involved, neither outbreak witnessed ideal response times. Particularly early on, confusion arose about whether responsibility to marshal resources rested with institutional owners, the Governor, the Vermont Department of Health, Vermont National Guard, UVMMC, or some mixture of the above. More than one direct responder, including those in leadership positions, indicated they felt it was unclear whom to ask for help, with some leveraging personal connections for support. Some requests for help were deferred from one source of authority to another. Ultimately an outstanding team comprised of key leaders in UVMMC Incident Command, with collaborating leaders in Geriatrics, Family Medicine, Palliative Care and staff from each facility emerged. While that team eventually met the many challenging operational and clinical problems required to manage the crisis, multiple caregivers raised concerns that quality suffered as a result of the delays of this ad hoc process.

Visitation limitations: in an effort to minimize infection risk to their residents, LTC facilities across the state prohibited visitors from entering the building. While most agreed this was a necessary action, it was emotionally devastating for the residents and their loved ones. Staff, too, felt deep ambivalence about visitation restrictions – and as a result often served as surrogate family, a dynamic that was emotionally draining. They offered alternative means of family communication such as video chats, but this was a time-consuming process that further stretched an already thin staff.

Infection control: infection control was a major undertaking at both facilities. In some the instances the physical layout of the facility made separation of COVID-positive/negative areas difficult. This resulted in the need for COVID-free outdoor spaces for Palliative Medicine staff (in our case a camper van) and resident relocation. Resident relocation consisted of discharge home (particularly for stable short-term rehab patients), relocation within the facility, or relocation to an outside facility.

During the BH&R outbreak, UVMMC was asked by state leadership to emergently relocate short-term rehabilitation patients thought to be COVID-negative, to protect them from becoming infected. UVMMC partnered with the Doubletree Hotel in South Burlington and over the day designated staff, obtained supplies, and modified rooms to make relocation possible. Unfortunately, following the move of the first five patients, we discovered that a BH&R staff member who’d had contact with the patients was COVID-positive, and relocated patients – who were now considered Persons Under Investigation (PUIs) - could not remain at the hotel due to the lack of negative pressure rooms. All five patients were subsequently
hospitalized and the project was shut down. Hand-off communication during these multiple moves was rushed and in some instances lacking critical information that could have altered decision-making.

Complete infection control was nearly impossible on dementia units, as some residents were unable to comply with isolation, masking, and distancing. Maintaining staff hand sanitizer stations on the unit was also problematic due to the risks they posed to cognitively impaired residents. Overly restrictive tactics such as sedation and restraints were not used, as they were felt to put residents at even greater risk and not aligned with the residents’ goals of care. This was a difficult balance for some family and community members to appreciate and required frequent re-explanation.

**Special situations:** while both anticipatory advance care planning and urgent serious illness decision-making were extremely helpful, several clinical situations were particularly difficult to anticipate and navigate. Residents receiving hemodialysis required transportation to and from a dialysis unit for ongoing life-sustaining treatment, yet transportation services personnel were concerned about exposure. Some residents required aerosolizing therapies such as continuous positive airway pressure (CPAP) and nebulizers, which created a higher risk of infection transmission. Continued CPAP use in COVID-positive patients prompted a recommendation for placement in a negative pressure room, which was not available at either facility. This led to an emergent risk-benefit analysis of hospitalization solely for CPAP continuation versus temporary discontinuation of CPAP. Several residents were hospitalized before the matter could be reviewed by UVMMC experts in Pulmonary Medicine, Critical Care, and Ethics (Appendix A).

**Staffing:** while we anticipated the need to provide surge and relief staffing during the outbreaks, execution was problematic. At BH&R, UVMMC was responsible for staffing a subset of patients with partially-embedded UVMMC physicians, while the parent company Genesis provided staffing for the majority of patients. As the crisis unfolded, several UVMMC employed physicians and facility-employed APPs were quarantined, leaving the bulk of the medical care to the facility Medical Director alone. Surge plans were not in place at that time to provide assistance.

At Birchwood, patients were primarily under the care of UVMMC-employed geriatric physicians and APPs. Surge plans were in place at the time of their outbreak, but they were enacted in a manner that did not always mitigate provider exhaustion. Replacement of experienced SNF providers with less experienced surge providers was also done all at once and without adequate orientation, leaving the facility to educate replacement providers on important workflow details, such as use of their electronic health record.

UVMMC also supplemented the Birchwood nursing pool with UVMMC-employed staff and contracted travel nurses until the Birchwood staff were able to return to the workforce. Though well-intended, differences in clinical workflows and work environment created an additional layer of stress for the supplemental staff. Specifically, UVMMC staff were not acclimated to caring for non-acute care patients and the standards of care varied in areas such as the electronic health record and medication reconciliation.

An additional challenge was determining an appropriate nursing-resident ratio. In normal circumstances it’s common for LTC facilities to have nursing-resident ratios that far exceed those of hospitals, but given the acuity of illness and magnitude of residents affected, additional staffing was required to approximate the acute care environment. This was complicated by the number of COVID-positive Birchwood staff, which limited their ability to provide orientation to incoming UVMMC staff.
Testing: at the time of the outbreaks, COVID-19 testing was in its infancy. Local testing guidelines frequently shifted, making it difficult to know who to test and when. Some advocated for testing of all residents and staff, while others preferred to test only those at risk due to symptoms or suspicious contacts. Residents with cognitive impairment had an especially hard time with the discomfort of testing procedures. Administering tests was further limited by shortages in testing supplies and qualified staff to perform swabbing. At BH&R, swabbing was relegated to the Medical Director. Once tested, we were further limited by slow test turnaround, and the difficulty of interpreting negative results, particularly in residents with high pre-test probabilities.

Decedent planning: Care for and removal of deceased residents also proved to be an issue, as funeral home employees were concerned about entering the building due to infection risk. Consequently, staff members were required to perform some tasks they found distressing, such as covering residents’ faces and securing their bodies in sheets or pouches. New protocols were needed to ensure safe, respectful preparation of and transfer of decedents.

Culture: while collaboration between our hospital and facilities was a major key to providing care, inter-institutional differences in culture influenced team members’ ability to optimally respond. As one facility leader put it: “In general, I feel most individuals have little understanding of the amount of work that occurs in a SNF, at any level. It is not glorious or sexy to say you work in a nursing home. This is not a setting in which we get much praise or credit for the work we do, and it is not expected. Yet LTC is unique, and those of us who choose to work in it find it a privilege. There were several instances in which the facility staff were made to feel less valued/valuable than UVMMC staff, which I am certain was not the intention.” Future collaborators should be aware of these sensitivities.

Grief and well-being: it’s impossible to overstate the need for psycho-emotional support in a crisis of this magnitude. Even with improved access to medications, one geriatrician noted that residents sometimes progressed so quickly that holding their hand was the best they could offer. In order to better support staff well-being, the inter-professional team at Birchwood introduced “The Pause” bedside ceremony (Appendix B) following a resident’s death and supported an Institutional Ceremony of Remembering following the outbreak. Facility staff noted that these helped them cope, but also acknowledged that there was substantial residual emotional and spiritual trauma. Ultimately, we did not anticipate the breadth and depth of grief support needed for front line health care workers, nor did we plan sufficiently to maintain provider well-being.
RECOMMENDATIONS

The following comprehensive list of recommendations is based on our experience and review post-outbreak.

Define a clear system of stakeholder accountability and communication for outbreak responses:

- Prepare as if you will experience an outbreak
- Identify data-based response triggers, such as the # of COVID-19 cases in your community
- Communicate with local health care leaders, the Department of Health, and other key stakeholders to review your community resources and develop areas of collaboration. Understand that outbreaks at one facility impact people and organizations far beyond the facility’s walls

Define stakeholder roles and responsibilities, with specific deliverables:

- Facility leadership, including ownership, Medical Director, and Director of Nursing: educate staff, ensure infection control, provide personal protective equipment (PPE), ensure adequate staffing, prepare and deliver expedited orientation for potential additional staffing and ensure key functional workflows such as pharmacy support are in place
- Local health care leaders appropriate for your community, such as referring hospital Chief Medical Officer, Chief Operating Officer, or Transitions of Care expert: provide additional support for the above processes as indicated, with particular consideration of offering expertise in key specialty areas such as Infectious Disease and Palliative Medicine
- Department of Health: ensures case tracking and policy guidance
- State leadership: intervenes as needed, mobilizes large scale operational support such as the National Guard

Identify assigned communication point individuals for each stakeholder group

- Share organizational policies, procedures, and protocols critical to ensuring inter-organizational awareness and collaboration
- Establish frequent stakeholder check-ins
- Ask that leaders remain committed in the face of adversity to better understanding each other’s perspectives. This is critical to building trust.

Address advance care planning:

- Initiate value-centered discussions with all residents and surrogates. Discussions should include identification of health care agent, wishes around code status, potential need for a higher level of treatment, and the residents’ wishes for end-of-life care should they become infected with COVID-19
- Document care plans in a manner that is accessible to all staff and providers
- If the patient is already receiving dialysis, plan for dialysis arrangements in the face of an outbreak. This includes communication with dialysis units and transportation
• Assess the risks and benefits of continued nebulizer therapy for COVID-positive and PUI patients, considering temporary discontinuation of therapy in selected patients
• Assess the risks and benefits of continued CPAP/BiPAP therapy for COVID-positive and PUI patients, considering temporary discontinuation of therapy in selected patients for 14 days (see appendix 1)
• Update care plans as indicated for changing clinical situations

Assess ability to provide care in place:
• Anticipate that many residents will want to remain in the facility, even in the face of life-threatening illness. This may be especially true for the long-term care residents
• If indicated, collaborate with on-site specialists and be sure to establish clear protocols between primary teams and consultants regarding responsibilities. Establish a communication plan for ongoing collaboration
• Consider telemedicine options to access specialists who are not available to assist on site
• Assess if local home health, public health, and/or local hospice agencies are available to partner in care
• Establish a relationship with your local hospital’s transitions of care experts to assist in operational efforts around COVID-19 care and potential movement of residents
• If you anticipate being unable to provide care in place for COVID-19 residents, communicate with local hospital leaders to collaborate on other arrangements

Visitation:
• Understand the loss of visitation will cause considerable resident, family, and staff distress
• Prioritize alternative means of communication for patients and loved one, such as video chats and speaker phones. Be sure to use a device that can be easily positioned for residents lying in bed
• Establish scheduled communication times, which may decrease family and resident anxiety
• Consider identifying one staff member or team to coordinate communication

COVID-19 education:
• Review COVID-19 educational resources at your State Department of Health website and/or with local experts
• Take additional time to review the wide range of COVID-19 clinical presentations
• Understand that our collective knowledge of COVID-19 is rapidly evolving, with frequent changes in guidelines and recommendations. Daily updates may be required in the midst of an outbreak

Infection prevention and control:
• Consider formal consultation with infection control experts to assess potential points of vulnerability in your facility and/or processes
• Ensure adequate PPE and what measures will be taken if supplies run low
• Ensure N-95 mask fit testing for all staff
• Ensure staff training and clearly designated areas for donning and doffing PPE
• Examine your physical layout for risky contamination areas such as common entry points. Every structure has a security weakness

For residents:

• Discharge stable residents home, with particular focus on short-term rehabilitation residents
• Designate clear areas for COVID-positive/PUI residents within the facility
• Consider relocation of selected patients to alternative facilities based on COVID status and care needs, taking into consideration that complicated skilled nursing care plans are challenging to re-create elsewhere. Keep in mind that relocating residents with cognitive impairment may be especially problematic
• Assess the risks and benefits of aggressive isolation techniques for residents with cognitive impairment or other disorders that make compliance with infection control measures challenging

For staff:

• If COVID-positive/PUI staff will continue to work, designate separate areas for each and identify which responsibilities are most appropriate for COVID-positive staff (for example, working with COVID-positive residents)
• Ensure there is adequate space for staff restrooms, eating, and breaks that separates COVID-positive and COVID-negative staff.
• Consider use of outdoor spaces such as handwashing stations, tents, sheds, and campers, making sure they comply with local zoning regulations

Returning residents to the facility:

• Develop protocols consistent with current State Department of Health guidelines regarding when and how hospitalized residents can return to the facility in a way that best preserves infection control

Staffing:

• Anticipate the need to augment or replace staff due to work volume, work intensity, illness, and/or exhaustion. Specifically consider smaller nursing-resident ratios, especially if caring for COVID-positive patients at the facility with end-of-life care needs.
• Develop specific surge staffing plans at all levels, including physician, APP, nursing, and environmental services
• Ahead of deployment, orient surge staffing to facility workflow details, such as medical record use and medication administration protocols
• Consider assigning a mentor or preceptor to each new staff member
• Include LTC facility cultural awareness in your orientation plans, especially for those with little LTC facility experience
• Enact surge plans proactively to prevent provider exhaustion and burnout
• Rotate replacement of experienced LTC providers with surge providers in a manner that always leaves at least one experienced provider on site at all times
COVID-19 symptom management and end-of-life care:

- Understand that patients with COVID-19 can deteriorate rapidly, likely creating the need for additional staffing and rapid access to pharmacologic agents
- Review staff competence and comfort in providing end-of-life care, including pharmacologic and non-pharmacologic interventions (see Appendix C for educational resources)
- Review the pharmacy formulary and ability to access critical medications within minutes
- Make sure there are alternative routes of medication administration on site such as subcutaneous opioids, which can be especially helpful for managing critical dyspnea due to quicker onset and as a replacement for oral medications in residents with thick, frothy secretions
- Review state and DEA medication waiver programs. For example, depending on your circumstances it may be possible to designate your facility as a hospital site with access to your local hospital DEA
- Consider collaboration with the local home health, hospice resources regarding medication availability and administration abilities
- Review ability to provide oxygen, including the use of concentrators for higher than usual flow levels
- Establish the practice of a brief reflection or “pause” at the time of death

Decedent planning:

- Establish protocols for preparing decedents’ bodies and allowing respectful transfer. Involve facility staff in discussion of the post-death protocol and share ideas about ways to honor the person during body preparation and procession
- Consider the need for a stretcher or other dignified mode of transportation from the resident’s room to the funeral home pick-up location
- Ensure all measures meet the funeral home’s infection control requirements

Grief, trauma, and the aftermath:

- Anticipate that all health care workers involved in an outbreak will need emotional, spiritual, and grief support
- Provide education on the effect of traumatic stress and the strategies staff can adopt to support resilience
- Create an environment in which staff feels that patient wishes are understood, their symptoms are well controlled, their death is marked with a moment of honor, and the body is cared for with dignity
- Proactively arrange grief counseling. Do not rely on the health care worker to arrange it for themselves. Utilize local mental health experts and spiritual professionals as appropriate
- Encourage community partners to display support for those caring for the people inside the facility. This will counterbalance the social isolation, stigmatization and sense of abandonment that can cause lasting harm to front line professionals
- Arrange debriefing sessions for emotional support, feedback, and, lessons learned
- Create a plan for grieving residents, with special attention to their sense of isolation and to those who have lost a friend
CONCLUSION

We’d like to conclude with four key takeaways:

- Prepare as if you will face an outbreak
- Designate an individual to lead the response
- Advance care planning with residents steers the entire ship
- Decide what you can and can’t do to honor your residents’ wishes and act accordingly
ACKNOWLEDGEMENTS

It’s impossible to individually thank the countless people involved in providing resident care and facility support. With that in mind, we would like to acknowledge the following groups:

- Bayada Home Health and Hospice
- Birchwood Terrace ownership, leaders, and staff
- Burlington Health and Rehabilitation ownership, leaders, and staff
- UVM Medical Group leadership
- UVM Division of Adult Primary Care
- UVM Division of Family Medicine
- UVM Division of Geriatrics
- UVM Division of Hematology and Oncology
- UVM Division of Palliative Medicine
- UVM Health Network Home Health and Hospice
- UVM Medical Center Engineering and Construction
- UVM Medical Center Infection Control
- UVM Medical Center Nursing
- UVM Medical Center Senior Leadership
- Vermont Department of Health
- Vermont National Guard
- Local restaurants that provided food

And... that incredible person who danced in different festive costumes outside our windows every day!

ADDENDUMS

Appendix A

Subcommittee of Clinical Branch of Incident Command       April 3, 2020

Purpose of Meeting: Emergent meeting to address validity of chronic CPAP as an independent indication for hospital admission of a COVID-positive patient or resident of skilled nursing facility

Participants (all members of Clinical Branch of Incident Command)

Mark Pasanen, MD, Hospitalist Director
Gil Allen, MD, Branch Commander, Clinical Branch of Incident Command
Mary Ellen Antkowiak, MD, Pulmonologist and Pulmonary Hypertension Specialist

Brad Holcomb, Director Respiratory Care

Mark Hamlin, MD, Medical Director of Respiratory Care

Tim Lahey, MD, Director of Ethics and Infectious Diseases Physician (via post hoc review)

Situation: Two patients were admitted to UVMMC on 4/2/2020 from Birchwood SNF on the grounds that COVID-19-infected patients on CPAP must be managed in a negative pressure environment.

Decisional assumptions that were evaluated:

1. COVID-positive SNF residents on CPAP will generate aerosolized virus and increase risk of spread if not kept in negative pressure room.
2. COVID-positive SNF residents cannot safely engage in a 7-to-14-day holiday from CPAP while recovering from COVID-19 infection.

Verdict regarding assumptions:

1. Evidence for increased risk of spread from CPAP is lacking.¹
   a. Group could neither confirm or reject assumption of potential increased risk of spread through CPAP.
2. Assumption that patients cannot take 7-to-14-day holiday from CPAP while recovering from COVID is not substantiated by anecdotal and research-based evidence:
   a. Anecdotal/clinical precedent for interruption of chronic CPAP:
      i. Patients typically wait weeks to months for PSG testing in the community.
      ii. Patients frequently take self-prescribed holidays from CPAP.
      iii. If CPAP machines break down, patients typically can wait weeks awaiting repairs without “loaner” machines from DME suppliers.
   b. Published research
      i. Some data suggest many do not have recurrence of OSA during first four to 14 days of CPAP interruption²
      ii. Data exist demonstrating mild increases in blood pressure and heart rate during CPAP interruptions, but no significant microvascular consequences³ or reductions in myocardial perfusion (after 14 days).⁴
3. Ethical Considerations: hospital admissions should occur only when medically necessary, particularly during the COVID-19 pandemic when hospital resources are being diverted to address a surge of unstable community patients.

Consensus Verdict: Patients can safely interrupt CPAP for 7-14-days while potentially contagious with COVID-19 in order to reduce the risk of transmission without requiring admission to the hospital, the latter being associated with added risk of exposure to health care workers and the reduced hospital capacity to care for patients with otherwise clearer indications for hospital admission.

Citations:

**Appendix B**

**The Pause**

**What is it?**

The medical Pause is a practice implemented after the death of a patient. This practice offers closure for the medical team and the patient. It is a means of transitioning and demarcating the brevity and importance of this moment. *Through silence* this event can be shared by a multicultural medical staff. Silence allows individuals to personalize their practice while not imposing onto others. This act is a means of honoring a person’s last rite of passage and helps bring an element of the sacred back into the practice of medicine.

**Who can ask for a Pause?**

Any member of the team can request a Pause.

**When do I perform this Pause?**

In an attempted resuscitation situation, it is preferable to perform immediately after death is called. This allows for all involved in the care to share in the practice before leaving the room.

After an expected death, it is also preferable that a Pause be initiated soon after a patient’s death has been identified.

If circumstances do not allow for an immediate Pause, this can be done at a later time. (Preferable to include all team members involved in care).

If family is present, by all means invite them to be present during the practice. This increases the shared experience and gives them the opportunity to acknowledge their own loss.

A Pause can be performed for a Donor prior to harvesting organs.
A Pause can be performed for a recipient prior to and/or after an organ transplant.

**How is The Pause executed?**

Anyone can ask to initiate a Pause following a code/death. At first it may feel awkward because we are standing in a vulnerable place and asking for a moment of respect. Over time it becomes easier, because everyone involved understands how important this is.

“Could we take a moment just to Pause and honor this person in the bed. (Insert person’s name) was someone who was alive and now has passed away. They were someone who loved and was loved. They were someone’s friend and family member. In our own way and in silence let us stand and take a moment to honor both this person in the bed and all the valiant efforts that were made on their behalf.”

45 seconds to a minute of silence.

“Thank you everyone.”

**Things to avoid:**

- The Pause is not a venue in which to proselytize. It is an attempt to allow a group of people with diverse practices and beliefs to share an experience of honoring both the life lost and the care team’s efforts. The language chosen is meant to universalize this experience.
- Allow staff who are not comfortable with this practice to opt out of the actual Pause. (This is a silent moment of respect and if a team member has difficulty with this, further exploration may be warranted in order to facilitate support of that person either through employee assistance or peer counsel).
- Avoid making this a policy/procedure; allow it to become naturally integrated into how things are done in your place of work. Once staff is empowered, the practice will grow organically.

Adapted from [https://thepause.me/2015/10/01/about-the-medical-pause/](https://thepause.me/2015/10/01/about-the-medical-pause/) June 1, 2020
Appendix C

Palliative Care COVID-19 management references

University of Vermont Medical Center webinars:

This module defines palliative care and hospice and when to utilize these specialty services. It also includes tips for goals of care conversations.

This module features key symptom management for patients infected with COVID-19 and tips for end-of-life care.