

**Opinion Article**

Transforming the Palliative Care Experience with Virtual Reality

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In 2018, Teri Yarbrow and Max Almy with Josephine Leong, created “*Radiance VR - An Immersive Experience*” at the Jepson Center of the Telfair Museum, Savannah GA. Radiance Virtual Reality (VR) invited viewers to put on a VR head mounted display and step into a shower of light. Six thousand, five hundred particles of light poured down from a sacred geometry pattern above and formed the same pattern below and then it rose again, to engulf the viewer. *Radiance* was remarkably successful in evoking feelings of awe. Realizing that people wanted to get inside the work and interact with the light motivated Yarbrow and Almy to further explore the power of VR. Many people, young and old, people with aversion to technology and people in wheelchairs waited patiently in line to put on a VR headset to experience it. Comments like “I feel so peaceful”, “this is what Heaven must be like” and “I’m not afraid to die” were inspiring and prompted further thinking on how VR could benefit those who are sick or dying.

VR For Good

The dominant emotions recognized in today’s world are limited to sadness, joy, and anger [1]. For an end-of-life patient, one who has recognized and attempted to come to terms with the transition out of this world as we know it, emotions are heightened, undefined and with demand for meaning. There is an awe and wonder that may occur when we go outside of the self to affirm how big the universe may be. This commonly can happen walking through the woods, looking at the ocean, traveling to sights unseen.

When one is held hostage by the confines of a wheelchair chair or the bed that confines an ailing, terminal being, the tools

to seek awe and wonder are not always so easily available. The wonder outside of oneself is an important vehicle to meaning, purpose and understanding illness and death. The need to find this spiritual, soul-searching meaning is the challenge the team set out to conquer. The solution was found through virtual reality.

A self-described “VR evangelist,” Teri Yarbrow is a professor at the Savannah College of Art and Design (SCAD), a recognized leader in interactive design and game development and advanced digital media. SCAD’s Immersive Reality Program was the first Bachelors of Fine Arts (BFA) degree program for Immersive Reality in a Creative University. In the Spring of 2020, Yarbrow and Dean Almy created the VR for Good project in partnership with Hospice Savannah, Inc. and the Steward Center for Palliative Care to help patients find meaning, symptom control, awe and spiritual peace. Bucket list trips, journeys to the world’s most beautiful places, and adventures through oceans, caves, rivers and other natural experiences were offered to patients and caregivers seeking therapy to find meaning and solace to meet needs unmet by interdisciplinary teams and common therapeutic interventions. Loretta, a patient with stage IV pancreatic cancer, wanted to go skydiving. The concept of jumping out of an airplane and falling into clouds is a powerful metaphor for letting go. Loretta was obviously too weak to skydive, but VR brought this experience to her in her home.

Other seriously ill and palliative patients utilized the sessions to control stress, anxiety, and pain. The opportunities for innovative intervention helped patients more than anticipated. In our organization we worked with our collaborative effort from the local art college, the professor and students created our original material and traveled to the homes of patients who were seeking both bucket list trips and relief from pain and anxiety. The Hospice utilized a grant to purchase 7 oculus devices. The patients could

experience the virtual reality opportunity in the comfort of their homes.

The Population

Within the next 10-15 years the nearly two million people who die annually will become 3.6 million [2]. We know that people are living longer. In terms of scalability, one state reported a 11.6% - 20% of population over 60 years of age in 2010; this number is expected to increase to 35% – 50% by 2030 [3]. We also know that people are living longer, and they are sicker. An estimated 25% of all adults in the US have at least two chronic conditions [4]. As the aging population continues to rise, we can expect this number of comorbidities per patient to increase. Palliative care is a growing field and as more folks need palliation and symptom control for illness, there will be a need for further intervention. The healthcare staffing crisis will likewise continue to be of issue for care intervention. There will be less hands doing the work. The highest gap states for caregivers will be short over half a million healthcare workers by 2026. Thus, we need innovation to assist intervention. Technology can be part of the solution. Utilizing an oculus alone, a patient can experience pain relief, meditative calm, lower blood pressure and even meaningful purpose. Virtual reality can be the conduit to the necessary lack in care for our growing ill and aging population [5].

Giving VR Clinical Legitimacy

The VR and Palliative Care team launched an IRB approved clinical study in April to support the legitimacy and validity of VR as a therapy for hospice and palliative care patients. The study's aim is to develop a protocol for testing and monitoring the short-term and long-term effectiveness of VR on home-based palliative care patients who have a progressive illness. Qualitative data is being collected on relief of physical pain, depression, anxiety, and opioid dependence and will track the effects of these sessions

over an eight to ten-week period. The study will standardize and set protocols for the administration of VR therapy sessions which will include conducting 20 to 30 minute sessions measuring effectiveness, potential improvement over time and how long pain relief lasts. These sessions will take place in the patient's home and will be done at the same time of day each week, and in the same location in the home to maintain consistency. The patient will fill out a pre-session survey to determine their pain level, type of pain they are feeling, the location of the pain, and whether they are experiencing any anxiety. Each session will start with a calming experience and progress to more mentally engaging experiences aimed at pain distraction. At the conclusion of each session, the patient will then fill out another survey stating their pain level, if they are experiencing any anxiety, if their participation provided them with any relief, and if they feel they will benefit from additional sessions. The data will be used to analyze the effectiveness of immersive VR therapy. We hypothesize that VR sessions will allow patients to realize improvement in emotional and physical pain and transform the palliative care experience for the aging and seriously ill population.

References

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