

Hank the Heart gets PH! Character storytelling animations as a new digital media tool to educate and engage patients and families with pulmonary hypertension

Hoelle SK, Cash MC, Magness SM, Elam MP, Cimprich JB, Nelson MC, Musgrove CL, Tegtmeyer KB, Hirsch R, Moore RA
The Heart Institute, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

Background: Pulmonary hypertension (PH) is a rare, complex disease affecting children and adults. Understanding and educating patients/caregivers in the complexity of the disease, diagnostic testing, and treatment options can be overwhelming and confusing. Health literacy impacts a patient/caregiver's capacity to acquire, process, and understand health information and make informed health decisions. Enhancing health literacy improves the patient/caregiver knowledge about illness, can alleviate anxiety about the disease, and plays a significant role in determining the degree of overall adherence to recommended therapies. An abundance of adult-centric patient and family educational materials, formatted as handouts and online readable materials are available but there is a scarcity of pediatric specific material. The advent and availability of consumer technologies offers access to online educational materials. Unlike didactic education, videos accommodate visual and auditory learning styles and can be engaging for children and their caregivers, especially with increasingly electronically savvy generations. Educational videos can serve as an adjunct form of education for patients and may be cost-effective by decreasing time providers spend teaching patients/caregivers. Online content is readily available to a wider audience. Given this, we established the goal to develop such content.

Methods: Cincinnati Children's Media Lab is an established animation team and multimedia lab which partners with institutional specialties to create brief, informative, and visually engaging animated educational videos. The PH team partnered with the Media Lab to create a series of character-based animations specific to PH. The animations were designed to be educational and engaging for the child and adult learner with content vetted and set at the sixth grade fluency level by the organizational health literacy team.

Results: The first video is complete with subsequent content specific videos in various stages of production. From idea to final product the teams collaborate to assemble topic specific educational content, followed by development of a main character (i.e. Hank the Heart) and supporting scenes. A rough draft story board is assimilated where content, both audio and visual, can be edited. The final visual product is rendered with background music and voice over added by sound engineers and voice actor. Once complete, content can be uploaded and electronically shared.

Conclusions: In a digital media driven society, animation offer an alternative teaching tool for clinicians while educating both pediatric patients and their caregivers at an acceptable health literacy fluency level. While we expect for these materials to be highly accepted and desired, formally evaluating the impact is necessary in order to understand if this is an effective/more impactful education tool and to support the need for further development of such content. Within the first year of release, the videos will be formally presented to patients and families with Likert Scale ten point pre- and post- tests to measure the impact of videos on health literacy and anxiety about diagnosis. Data will be analyzed to determine efficacy of the videos and overall satisfaction with the educational experience. Providers and nurses will also track time spent educating families to determine if there was a decrease in time needed to adequately educate families.

