

## **A Quality Improvement Initiative: The Impact of Animation-Supported Communication in Intensive Care.**

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**Introduction:** Communication with the families of patients admitted to intensive care units (ICUs) has proven to be particularly difficult during the CoVID-19 pandemic due to restricted visiting and limited time available for experienced staff to communicate with relatives by telephone. Families are left with increased anxiety and stress at the inability to comprehend interventions and patient progress, which are typically better communicated face-to-face.<sup>1,2</sup> Alternative methods of communication such as animation videos may help bridge the communication gap and have previously been shown to improve patient understanding before consent for medical procedures.<sup>3</sup> However, this approach has yet to be evaluated as a communication aid with relatives of patients in ICU.

**Objectives:** To determine whether multi-language animations ([www.explainmyprocedure.com](http://www.explainmyprocedure.com)) improved relatives' self-perceived understanding of mechanical ventilation - its potential benefits and risks and any alternatives. We also evaluated the impact on reported anxiety.

**Methods:** This project took place between 1st of November 2020 to 31<sup>st</sup> of January 2021 at two ICUs in Barts Health NHS Trust. We introduced animated videos in multiple languages explaining mechanical ventilation and used telephone questionnaires to evaluate relatives' reported understanding of mechanical ventilation before and after the introduction of the videos. Telephone questionnaires were administered during the first 6 weeks to 39 next-of-kin of patients admitted to ICU prior to the introduction of the animations. During the next 6 weeks, following the introduction of the animation through an initial telephone conversation with 32 next-of-kin, an email was sent with a web-link to the animation and a follow-up call was done after at least 24 hours. This was to administer the same questionnaire with the addition of whether they had watched the animation prior to the call, whether it helped their understanding, and whether the animation affected their anxiety level.

**Results:** There was no statistical difference between the 2 groups in terms of demographics and reason for ICU admission. All relatives in the second group reported that they had watched the animation. Prior to the animation (n = 39), 15% reported that they understood what mechanical ventilation involved, 28% understood its benefits, 0% understood its risks, and 3% knew its alternatives. After the introduction of the animation (n = 32), the respective results were 94%, 97%, 84%, and 65% (p < 0.0001 for each comparison with the no animation group). Overall there was no reported increase in anxiety levels.

**Conclusions:** Web-based multi-language animations are a useful tool to support understanding of mechanical ventilation on intensive care and communication with patients' families. The approach can be extended to other intensive care treatments and has the potential to supplement communication with patients' relatives beyond the pandemic.

## References:

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3. Wald D, Casey-Gillman O, Comer K, Mansell JS, Teo H, Mouyis K, et al. Animation-supported consent for urgent angiography and angioplasty: a service improvement initiative. Heart. 2020; 0: 1-5.

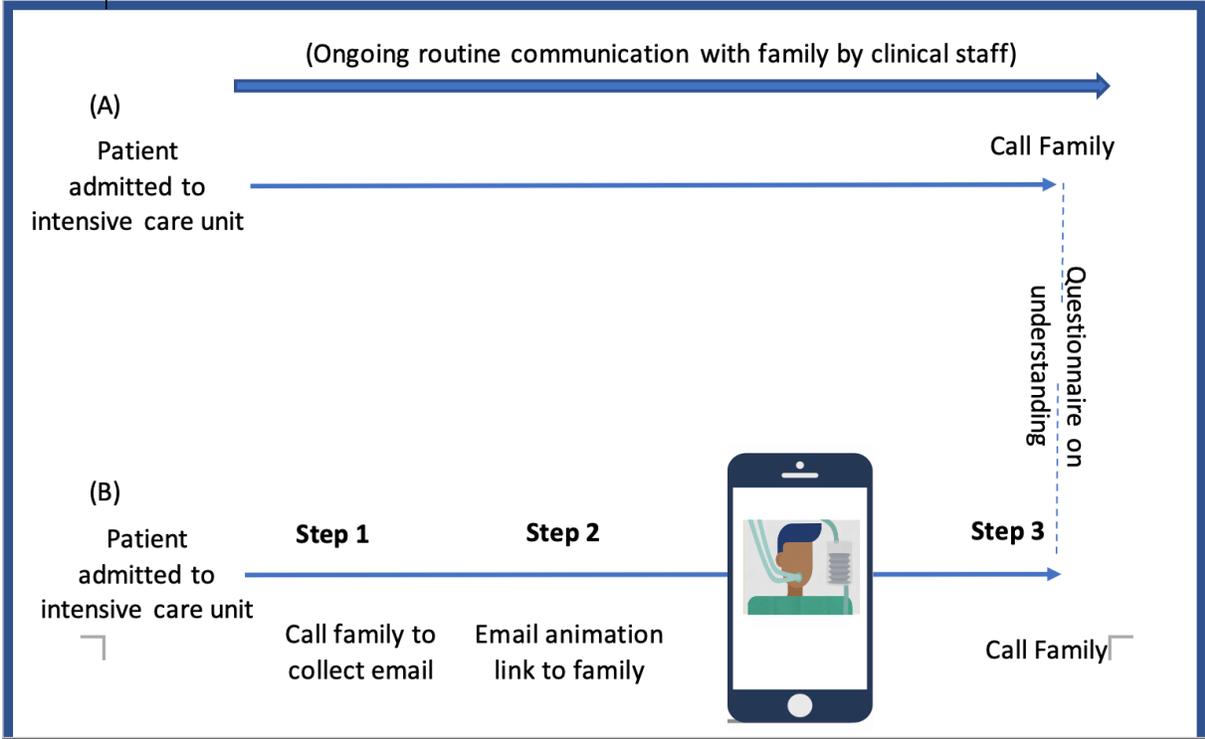
**Table 1: Characteristics of patients and family before and after introduction of animation to support communication on intensive care**

	Families interviewed before introduction of animations n=39	Families interviewed after introduction of animations n=32
Age (median/ range)	63 (19-83)	58 (34 – 77)
Native English speaking family	25	20
Non-English speaking family		
Bengali	7	4
Hindi/Urdu	4	4
Other*	3	4
Reason for patient admission		
COVID- 19**	4	19
Cardiogenic**	21	3
Neurogenic	6	3
Trauma	4	2
Other Medical	4	5

\*other languages were Portuguese, Turkish, Arabic and Albanian

p>0.1 for all comparisons apart from \*\* where p<0.01

**Figure 1: Sequence for 39 patients before (A) and 32 patients after (B) introduction of Animation Supported Communication Initiative on Intensive Care**



**Figure 2: Family-reported understanding of mechanical ventilation in the no animation group (n=39) and in the animation group (n=32).**

