Background
This study provides an example of how combining the right care, resources, technology and coordination can lead to improved clinical outcomes for patients, physicians and caregivers in the home setting. In the case study below, the patient was able to remain in the home care setting for treatment rather than be transferred to a more costly hospital setting.

Patient History
Mr. Smith presents with a history of a traumatic anoxic brain injury from a near drowning 14 years prior. He suffers from multiple chronic conditions, including dysphagia/aphasia, hypertension, seizure disorder, immobility syndrome, tracheostomy and is incontinent of urine and stool. He is non-verbal, and remains in a coma-like state. His mother is his primary caregiver and they live at home together. Mr. Smith is currently utilizing MD2U for his home-based medical service, which also serves as his primary care provider. Mr. Smith has been a patient of MD2U for approximately four years and his health has been mostly stable until March 2013.

In March 2013, Mr. Smith had an upper respiratory infection (URI) that was treated by antibiotics. Two weeks later during routine repositioning of the patient, his mother discovered what she perceived to be a very bad skin rash. She immediately called MD2U as she thought her son was having a reaction to antibiotic he had received for his URI. A nurse practitioner came to the home and found Mr. Smith to be hypotensive, and suffering from tachycardia. After closer inspection, it was discovered the rash was actually significant sloughing of cutaneous and sub-cutaneous tissues which evolved into two full thickness pressure ulcers located on his buttocks. Mr. Smith went on to be diagnosed with pneumonia by chest X-ray about a week after his mother noticed the skin problems.

Clinical Solution
On discovery of his pressure ulcers, the Nurse Practitioner (NP) recommended that he be immediately hospitalized; however, his mother wanted to try to keep him at home. The verbal agreement between the home caregiver and the MD2U was that the patient would not be sent to the hospital for care unless all measures at home were tried, failed, or exhausted.

A wound evaluation was then ordered and conducted by a VNA wound care clinician. On March 25, the nurse assessed the largest pressure ulcer located on the patient’s ischium as a Stage III ulcer measuring 8.0 cm x 2.5 cm (L x W) with depth unmeasurable due to slough. His second Stage III ulcer was located on his coccyx and measured 2.0 cm x 1.5 cm. The patient was currently on a Group II support surface.

On March 28, the ulcers were cultured and found to be positive for Staph Aureus. The patient’s nutrition level was low and the infected wound bed required Santyl (Healthpoint Biotherapeutics, Fort Worth, TX) for debridement. Due to the patient’s severe health deterioration, the nurse practitioner agreed only to continue treatment in the home setting if a Clinitron® Air Fluidized Therapy bed was provided.
Clinical Outcomes

After receiving the Clinitron At Home® bed, the wound steadily improved. Subsequent visits in May, June, and August showed rapid healing. In May, his largest ulcer measured 3.5 cm x 2.0 cm x 0.5 cm; in June it measured 3.5 cm x 1.5 cm x 1.2 cm, and August’s measurements were 1.9 cm x 0.3 cm x 0.2 cm. In September, after only a little over 5 months of Clinitron® Air Fluidized Therapy, his wound was completely healed.

![Clinical outcomes images]

Conclusion

This patient healed a 20 cm² wound in 171 days, which represented a healing rate of 0.12cm²/day. Upgrading the surface to AFT was thought by the clinical team to be a turning point for this patient’s healing progress. Upgrading a support surface, especially for complicated patients, may be required if the patient is not showing adequate progress with current pressure ulcer treatment plans.

While the healing rate documented above is substantial, it is important to note that Mr. Smith had several other factors contributing to his healing. The patient’s mother is an exceptional caregiver who wants to keep her son healthy and at home. The care team believes that if it was not for her care they would have had to hospitalize this patient in March. Mr. Smith also had two attentive caregivers (a traveling home based nurse practitioner and an HHA wound care nurse) who were committed to exceptional quality care. The health care team worked effectively together with the caregiver to assure Mr. Smith received the right care, with the right treatment, at the right time, in the right setting.