

**INTRODUCTION:** Patients with neuromuscular diseases (NMDs) experience respiratory muscle weakness with impaired cough efficacy and frequently progress to chronic respiratory failure, with an increased risk of respiratory infections and hospitalizations; indeed, this is the leading cause of mortality in this patient population.<sup>1</sup>

The use of home mechanical ventilation (HMV) in NMDs can prolong survival and improve quality of life in these patients by preventing hospitalizations. Some studies have encouraged the adoption of non-invasive mechanical ventilation (NIMV) as the preferred form of HMV, as this modality can postpone the need for tracheostomy, even in the subgroup of patients who are ventilator-dependent around the clock.

Purported advantages of NIMV over invasive mechanical ventilation (IMV) include improved communication, greater comfort, and reduced production of respiratory secretions due to the absence of an invasive tracheal device.<sup>2,3</sup>

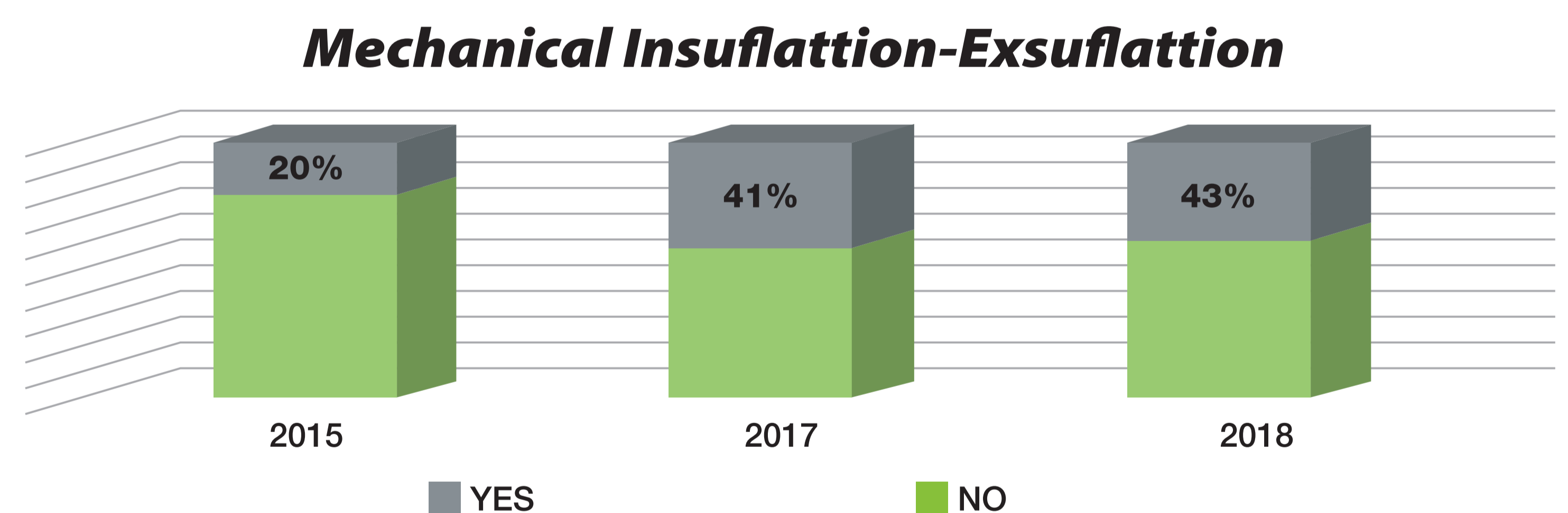
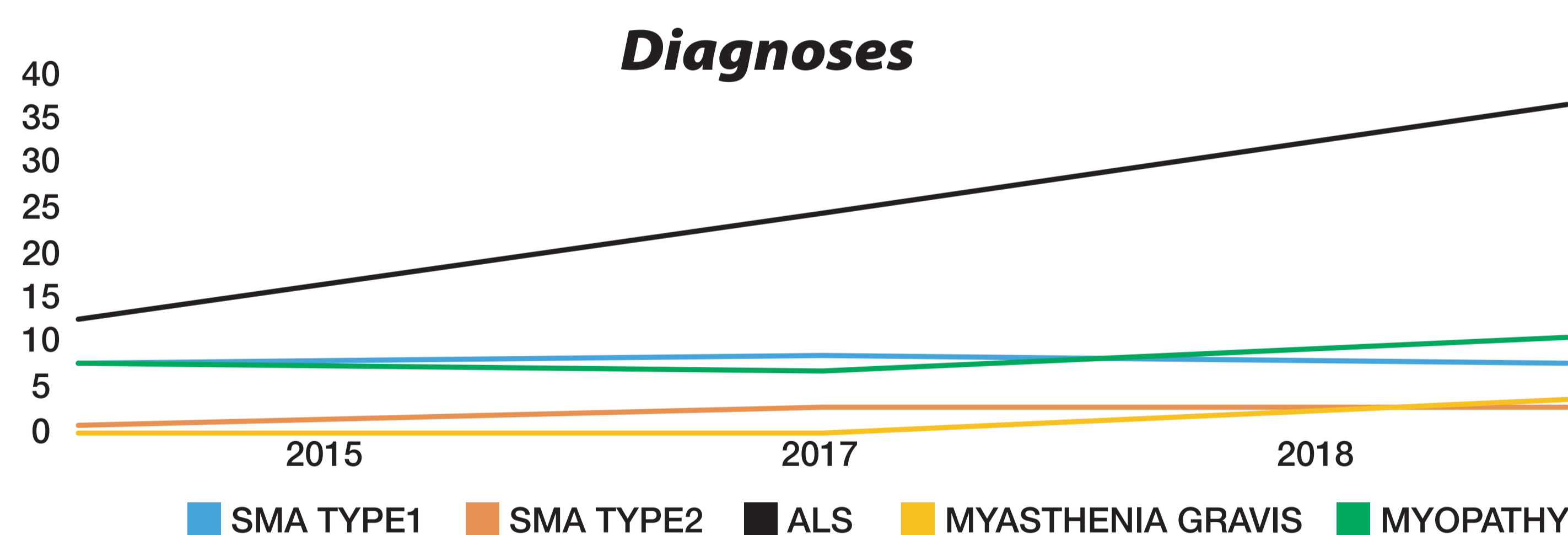
**OBJECTIVE:** To evaluate the most prevalent diagnoses, the type of ventilatory support (NIMV or IMV) and the use of mechanical insufflation-exsufflation.

**METHOD:** Clinical and ventilation-related data for patients diagnosed with NMDs were obtained from the IW<sup>®</sup> electronic medical records system in October 2015, 2017, and 2018. Variables are presented as absolute and relative frequencies (%) and Fisher's exact test was used for statistical analyses.

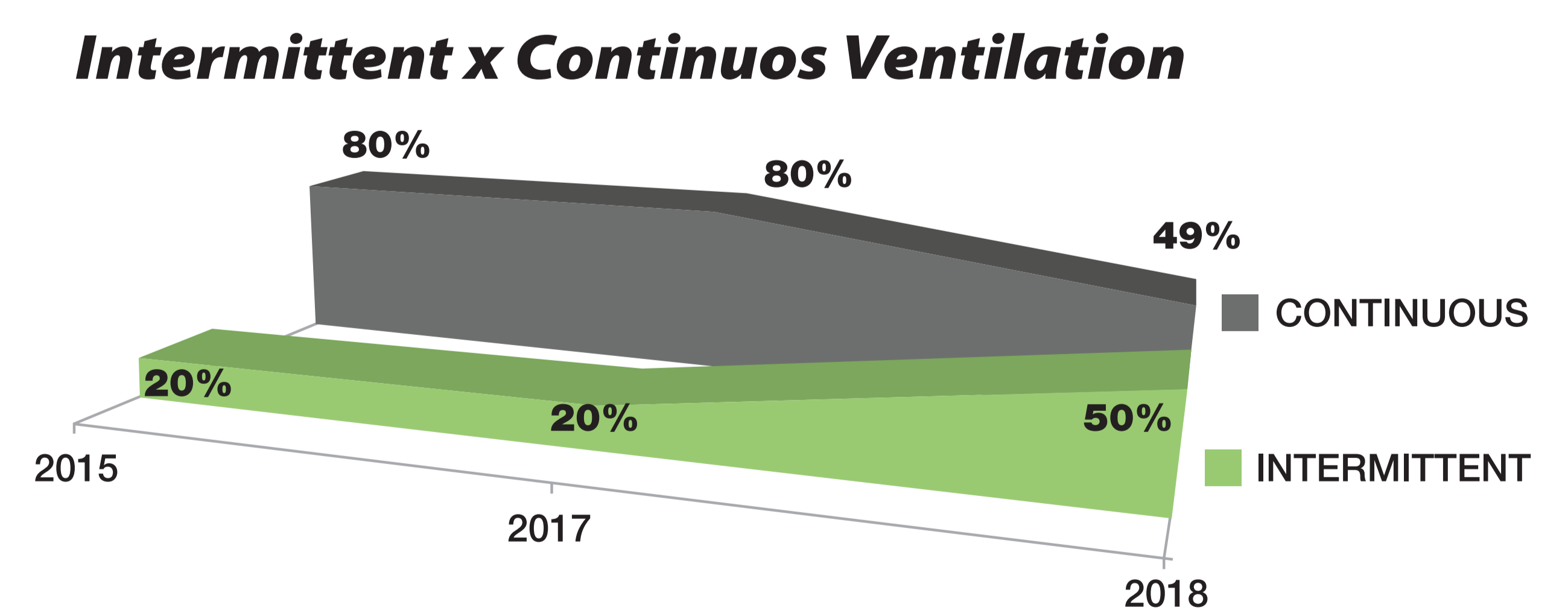
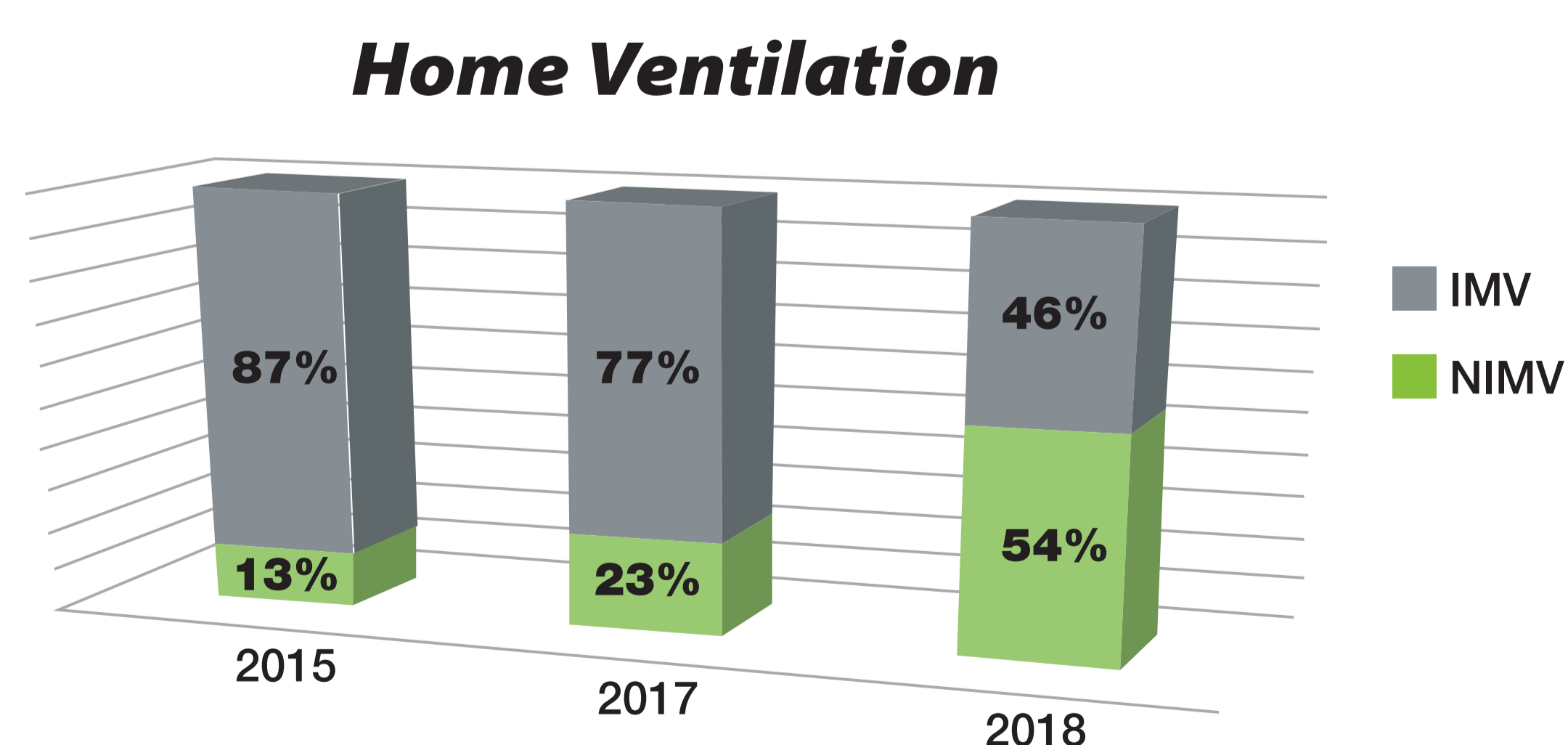
**RESULTS:** In 2015, Home Doctor provided HMV care services to 30 patients diagnosed with NMDs (63% male). Adults were the most prevalent age group (46%), followed by pediatric (33%) and elderly patients (20%). In 2017, the number of patients with NMDs on HMV had grown to 44 and in 2018 to 63. During the whole study period, male was predominant gender and age distribution remained similar.

The diagnosis of amyotrophic lateral sclerosis (ALS) became more prevalent over time, representing 13 cases in 2015 (43%), 25 cases in 2017 (57%) and 37 cases in 2018 (59%). Among pediatric patients, spinal muscular atrophy (SMA) type I was the most prevalent diagnoses.

The use of mechanical insufflation-exsufflation (MIE) increased in 2018 (43%) compared to 2017 (41%) and 2015 (20%) ( $p > 0.05$ ).



NIMV became progressively more popular as the home ventilation modality of choice: 13% in 2015, 23% in 2017 and 54% in 2018 ( $p < 0.05$ ). Regarding the duration of home mechanical ventilation, intermittent ventilation became more common over time, reaching 50% of patients versus only 20% in previous years ( $p < 0.05$ ).



**CONCLUSION:** In developing countries, IMV is still prevalent. However, in recent years, a significant increase in use of noninvasive ventilation and intermittent ventilation has been observed in this patient population, as well as a trend toward increased prevalence of mechanical insufflation-exsufflation.

**References**

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3. Dreyer P., Lorenzen C.H., Schou L., et al. Survival in ALS with home mechanical ventilation non-invasively and invasively: a 15-year cohort study in West Denmark. *Amyotroph Lateral Scler* 2014; 15: 62-67.