

Adequacy of Water Flushing Orders in Home Enteral Nutrition Patients

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Purpose

Home enteral nutrition (HEN) patients are at increased risk for dehydration from inadequate fluid administration. A potential contributing factor is the lack of specific or adequate water flushing orders at discharge from facility to home care. The purpose of this review was to determine the prevalence and adequacy of flushing orders in HEN patients.

Methods

A retrospective chart review was completed for adult patients admitted to service with a national home infusion company from January to March 2019. Patient admission orders were reviewed to determine if feeding and flush orders met estimated fluid needs. Exclusion criteria included: diagnosis of heart, renal or liver failure, ability to take food or liquids orally or fluid restriction for any reason. Patients were also excluded if their record did not contain all needed information.

Anthropometrics, body mass index (BMI), age, formula and flush orders, tube type and diagnosis were collected. Incidence of contact by a home enteral nutrition dietitian (HEN RD) to provide hydration education was also collected. Total free water provided from tube feeding was added to water provided from any flushing orders and the total was compared to estimated fluid needs.

Estimated fluid needs were calculated using 35 milliliters per kilogram (ml/kg) for <65 years, 30 ml/kg >/= 65 years and 25 ml/kg >/=75 years. Actual weight was used for calculations unless BMI was >30. If BMI was >30, ideal body weight (IBW) was used to avoid overestimating fluid needs in obese patients. An estimated need of 1500 ml minimum volume was used to avoid underestimating fluid requirements in extremely underweight patients.

Results

Age of sample patients ranged from 18 years to 88 years with a median age of 66. Of 90 patients included, (29%) had no flush orders at start of care and 44% had orders that provided <75% of estimated fluid needs. Most patients (68%) were prescribed a formula with a caloric density of 1.5 kilocalories/milliliter or greater. The majority of patients were bolus fed (63%) and had gastric tubes (82%). The majority (95%) of patients were contacted by HEN RD for discussions on recommended amounts of water to provide to maintain hydration.

Figure 1: Flushing Orders Present at Admission to Home Care

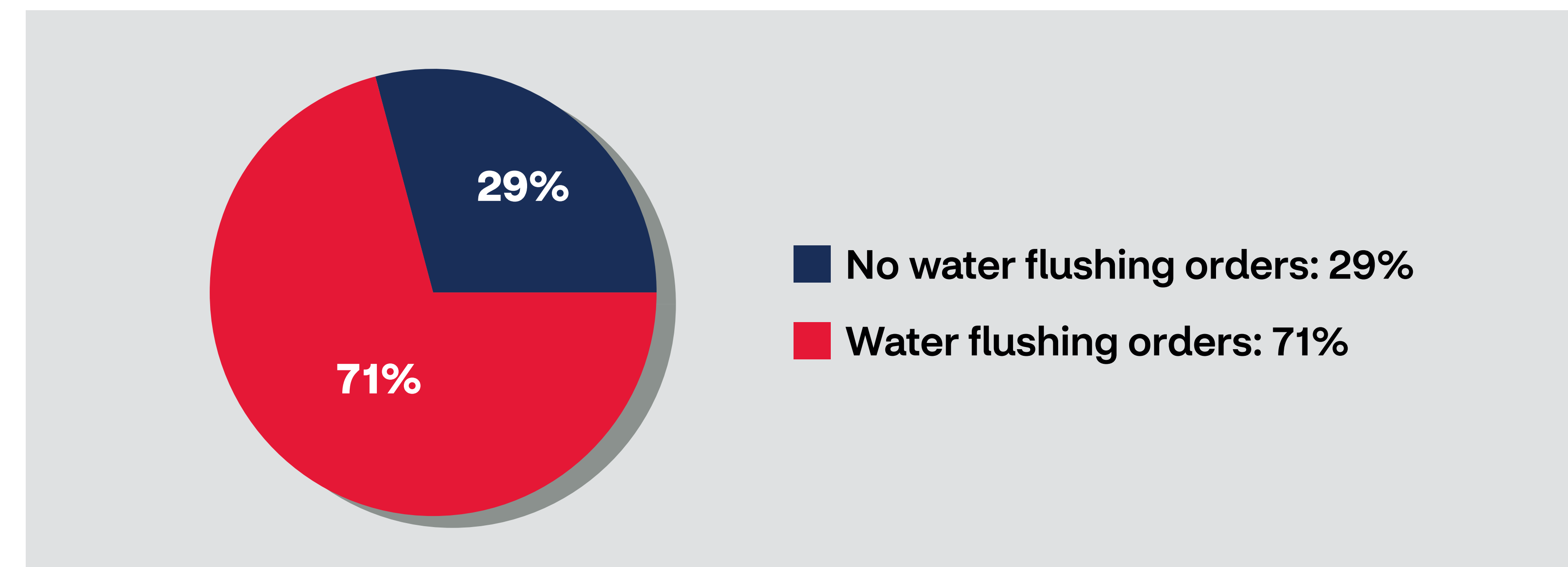


Figure 2: Assessment of Free Water in Rx at Home Care Admission

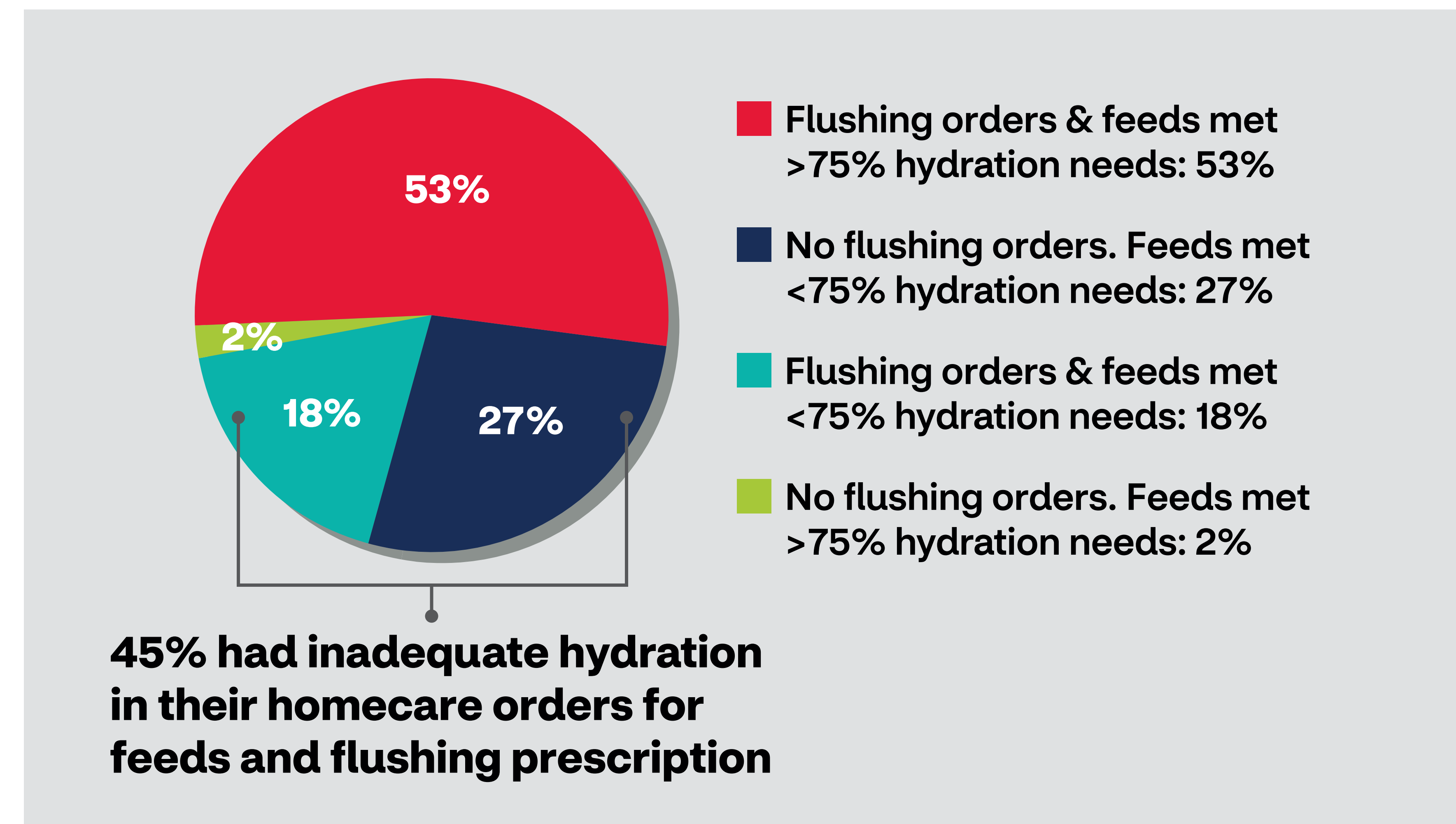


Figure 3: Patient Age Range

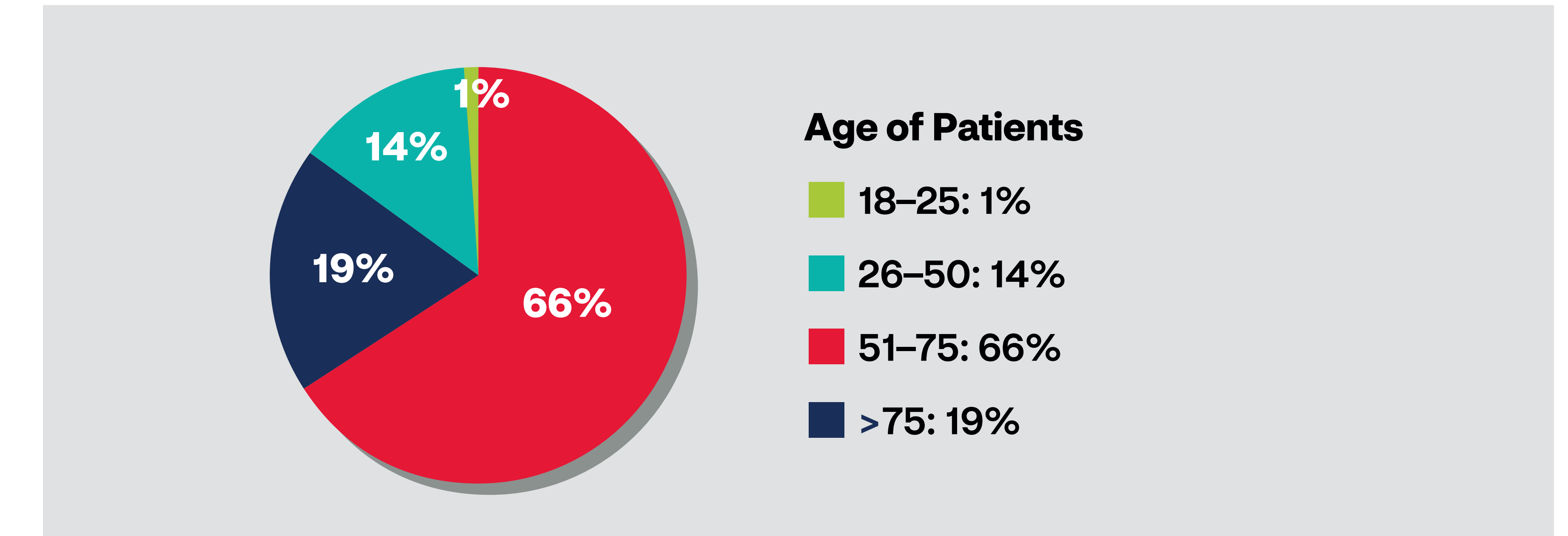
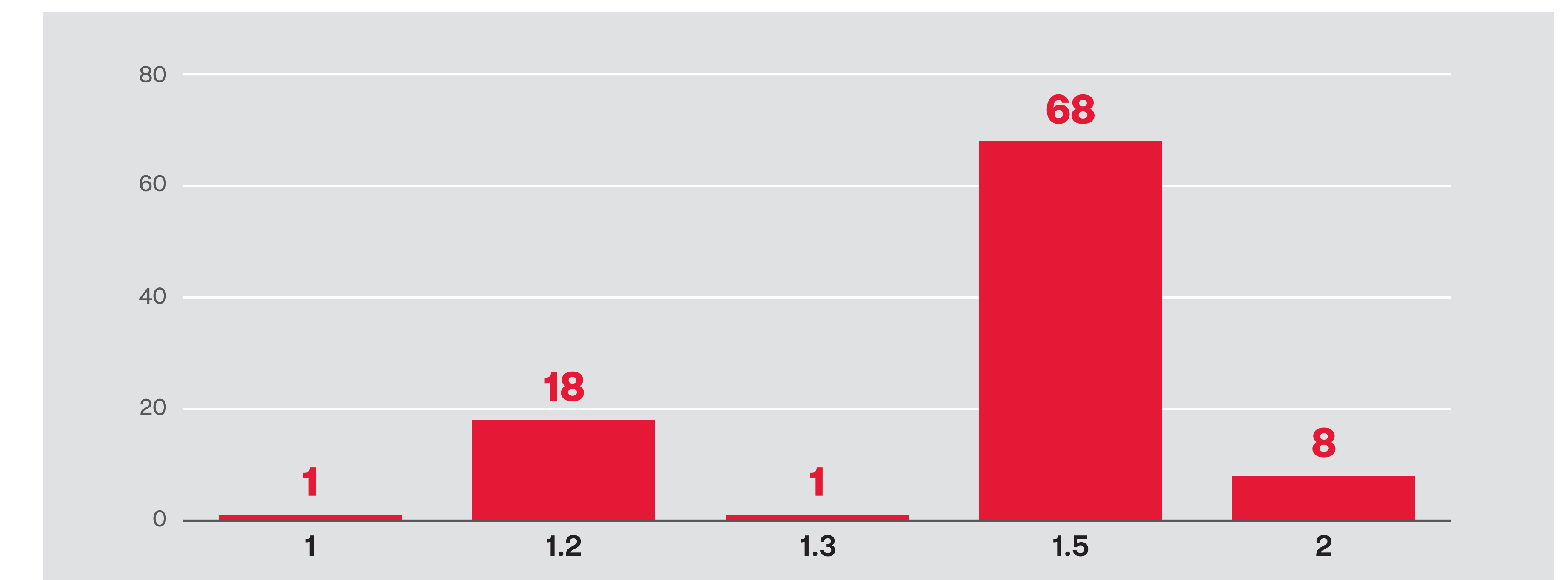


Figure 4: Caloric Density of Formula Prescription



Conclusions

44% of HEN patients had prescriber orders that provided <75% of estimated fluid needs.

Discharge flush orders are missing or inadequate in a considerable number of HEN patients reviewed. The home care RD made contact with 95% of patients to recommend any needed change in volume of fluid administration to better meet requirements. Individualized recommendations and early patient contact by the HEN RD may be important to prevent dehydration in patients with inadequate or missing flush orders. Further investigation is required to see if inadequate flushing orders is related to increased hospitalization due to dehydration and if contact by a HEN RD affects the incidence of hospitalization for dehydration.