2023 POSTER ABSTRACTS*

Home Initiated Parenteral Nutrition Is a Safe and Cost-Effective Approach to Nutrition Support

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Background: Home initiation of parenteral nutrition (PN) has been a successful practice for over 20 years. Request for home start PN has increased to prevent hospital readmissions, reduce costs and decrease the risk of hospital-acquired infection. Some health care teams are not comfortable initiating PN in the home setting. The principal concern is related to patient safety and the risk of refeeding syndrome.

Unique Study Tools for Quality Improvement (QI) Research in Home Parenteral Nutrition (HPN)

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Background: The Amerita QI project for HPN (QIP-PN) successfully completed a 3-phase, 29-month analysis of HPN care which utilized 3 unique study tools to measure quality of life (QOL) multimorbidity (MM) and qualitative assessment of benefit (QAB). These tools were needed to resolve specific problems we encountered in our QI research efforts.

How Collaboration with a University Institution and a Home Infusion Pharmacy Provided Positive Clinical Outcomes to Support Site of Care Home Infusion Initiatives for Infusion Therapy Services

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Background: Patients who have received institution-based infusions need an alternative care setting during the SARS-COV-2 pandemic. Ocrelizumab has been delivered to patients at home; this study was important to reinforce the safety and positive outcomes for patients receiving this therapy using a shorter infusion protocol as a safer alternative to an outpatient treatment facility.

Achievement of Therapeutic Trough Levels of Total IgG and Analysis of the Four IgG Subclasses in Adult and Pediatric Patients With Primary Immunodeficiency Receiving a 5% or 10% IVIG Product

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Background: Patients with primary immunodeficiency (PI) are at a significantly increased risk of infection due to low IgG levels. Intravenous immunoglobulin (IVIG) therapy is a mainstay of PI treatments, and trough total IgG concentrations of at least 500 mg/dL have been identified as protective for a variety of serious infections. In addition, four IgG subtypes are present in human serum, each playing an important role in defending the body from pathogenic microorganisms.

* This listing does not include the poster selected as the NHIF Outstanding Abstract Achievement Award (see page 3) or the posters that were presented as finalists for the award (see pages 16-23).

Successful Transition from Subcutaneous Immune Globulin Therapy to Intravenous Immune Globulin Therapy in Two Patients With Primary Immunodeficiency

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Background: For patients with primary immunodeficiency (PI), immune globulin (Ig) is a life-saving therapy. Intravenous immune globulin (IVIG) and subcutaneous immune globulin (SCIG) are both clinically proven effective treatments for PI and offer distinct advantages and disadvantages per route of administration. Regardless of route, Ig therapy must be individualized to meet individuals' needs with consideration for patient preference.

Safety and Efficacy Outcomes for Pharmacist-Directed Vancomycin Dosing in a Home Infusion Setting

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Background: Pharmacokinetic vancomycin protocols are widely utilized in inpatient health care settings. Currently, there is not robust data guiding vancomycin protocols in the home infusion setting. A review of this institution's pharmacokinetic dosing practices identified inconsistencies in its internal management of patients requiring vancomycin therapy. Internal dosing inconsistencies are likely due to lacking an institutional protocol.

Insights from Home TPN Infusion Data

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Background: Home infusion of Parenteral Nutrition (HPN) is increasingly prevalent in patients with chronic intestinal failure. They are trained to self-infuse at home, using smart infusion pumps enabling independence, while maintaining an optimal nutritional status. HPN is improving quality of life and nutritional outcomes in many clinical conditions and can increase weight in cancer patients. With clinical resources often remote, patients are at risk of non-compliance. Follow ups for HPN infusion treatment plans can be infrequent with assessments of effectiveness based on lab results and subjective patient reports. Objective delivery data from Infusion Pump reports have the potential to support lab results and subjective patient reports both remotely and at follow ups, supporting treatment progress monitoring and medication planning.

A Comparison of Clinical Outcomes Following Infliximab Infusion Between Home Infusion and Hospital-Based Infusion Center Sites of Care in Patients with Inflammatory Bowel Disease

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Background: Inflammatory bowel disease (IBD) is a group of chronic, relapsing autoimmune diseases characterized by inflammation and destruction of the GI tract. About 1.6 million individuals are affected by IBD in the United States, and complications can be severe. Infliximab, a TNFα-inhibiting monoclonal antibody is a mainstay of treatment for IBD and is delivered via IV infusion. Infliximab is often considered a specialty medication, and associated warnings include infusion-related reaction and infection. When a patient is on infliximab, one must consider the site of care (SOC), or the physical location the infusion is administered (infusion center, hospital, patient's home, etc.). Choosing a SOC can depend on many factors including patient's disease severity, allergies, accessibility, or payer restrictions.

Cefazolin-Induced Neutropenia Development: Preliminary Results from the BLIND-OHIO Trial

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Background: Beta-lactam-induced neutropenia (BLIN) is a serious adverse and enigmatic reaction seen with beta-lactam antibiotics. The underlying mechanism is complex and varied, ranging from immune-mediated hypersensitivity, to direct toxic effects, to suppression of metalloprotein-mediated humoral immunity. Proposed risk factors include high dose and long duration of beta-lactam treatments (>10 days). One recent study showed a possible correlation between BLIN and faster administration rates in patients receiving cefazolin. This study compares the incidence of neutropenia between IV push and intermittent infusion in patients receiving cefazolin in the home infusion setting.

Safety Outcomes in Patients Receiving Oncology Infusions via Home Infusion and Hospital-based Outpatient Infusion Centers

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Background: Site of care (SOC) optimization is appealing to third-party payers because it improves access to therapy, patient satisfaction and allows patients to transition from higher-cost to lower-cost settings, without compromising quality of care. Payment for infusion services differ significantly between SOC options. Hospital outpatient costs are reflective of higher reimbursement rates, rather than intensity of therapy, complexity of patient or quality of care. They found that administration of specialty drugs in physician offices or home settings can improve care and save between 33 to 52% of cost. Oncology patients receiving home-based therapies have high satisfaction rates and report improved physical and mental well-being, without an increased risk of adverse drug reactions.

Usability Study for a Novel Intravenous and Subcutaneous Syringe Infusion System

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Background: While intravenous and subcutaneous routes of medication therapy have primarily been used for the infusion of medications in the hospital and clinic, they are also used in the home where patients perform their own infusion, or the infusion is performed by a caregiver/home care nurse. Home health care is on the rise; according to the Centers for Medicaid and Medicare Services, home infusion therapy visits increased from 20,520 to 24,469 in 2020. Common medications given in the home setting include intravenous antibiotics and subcutaneous immunoglobulin. Adults and pediatric patients without systemic symptoms are frequently treated for diseases such as bone and joint infections, staphylococcal bacteremia, endocarditis, lung infections, soft tissue infections, neurologic disorders, cancer, and immunodeficiency diseases. The company performed a pre-market usability study to gauge user experiences with a novel infusion system for intravenous and subcutaneous use. User feedback on infusion effectiveness, efficiency, controllability, customizability, and consistency provides invaluable data, which is used to assess the ease of use, safety, and identify additional user needs.

Retrospective Study of Safety and Efficacy of Milrinone in Home-Infusion Setting

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Background: Milrinone is a phosphodiesterase III inhibitor that is used in patients with acute or chronic heart failures and pulmonary hypertension. It is often used in cardiac surgeries requiring cardiac support such as CABG surgery and cardiac transplantation. Its approved indications include acute decompensated heart failure with reduced ejection fraction in need of inotropic support. The use of milrinone in the outpatient setting is generally limited to patients with severe symptoms of congestive heart failure refractory to optimal medical therapy. In the myocardium, PDE III inhibition leads to increased contractility and improved relaxation which improves systolic and diastolic function, optimizing cardiac output. In the vasculature, PDE III inhibition prevents cGMP metabolism in the smooth musculature and results in vasodilation in both arteries and veins.

Retrospective Analysis of Adherence and Compliance with Registered Dietitian Oversight in Enterally Fed, Home Infusion Patients Receiving Pea-Protein Plant-Based Formula Versus Milk-Based Formulas

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Background: There are several factors that impact adherence to home enteral nutrition (HEN), including formula tolerance. Registered Dietitian (RD) guidance has helped identify and address feeding intolerances and offer interventions to improve patient adherence and delivery of nutrition. Barriers include clinician-to patient communication via telephone and other limitations, such as voluntary, subjective reporting.

Rapid Implementation of Outpatient Treatment of Coronavirus Disease 2019 (COVID-19)

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Background: Highly effective vaccines have reduced mortality related to SARSCoV-2, however treatment remains important for high-risk populations. The Federal Drug Administration (FDA) approved remdesivir for treatment of COVID-19 in adult and pediatric patients who require hospitalization or non-hospitalized patients with mild to moderate COVID-19 at high risk for progression to severe COVID-19, including hospitalization or death. Shortages of hospital resources due to repeated surges of COVID-19 cases led a large health system in Southern California to implement outpatient "pop-up" tents and home infusion of remdesivir via the traditional home health model or advanced medical care at home model. Limited research has been conducted on facilitators and barriers to rapid initiatives for delivery of outpatient care.

Determining Safety for Rituximab Infusions in the Home and Pharmacy Infusion Suite

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Background: The ability to receive care in the outpatient setting has long been established as more convenient and cost effective for the patient. Home infusion therapy is no exception and never more imperative than during the COVID-19 pandemic. In addition to convenience and cost savings, limiting the patient's exposure to COVID-19 was crucial. Administering therapy in the outpatient setting during the pandemic also helped to alleviate strain on hospital systems by freeing up valuable bed space and preserving personal protective equipment (PPE). During the COVID-19 pandemic this organization received an increased number of referrals for rituximab therapy, including first doses, to be administered in the home or pharmacy ambulatory infusion suite (AIS). Concerns regarding the severity of acute drug reactions (ADRs) associated with the initial doses of rituximab have historically limited its administration to a more controlled site of care until patient tolerance was established. This project seeks to establish that patients can safely receive rituximab, including first doses, in the home or pharmacy AIS by demonstrating a low incidence of ADRs in these environments during a two-year period following the emergence of Covid -19.

A Home Infusion Therapy Company's Implementation of a Collaborative Practice Agreement to Expedite Home Parenteral Nutrition Recommendations

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Background: Initiating HPN therapy recommendations under current Arizona pharmacy board regulations is time consuming for the HIT pharmacist; often resulting in delay of care for the patient, abnormal lab values, unmet nutrient requirements, need for intravenous (IV) electrolyte or fluid replacement and hospitalization. A CPA can bridge the communication gap between physician and HIT pharmacist to expedite HPN order changes. The CPA contract outlines terms for pharmacist management of a patient's HPN on behalf of the physician with the goal to provide timely, collaborative, and optimal patient care.

Enhanced HPN RN Training Improves Interdisciplinary Team Communication

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Background: Nursing has played a critical role in nutrition support care since the first patients went home on PN in the early 1970s. Today it is estimated that more than 350,000 hospital stays include parenteral nutrition (PN) with tens of thousands of patients receiving HPN annually. Many nursing related errors associated with PN have been reported over the years with sentinel events being worst-case scenario. Over the last 50 years there have been advances in equipment, sterile technique, compounding practices, PN products, PN education and ongoing emphasis regarding the importance of interdisciplinary teams to manage PN patients. Registered Dietitians (RDs) in home infusion are essential to improved care and outcomes and they often lead education, cross training and mentoring of other disciplines. The objective of this pilot is to evaluate improvement in communication between nursing and nutrition after implementation of a monthly HPN in-service series for nursing.

Home Parenteral Nutrition and the Eating Disorder Patient: Challenges, Expectations and Realities of Therapy

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Background: Patients diagnosed with eating disorders (EDs) have been referred for home parenteral nutrition (HPN) therapy, which can cause a dilemma for the home infusion team particularly when there is no intestinal failure or contraindication to oral diet/enteral nutrition (EN). The experienced infusion RD has a high skill level in HPN management but typically does not have advanced training in EDs. An ED patient with normal gastrointestinal (GI) function was referred to a national home infusion company to provide PN to help gain weight. This abstract evaluates the complexity of ED in this case presentation when providing HPN.

Quality of Life at the End of Life for the Patient on Parenteral Nutrition Transitioning to Hospice: A Focus on Ethical Principles

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Background: Clinical ethics is grounded in a patient centered approach, focused on patient preferences and balancing benefits of continuation of therapies to inherent burdens or risks. This abstract targets a unique subgroup of patients receiving preexisting parenteral nutrition (PN) due to a nonfunctioning gastrointestinal (GI) tract who desire continuation of PN with transfer to hospice. Diagnoses includes obstructing, metastatic tumors of the GI tract requiring gastric and/or intestinal decompression. PN is an established therapy favorably impacting quality of life (QOL) and functional status. Transfer of care to hospice on PN may lead to unforeseen challenges related to cost considerations and complexity. Patients and/or surrogate decision makers (SDM) may decline hospice and its associated benefits if unable to continue PN fearing expedited death from starvation and dehydration as opposed to disease progression.

Hospital and Home Infusion Nutrition Support Teams: Allies in Safe Transition of Care for Parenteral Nutrition Patients During Times of Shortages

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Background: Parenteral nutrition (PN) is a complex therapy requiring an experienced team for patient safety. ASPEN's Safe Care Transitions for Patients Receiving Parenteral Nutrition consensus statement 2022 reports that gaps and safety concerns in care coordination can occur during transition affecting outcomes. This is especially true during transition from hospital to home. Numerous PN component shortages in 2021-2022 have complicated this process. Shortages impact inpatient and outpatient settings differently adding another layer of challenge, thus communication between hospital and home PN teams is vital. This abstract demonstrates a collaborative approach resulting in safe transition and PN meeting patient needs despite shortages.