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# Development and Implementation of an Evidence-Based Process for Scarce Resource Allocation

Richard Ogdan Jr., PharmD, MBA, BCPS, FACHE, Daniel Millspaugh, MD, Brian O'Neal, PharmD, MS, FASHP

## Children's Mercy Kansas City

### Background

Intravenous immune globulin (IVIG) is a plasma-derived product from pooled donors. It has six FDA approved indications. It is also considered standard of care for a few other conditions in specific populations. Additionally, there is growing non-evidence-based use. Due to a global shortage, IVIG has become increasingly difficult to obtain.

### Methods

In June 2019, key stakeholders from impacted medical services convened to discuss the situation and develop evidence-based criteria for use. These recommendations were sent to department and division leaders for review and comment. The agreed upon criteria were approved by Pharmacy and Therapeutics (P&T) Committee in July 2019. Along with these approved criteria, an appeals process was implemented to address situations of desired IVIG treatment that deviated from the approved criteria. A TheraDoc® alert was created to notify pharmacy formulary administration when an order was placed for IVIG. Requests for deviation from approved criteria were submitted by providers and addressed by the P&T Secretary (pharmacist) and Chair (physician) via electronic and verbal communication.

### Criteria for Use

#### Hematology/Oncology:

- Infant ALL

**Bone Marrow Transplant and Cell-based Immunotherapy:**  
 Requests will be < 400 mg/dL, except for SCD and COVID the threshold is < 800 mg/dL

- Post-CAR T

#### Neurology:

- Chronic Inflammatory Demyelinating Polyneuropathy
- Guillain-Barre Syndrome
- Myasthenia Gravis
- Myelin Oligodendrocyte Glycoprotein
- Opsoclonus Myoclonus Syndrome

#### Nephrology:

- Antibody-mediated transplant rejection
- Pancreas

#### Rheumatology:

- Juvenile dermatomyositis

#### Heart Transplant:

- Antibody-mediated transplant rejection

#### Liver Transplant:

- Antibody-mediated transplant rejection
- Post-transplant lymphoproliferative disease

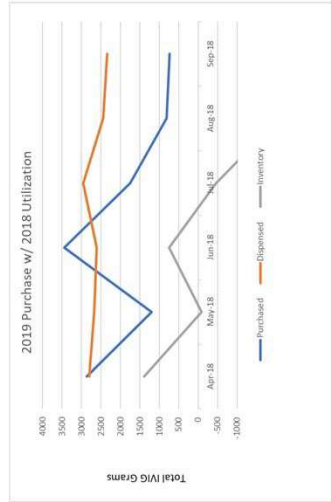
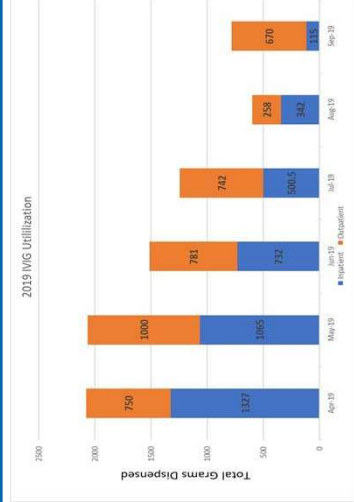
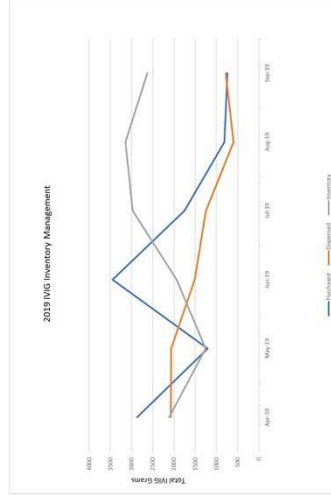
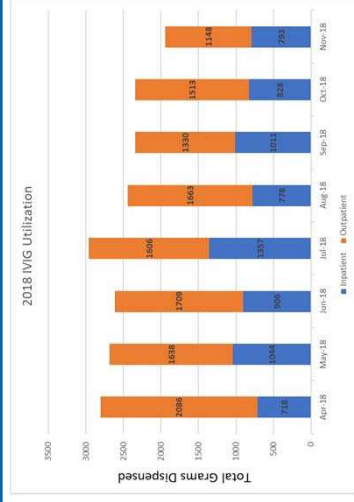
#### Infectious Disease:

- Kawasaki's Disease

#### Immunology:

- Primary immunodeficiency

### Results



### TheraDoc®

TheraDoc® alert interface showing patient information, diagnosis, and medication details.

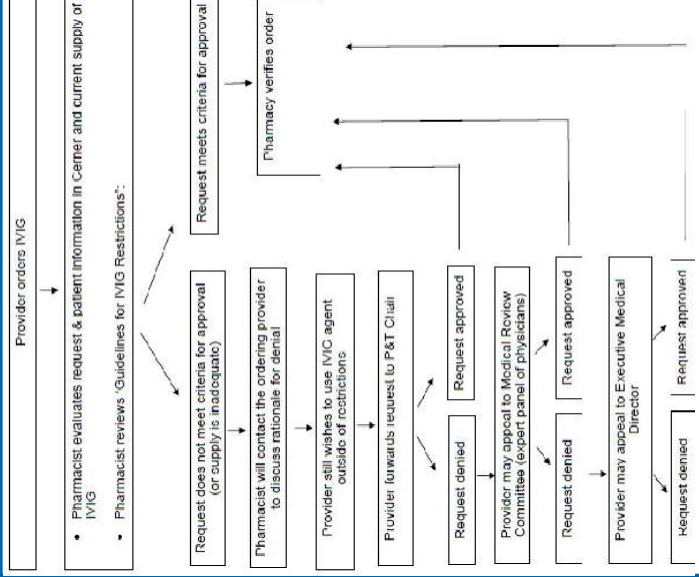
**Patient Information:**  
 Name: [REDACTED]  
 Room: OUTR1  
 Allergies: 8883701re:3

**Diagnosis:**  
 Acute Diarrhea  
 Acute Gastroenteritis  
 Acute Infectious Mononucleosis

**Medication:**  
 GAMMAGARD 10% INJECTABLE SOLUTION

**Alert Details:**  
 Start: 10/20/2019 08:33:00  
 End: [REDACTED]  
 Status: ACTIVE  
 Pct Class: 0

### Process for Provider Appeal



### Results

From April 2019 to August 2019, a 72% reduction in total IVIG administered was seen across the Children's Mercy system. This correlated exactly with the 72% reduction in purchasing activity during this time. 11 occasions where providers requested IVIG use deviating from the approved criteria list. When comparing the 2018 utilization rate of IVIG with the purchasing capacity of 2019, it was modeled that without an extreme intervention, Children's Mercy would have run out of IVIG before August 2019.

### Conclusions

Development, implementation, and promotion of adherence to an evidence-based criterion allowed our scarce IVIG supply to be sustained. Further refinement of the criteria for use is ongoing, as is an evaluation of IVIG utilization by indication, pre- and post-implementation. This process can be applied to other situations of scarce resources.