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Characterization of Infliximab and Biosimilar Use in a Community Health System

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OBJECTIVE

To identify characteristics of infliximab and relevant biosimilar use within a community health system.

BACKGROUND

- Infliximab is a tumor necrosis factor alpha blocking agent. There are three biosimilar products available: infliximab-abda, infliximab-dyyb, and infliximab-axxq. [1]
- Infliximab is approved for the management of ankylosing spondylitis, Crohn's disease, plaque psoriasis, psoriatic arthritis, rheumatoid arthritis, and ulcerative colitis in adult patients. It is also approved for use in pediatric patients (≥ 6 years old) with Crohn's disease and ulcerative colitis. [1]
- Both infliximab and infliximab-abda are on formulary at this community health system with infliximab-abda being the preferred inpatient product and the preferred outpatient biosimilar. Infliximab is the preferred product for outpatient use.
- Antibody formation can develop with prolonged infliximab use leading to an increased risk of infusion reactions and shorter duration of response. [2]
- The efficacy and safety of product switching when used for maintenance treatment is limited, making continuity of product administration an important aspect of patient care. [3, 4]

METHODS

- Institutional Review Board (IRB) approved retrospective chart review of patients treated in a community health system between January 1, 2020 and June 30, 2020.
- Inclusion criteria: any patient who received at least one infusion of infliximab or biosimilar
- This evaluation is intended to describe the characteristics of infliximab use within the Parkview Health System.
- Evaluation includes product ordered, indication for treatment, ordering provider specialty, number of infusions, and whether the initial product was continued

RESULTS

Table 1: Baseline Demographics

	Infliximab (n=110)	Infliximab-abda (n=9)	Infliximab-dyyb (n=12)	Total (n=131)
Female gender, n (%)	65 (59)	5 (55.5)	5 (41.6)	75 (57.3)
Age in years, mean	47.1	35.4	45.5	46.2
Pediatric patients, n (%)	11 (8.4)	1 (0.76)	1 (0.76)	13 (9.9)
Prior Infliximab use, n (%)	94 (85.5)	6 (66.7)	11 (91.7)	111 (84.7)
Continued Infliximab, n (%)	90 (81.8)	8 (88.9)	11 (91.7)	109 (83.2)
Number of doses received, mean	3.4	2.8	3.5	3.3

RESULTS

Figure 1: Product Ordered

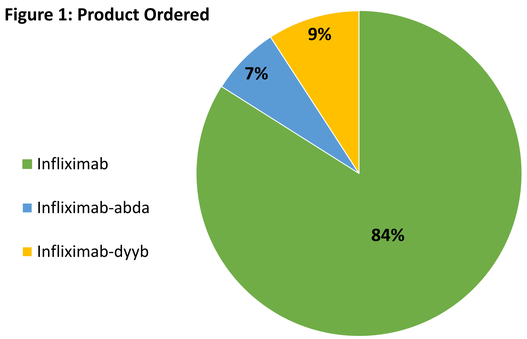


Figure 2: Product Ordered and Quantity by Location

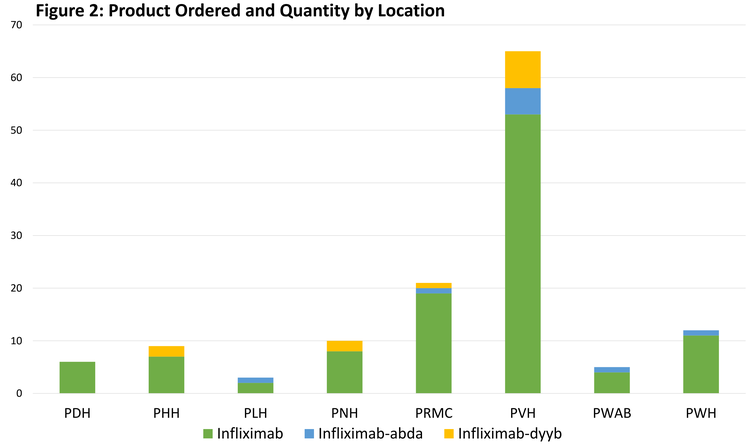
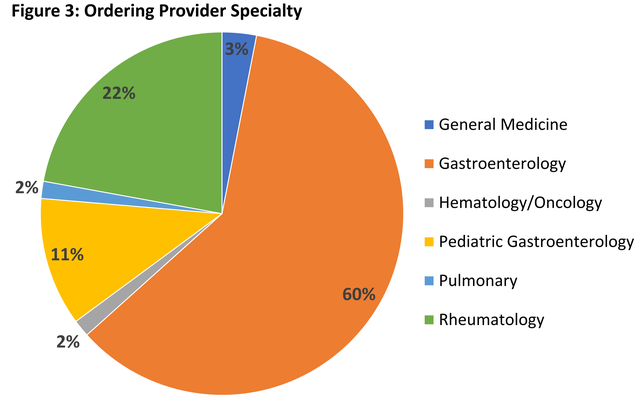
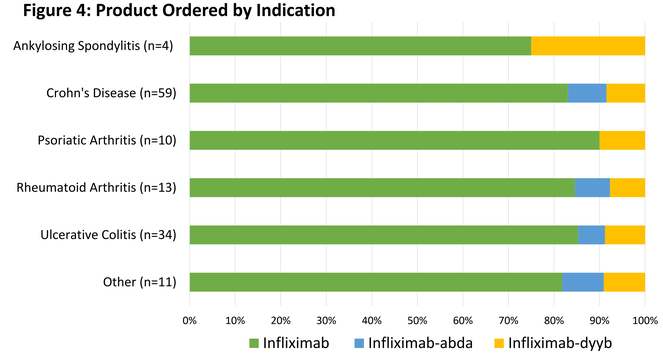


Figure 3: Ordering Provider Specialty



RESULTS

Figure 4: Product Ordered by Indication



DISCUSSION & CONCLUSIONS

- During the six-month study period, there were 131 patients that received at least one infliximab or biosimilar infusion in this community health system.
- In this retrospective study, it was found that infliximab was utilized more often than biosimilars, product switching did not occur, and the most common indications were for gastrointestinal conditions prescribed by gastrointestinal providers.
- Nearly 85% of the patients received an infliximab infusion prior to the study period and 83.2% of the patients continued to receive infusions after the study period.
- Evaluating continuity of product administration was an important endpoint of this project. There were no product switches during the study period across all settings. Patients who continued treatment consistently received the same product which may be due to lack of data supporting product switching.
- There were seven patients that received inpatient administrations during the study period. These inpatient infusions were all infliximab, and three of them were one-time doses for immunotherapy induced pneumonitis. Two of the patients continued to receive infliximab as outpatient infusions after discharge.
- Infliximab was the most ordered and administered product which aligns with the preferred outpatient product.
- With this information, next steps for the project at this community health system may be extending the data collection period to allow for further evaluation of product switching across locations of administration, inpatient verses outpatient.

REFERENCES

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Disclosure
The authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:
Abigail Geyer: Nothing to disclose | Luke Keller: Nothing to disclose | Curtis Stump: Nothing to disclose | Renu Johnson: Nothing to disclose
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