Assessment of the clinical and financial impact of biosimilar utilization at an Alaska Native Hospital

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Disclosure

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 subject matter of this presentation:

All authors are current or previous employees of ANMC

Objectives

- Determine Renflexis® and Remicade® use on the ANMC campus.
- Determine financial impact incurred since implementation of Renflexis® to the ANMC formulary.
- Investigate therapeutic equivalence of Renflexis® compared to Remicade® in the ANMC patient population.
- Investigate appropriateness of implementing an additional biosimilar for substitution.

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Background

- Alaska Native Medical Center (ANMC) is currently utilizing Renflexis® (infliximab-abda) in place of Remicade® (infliximab) after approval through the Pharmacy & Therapeutics Committee in October of 2019.

- This substitution is being applied in most patients if deemed appropriate by their physicians' clinical judgement; however, there is not an automatic substitution protocol in place for this change to be initiated by pharmacy.

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Background

Financial impact

- Retrospective review of pharmacy expenditure
- Does not include insurance reimbursement

Therapeutic equivalency

- Retrospective chart reviews – Remicade® and Renflexis®
- Provide information regarding therapeutic equivalence in the Alaska Native and American Indian patient population.

ANMC biologic use

- ANMC currently retains Humira®, Avastin®, Enbrel®, Herceptin®, Rituxan®, and Epogen® on formulary.
- Based on the information gathered and analyzed, we will determine if it is appropriate to recommend the use of additional biosimilars.

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Utilization and Financial Impact

Time frame

- Baseline Remicade® use: August 1st, 2018 through July 31st, 2019
- Remicade® and Renflexis® use: October 1st 2019 through October 1st, 2020

Drug utilization report

- Discern Analytics 2.0
- Patient name and medical record number, drug dispensed, dose of medication, and date of dispense in the inpatient and outpatient infusion setting

Additional resources

- •Documented pharmacy expenditures from original drug monographs and drug utilization evaluations, as well as reference to the McKesson Wholesaler's website.

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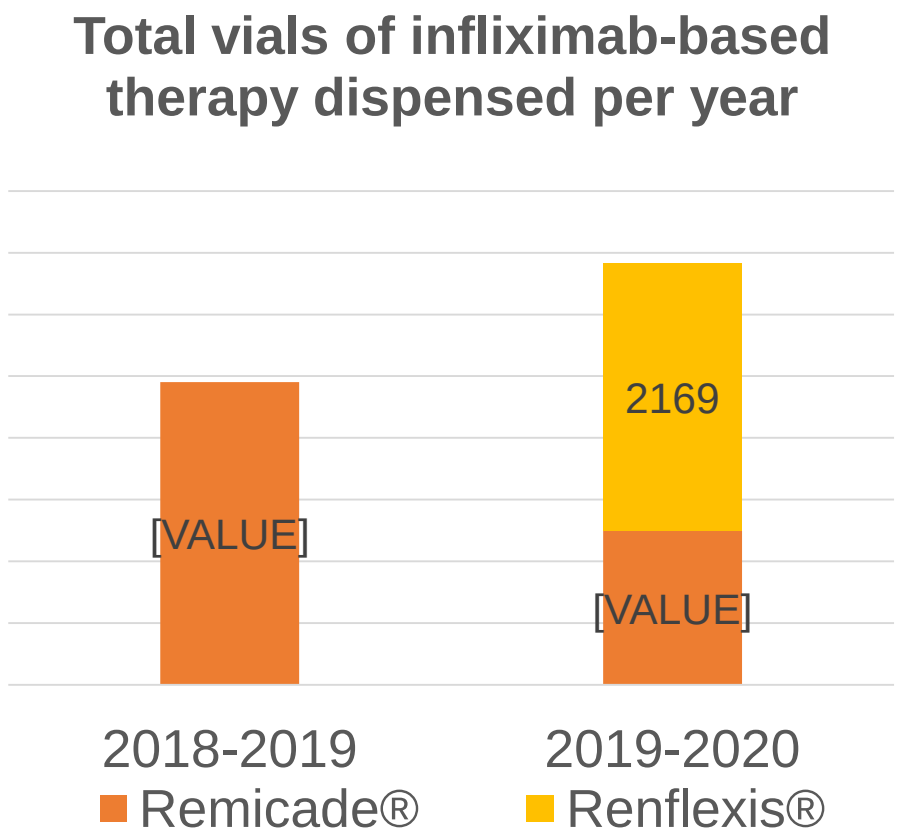

- Comparing the drug utilization reports from 2018-2019 and 2019-2020, there was an increase of 28.2% in the use of infliximab-based therapy.

Utilization and Financial Impact

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Utilization and Financial Impact

- The results of this review indicate a savings of $500,039.84 associated with the switch to Renflexis® from Remicade®.
- Nearly two-times as many vials of Renflexis® were purchased compared to Remicade® but due to the lower cost of Renflexis ®, pharmacy was able to spend less.

Year	Pharmacy Expenditure (Remicade® + Renflexis®)
2018-2019	$1,386,040.50
2019-2020	$886,000.66

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Therapeutic equivalence

Time frame

- Remicade® and Renflexis®: October 1st 2019 through October 1st, 2020

Drug utilization report

- Discern Analytics 2.0
- Patient name and medical record number
- Chart reviews and assessment of physician notes as well as laboratory values (including C-reactive protein, erythrocyte sedimentation rate, and stool calprotectin levels).

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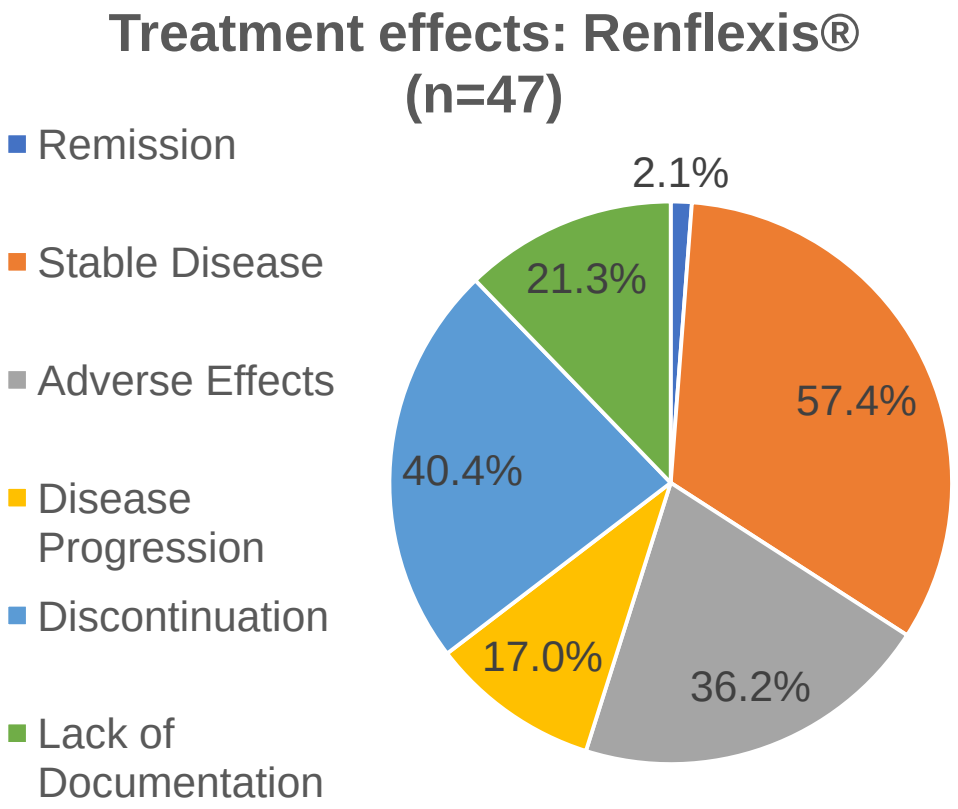

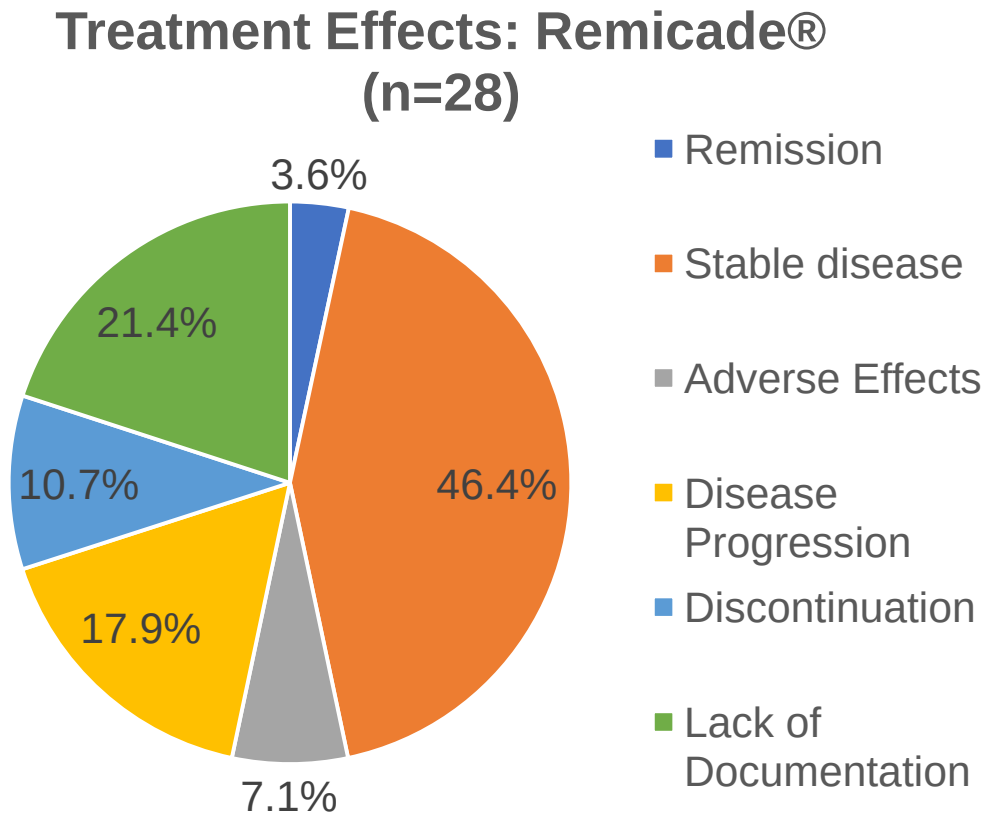

Renflexis® vs. Remicade® treatment effects

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	Renflexis®, n (%) (n=17)	Remicade®, n (%) (n=3)
Drug-induced systemic lupus erythematosus	2 (10.5%)	0
Infusion reactions	5 (26.3%)	2 (66.7%)
Lack of efficacy	5 (26.3%)	1 (33.3%)
Demyelinating lesions of the thoracic spine	1 (5.3%)	0
COVID-19 travel concerns	4 (21.1%)	0

Renflexis® vs. Remicade® reasons for discontinuation

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ANMC biologic utilization

Time frame

- Orders dispensed: October 1st 2019 through October 1st, 2020

Drug utilization report

- Discern Analytics 2.0
- All biologics on ANMC formulary included
- Date of dispense in the inpatient and outpatient infusion setting and ordering physician

Additional resources

- •FDA Orange Book for reference of available biosimilars.
- •McKesson Wholesalers for national contract and price reference

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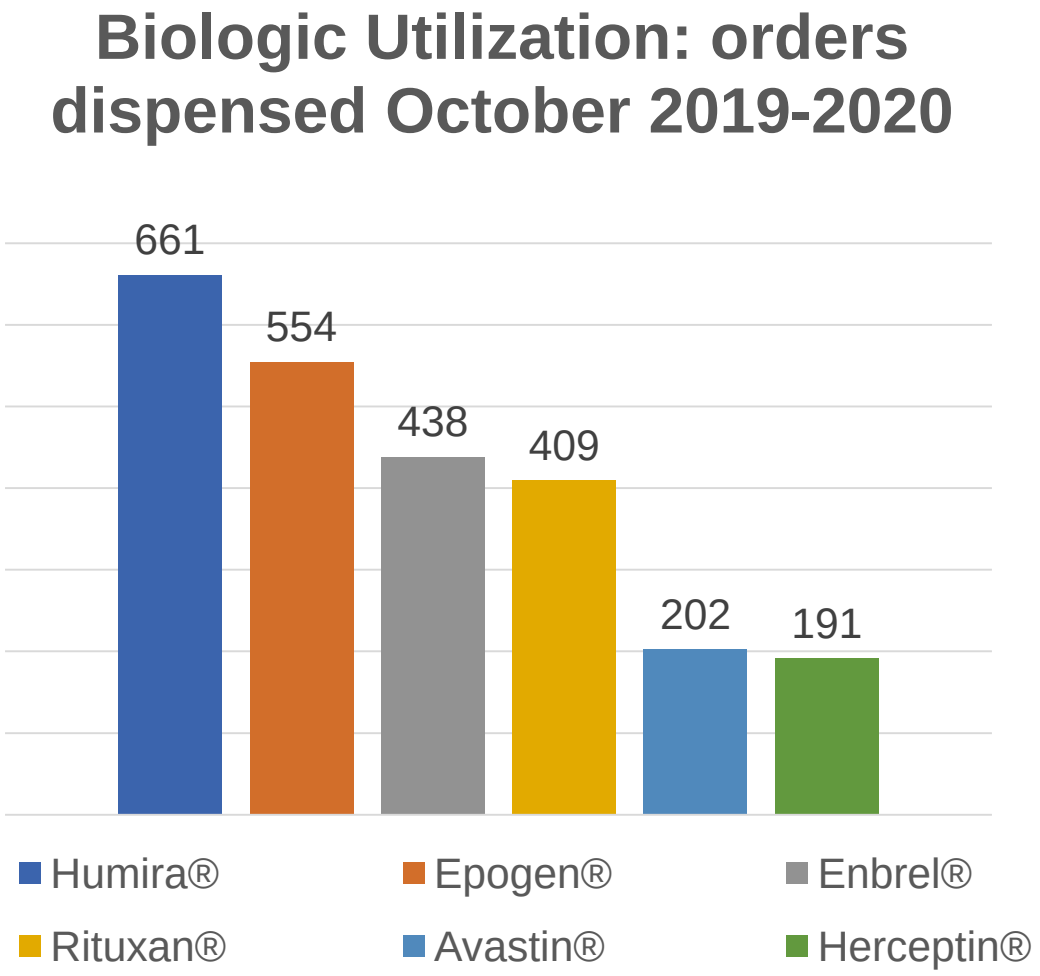

- Based on the biologic utilization data, Humira® and Epogen® are the two medications that are ordered and dispensed most frequently.
- Biosimilars to replace Humira® are not available on the US market until 2023.
- Epogen® currently has one biosimilar available for use, Retacrit ® (epoetin alfa-epbx) which carries the same indications as its parent biologic.

ANMC biologic utilization

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Limitations

- Limitations of this review include COVID-19 pandemic effects on patient travel to receive infusions, lack of documentation or follow-up with the patient's physician, and inherent desire for a successful therapeutic substitution by pharmacy.
- Additionally, because this review assesses the pharmacy expenditures only and does not account for third party reimbursement the data included in this review may not completely reflect the financial impact of this therapeutic addition.

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Conclusions

- Overall, the utilization of Renflexis® in place of Remicade® has allowed the majority of patients receiving treatment to achieve stable disease with minimal adverse reactions.
- Pharmacy should continue to monitor the efficacy and adverse effects related to the use of Renflexis® to ensure the best treatment of the patient population.
- To further establish the therapeutic equivalence of Renflexis® in this patient population, it is recommended to implement an auto-substitution protocol for pharmacy driven change of new patients starting Renflexis®.
- In addition, Retacrit® should be considered for addition to the ANMC formulary to replace Epogen®.

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