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Coordinating and Improving the Quality of Care in Patients with Gastro Esophageal Reflux Disease (GERD)

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Introduction

- Gastroesophageal Reflux Disease (GERD) occurs when the acidic contents of the stomach travel back to the esophagus, causing irritation and damage to the lining of the esophagus.¹
- In the United States, 20-40% of the general population suffer from GERD.²
- Patients suffering from GERD may develop serious complications such as Esophagitis, Esophageal Stricture, Barrett's Esophagus, and Esophageal Cancer if left untreated.¹
- At Lehigh Valley Health Network, the treatment of GERD and its complications involves a team of Clinicians, Gastroenterologists, and Surgeons.

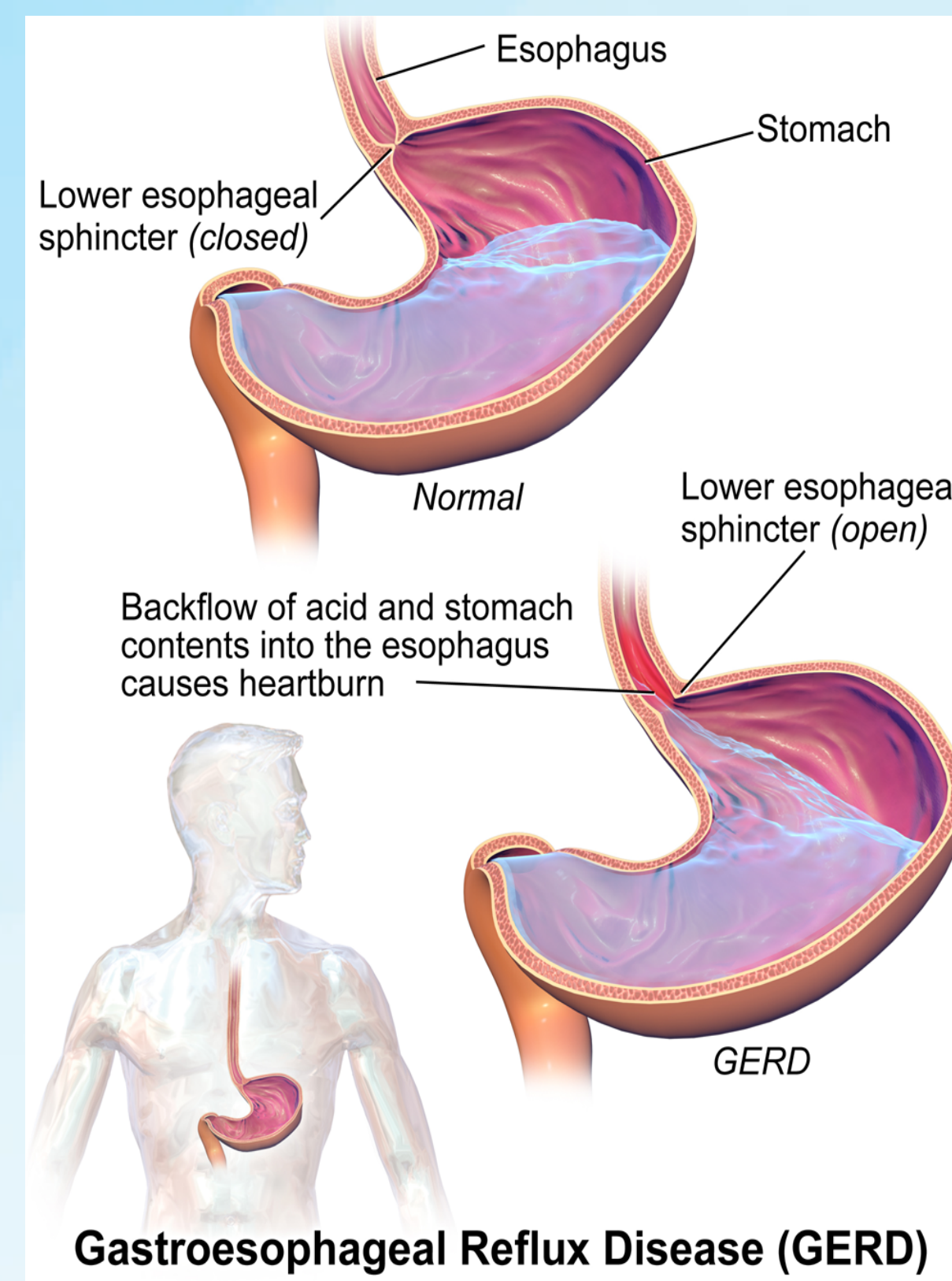


Image 1: Visual representation of GERD from Wikimedia Commons

Objectives

- The Acid Reflux Treatment Program was created in 2018, in order to **Coordinate and Improve the Quality of Care** by providing **Comprehensive Evaluations and Treatment Options for those suffering from GERD.**
- My role as the Summer Research Scholar was to **Create a Database to Collect and Store Patient Data** that will effectively be used to Improve Quality of Care.

REFERENCES

¹Malfertheiner, P., and B. Hallerback. "Clinical Manifestations and Complications of Gastroesophageal Reflux Disease (GERD)." *International Journal of Clinical Practice*, vol. 59, no. 3, 2005, pp. 346–355., doi:10.1111/j.1742-1241.2005.00370.x.

²Cohen, Erica, et al. "GERD Symptoms in the General Population: Prevalence and Severity Versus Care-Seeking Patients." *Digestive Diseases and Sciences*, vol. 59, no. 10, 2014, pp. 2488–2496., doi:10.1007/s10620-014-3181-8.

Image 1: Blaus, Bruce. "Gastroesophageal Reflux Disease (GERD)." *Wikimedia Commons*, 10 Nov. 2015, commons.wikimedia.org/wiki/File:GERD.png.

Methods

Excel Spreadsheet

- Created in 2018
- Tracked 16 Variables
- Tracked over 230 participating patients

Additional Targeted Variables

- Determined by Doctors involved in Acid Reflux Treatment Program

Data Dictionary Codebook

- Lists and Defines all Targeted Variables
- Template for REDCap Database

REDCap Database

- Where Patient Data will be collected
- More Practical than Excel
- Made up of Fields, corresponding to each Variable in the Codebook
- Fields organized into different Instruments

Results

Data Dictionary Codebook

| Instrument | Name | Label | Unit | Type | Values/Format |
|--------------------------|---|-------------------------------------|-------------|---|---|
| Demographics | MR # | Medical Record Number | N/A | Numeric | XXXXXXXX |
| | First Name | First name of patient | N/A | Name | FirstName |
| | Last Name | Last Name of Patient | N/A | Name | LastName |
| | Date | Date of entry into program | N/A | Date | mm/dd/yyyy |
| | Referral | Where the patient was referred from | N/A | Categorical | 1= LVPG Primary Care Physician 2= External Primary Care Physician 3= Pulmonologist 4= Ear, Nose, and Throat (ENT) Doctor 5= EPIC 6= External GI Physician 7= Patient Self Referral (from 402 CARE) 8= Patient Self Referral (non 402 CARE) 9= Other |
| Clinical Meeting | Was the patient presented at a clinical meeting? | N/A | Categorical | 1= Yes 0= No | |
| Surgery | Did the patient receive surgery? | N/A | Categorical | 1= Yes 0= No | |
| Alternative to Treatment | Where did patient go if they did not receive treatment? | N/A | Categorical | 1= GI Physician 2= Weight Management 3= Other | |
| Age | Age (years) at time of surgery | | Years | Continuous | 18-100 |

Figure 2: Segment of Acid Reflux Treatment Program Data Dictionary Codebook

- Displays the Name, Label, Unit, Type, and Format of each variable.
- 50+ Variables Included.
- More variables may be added.

REDCap Database

- 70+ Fields created.
- Branching Logic and Action Tags used to minimize repetitive/non-applicable Fields.
- Fields were Organized into 4 Instruments: Demographics, Work Up, Treatment, Follow Up.
- Data to be entered and stored individually by a navigator.

Figure 3: Segment of Acid Reflux Treatment Program Database

Recommendations/Future Plans

- Set REDCap Spreadsheet into Production mode.
- Add/Revise variables as needed.
- Hire a Full-Time Navigator to enter data and maintain database.
- Analyze the data to individualize patient treatment and improve Quality of Care.