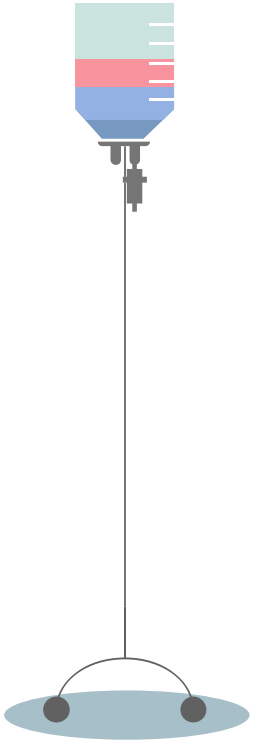
Primary Care Provider Operations Analysis and Recommendations

a project by Abhishree Agrawal

TABLE OF CONTENTS



01 Problem Statement

02 About the Dataset

03 Approach to analysis

04 About the practices

05 Significant Findings

06 Top Recommendations

07 Future Considerations

08 Recommended Action Plan

01: Problem Statement

- **Company X** (a group of primary care providers) has a shared savings/risk agreement with a Regional Health Plan (the Health Insurer).
- In a shared savings or risk agreement, if the providers spend more money than the benchmark, the percentage of loss is paid by the providers back to the Health plan. Whereas, if the spend is within the benchmark, the percentage of savings above it, is shared with the participant providers.
- Therefore, Company X is looking for ways to improve the quality of primary care provided to the patients while keeping the medical expenses below the allocated budget.

02: About the Dataset

- The data is provided by the regional health plan, and it has information on 4 different practices/providers: **Dr. A, Dr. B, Dr. C, and Dr. D.**
- The data includes details on parameters like Utilization of Emergency and Urgent care, Readmissions, Preventable Admissions, Low Specialty Value care, Non-preferred drug utilization, Gaps in care, Imaging and Diagnostics, Line of Business and Patient and Practices' socio-demographic details.
- Time period of the data provided: Sept 2021 to Sept 2022. Except for the information on Annual visits, which is for a period of 2 years (Sept 2020 to Sept 2022).

03: Approach to Analysis

- The company's management and practitioners need data driven actionable insights to improve the patient care and reduce the expenses which would increase the savings pool.
  - To assist company X with their goals of identifying area of opportunities across practices to improve their performance under the contract, while also complying with the Triple Aim of increasing individual patient quality, population health and reducing the per patient cost of care.
  - To select a few of these opportunities and create a plan with summary, objectives, key milestones and KPIs to measure success.
- The questions that I tried to explore for identifying the area of opportunities are listed below. This is not an exhaustive list.

1. Which practice has more high utilizers of emergent and urgent care?
2. Where does each practice refer patients for specialty care?
3. Where does each practice refer patients for imaging and labs?
4. Which providers are prescribing non-preferred drugs and what are these drugs?
5. Do patients have gaps in their care?
6. Are the patients completing their annual health visits?

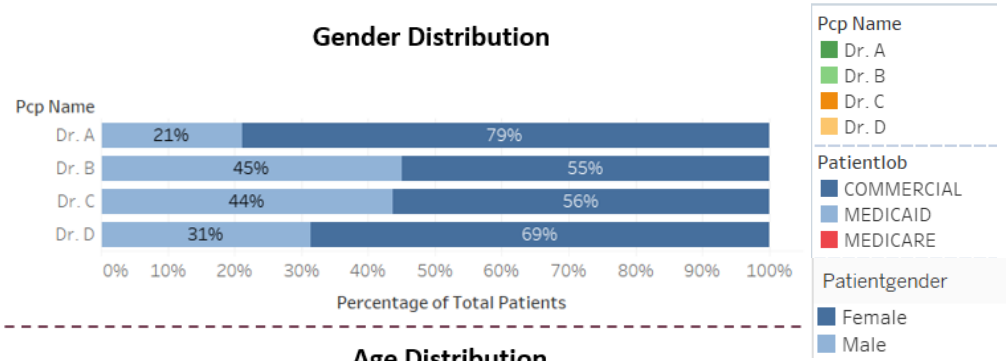
- Data on each parameter (provided as separate excel files) was first filtered to extract rows only for the relevant practices. Files were analysed in isolation or after merging depending upon the type of question being answered.
- The four practices combined had a record of total **2007 patients** only. So, the analysis was performed in Excel (using features like VLOOKUP, Pivot tables etc.) and Tableau was used for visualization.
- Note: All the metrics have been standardized wherever a comparison is being made between the practices. For standardization, rate per thousand or rate per hundred has been used, depending on how large the values were.

04: About The Practices

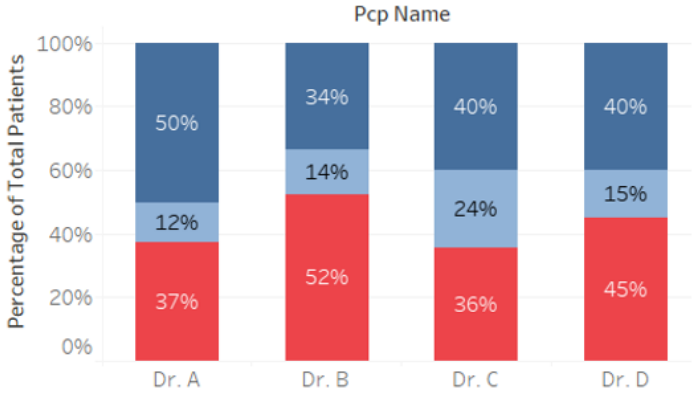
Practice Size

Pcp Name	Number of Patients
Dr. A	259
Dr. B	898
Dr. C	503
Dr. D	347

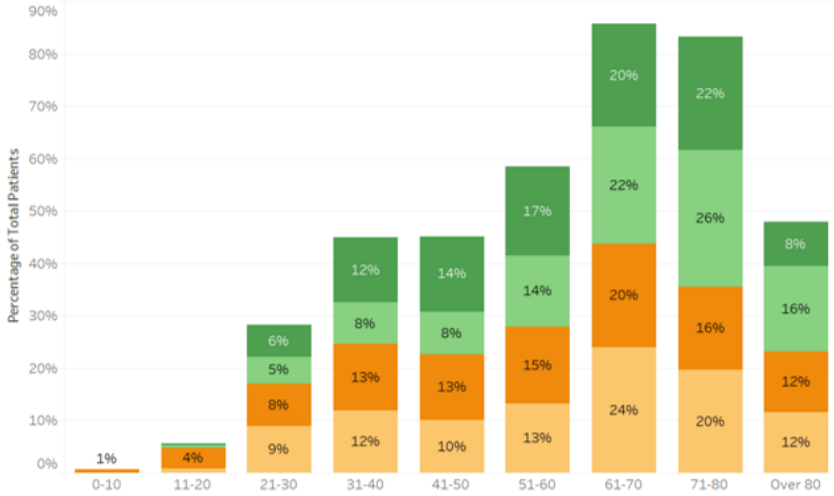
Gender Distribution



Line of Business



Age Distribution



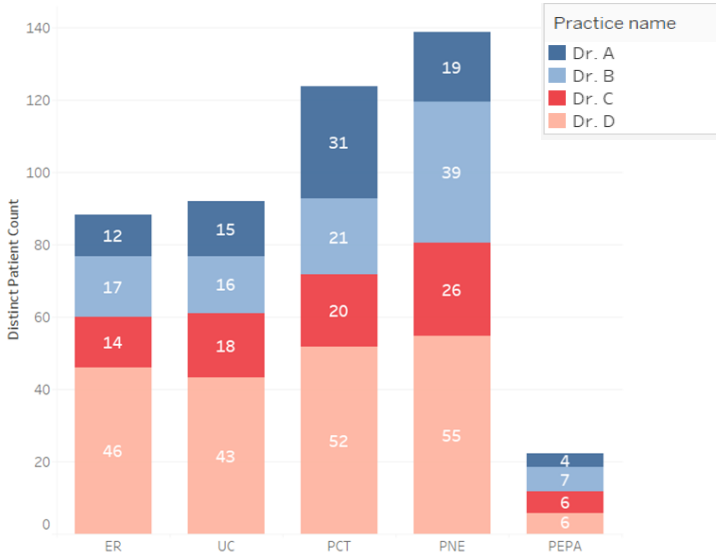
04: About The Practices

Below is a tabular comparison of the significant differences observed between the practices:

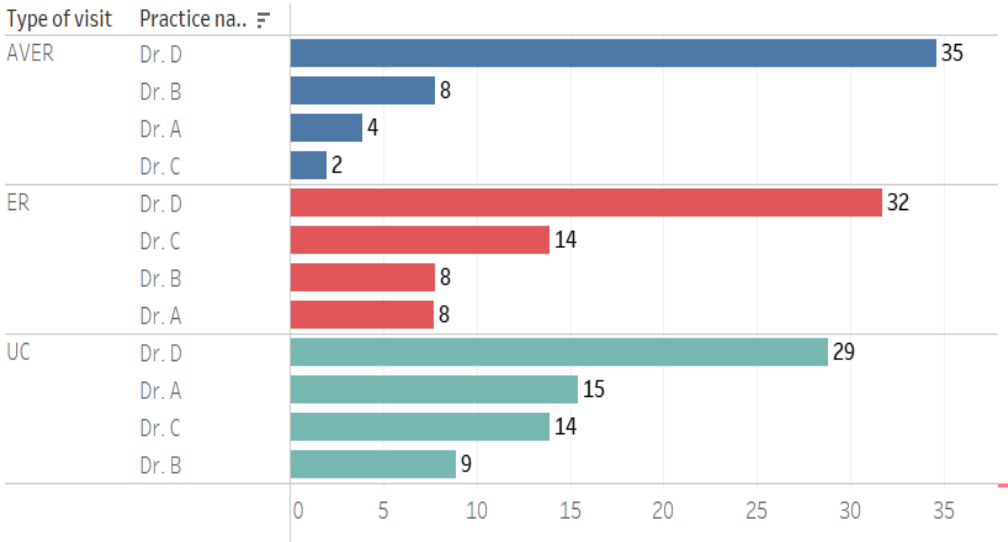
Criterion/PCP	Dr. A	Dr. B	Dr. C	Dr. D	Conclusion
Practice Size	Smallest practice with 259 patients	Largest practice with 898 patients	Relatively moderate size with 503 patients	Relatively moderate size with 347 patients	Dr. B has the largest patient population while Dr. A has the lowest.
Gender	Has 4 times more female patients than male	Almost equal distribution	Almost equal distribution	Female population is more than twice of the male population	Dr A's and Dr. D's practices have more female patients than male patients.
Age	67% of patients are above the 50 years.	78% of the patients are above 50 years.	63% of the patients are above 50 years of age. However, 26% of the patients are between 30-50 years.	69% of the patients are above 50 years.	Dr A, C and D have almost same proportion of older and younger population. However, Dr. B has maximum patients in older age group and relatively lesser younger population.
Race	Each practice had more than 50% of Null / Unknown values for patient's race. Thus, this characteristic isn't taken into consideration while performing the analysis.				
Line of Business	Practice with highest commercial insurance patients (50%)	Least patients with commercial insurance, Practice with the highest Medicaid patients.	More Medicaid and less commercial insurance patients. Practice with the highest Medicaid patients.	More Medicaid and less commercial insurance patients.	Dr C's practice has the highest percentage of Medicaid patients. Other practices have higher Medicare patients.

05: Significant Findings - Who are High Utilizers?

- Dr D has the highest number of utilizers of Emergent and Urgent care. This is almost 3 times more as compared to other practices.
- The preventable emergent visits(AVER) are also very high for Dr. D, followed by Dr B and Dr. A.
- There are several patients who have had multiple visits to the ER or UC. 100% of Dr C's ER patients, ended up having multiple ER visits. 100% of Dr A's UC patients, ended up having multiple UC visits.
- At least 20-30% of the total emergent care patients across all four practices had either missed their anual visits or had gap in their care.



Patient Count per Thousand – By Visit Type

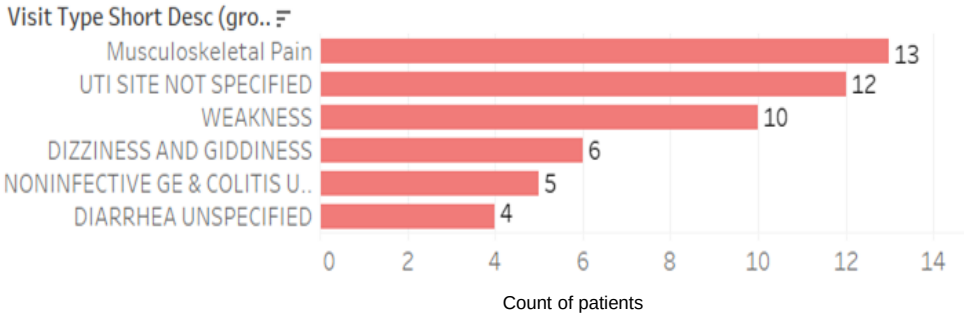


Patient Count Per Thousand – By Multiple Visits

05: Significant Findings - Who are High Utilizers?

- Across all the 4 practices, on the right are top medical conditions for which patients went to seek emergent care. All these conditions belonged to the PNE category, which means they were preventable & didn't need emergent care at all.
- Out of all the ER and UC visits, the maximum number of visits were done for COVID and Musculoskeletal pain medical conditions.

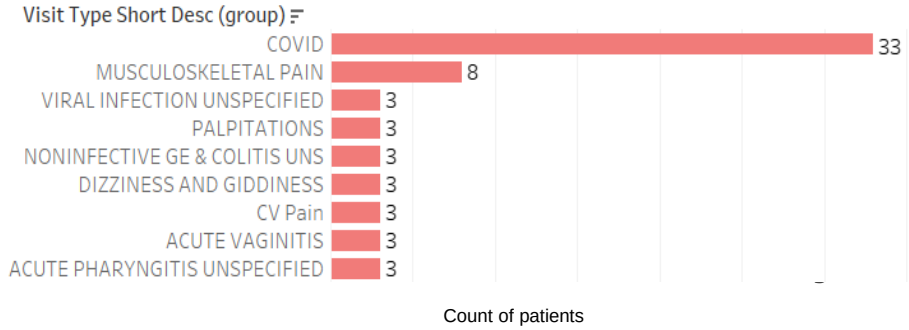
Top Reasons for PNE Visits



RECOMMENDATIONS

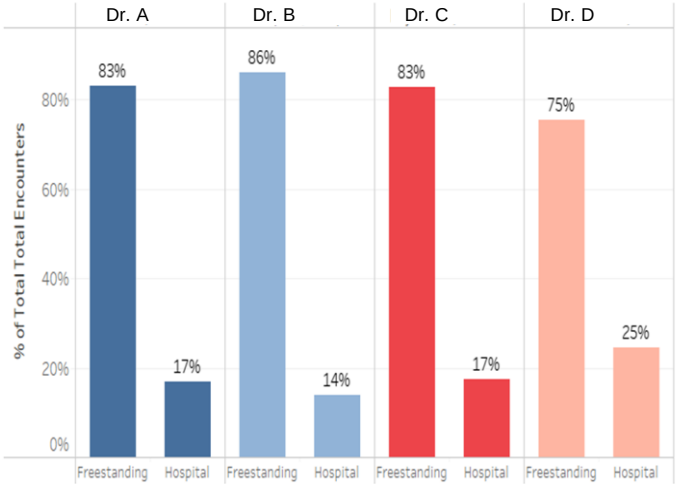
- Better care management (persistent follow ups) for patients who had at least one ER/UC visit recorded in the same year (to prevent recurring visits).
- For the most common medical conditions identified (both ER/UC and PNE), practitioners can establish additional cadence for visits, care and testing to avoid such unnecessary emergent redirections.

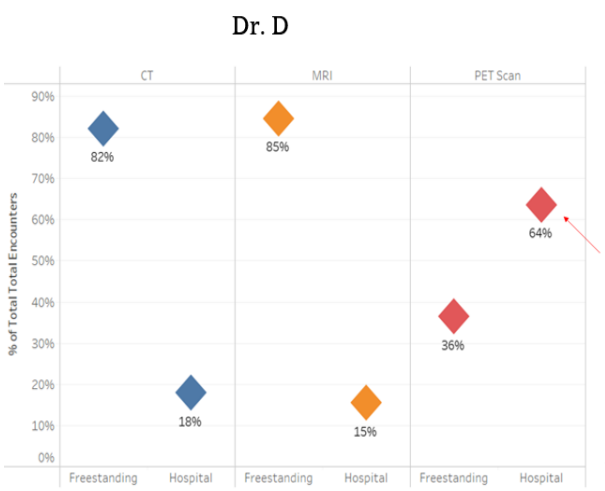
Top Reasons for ER/UC Visits

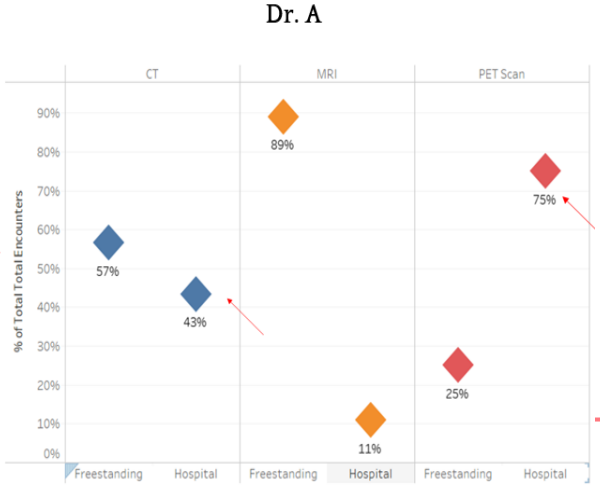


05: Significant Findings - Referrals to Imaging and Lab Facilities

- Practices refer patients to either Freestanding facilities or Hospitals for conducting imaging tests. Hospitals are relatively more expensive than Freestanding facilities.
- Higher percentage of tests are being conducted in a Freestanding facility across all practices.
- But, for top 3 expensive tests – PET Scan, CT Scan and MRI, below is the distribution of referrals at Dr. D and Dr A's practices.
- It was found that Dr. D's patients were referred more to Hospitals for PET scans. Similarly, Dr. A's patients were referred more to Hospitals for both PET and CT scans.





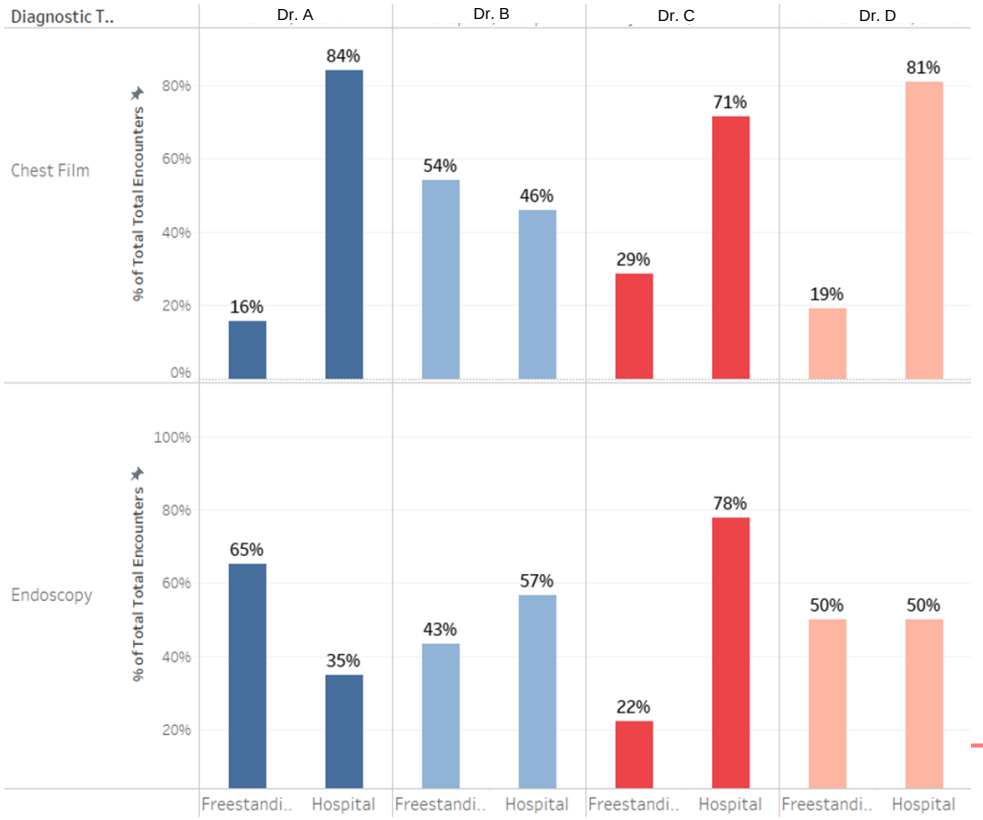


05: Significant Findings - Referrals to Imaging and Lab Facilities

- A higher percentage of Chest Film and Endoscopy tests are being done at Hospitals.

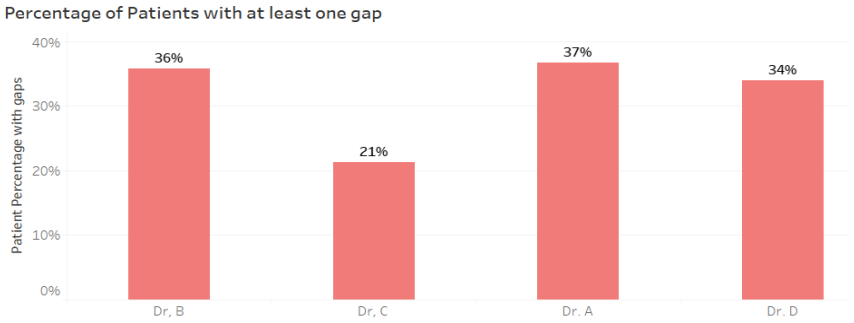
RECOMMENDATIONS

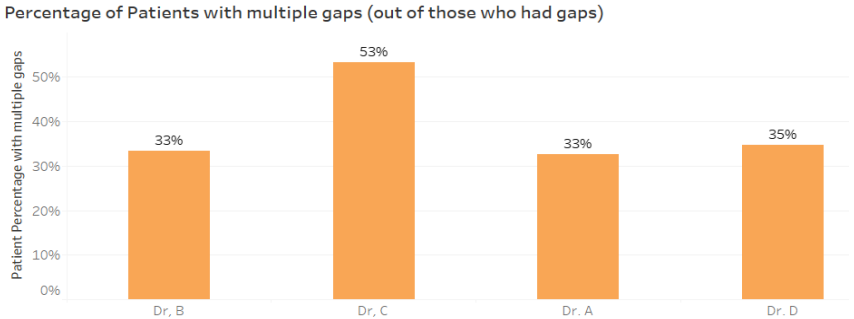
- Shift the referrals for PET and CT scans to more freestanding centers at Dr. A and Dr. D's practices.
- Confirm if there's a reason for higher referrals of Chest Film and Endoscopy tests to Hospitals and try reducing it.

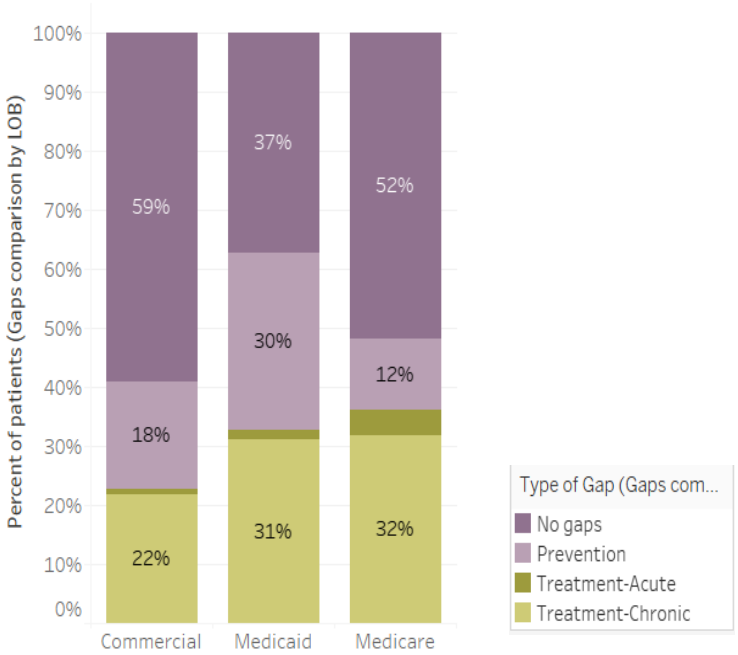


05: Significant Findings - Patients have gaps in their care

- Dr. A, Dr. B and Dr. D have higher percentage of patients with gaps in their care.
- Out of all the Dr. C's patients who have gaps in care, 53% of them have at least more than one gap in care.
- Medicaid patients have higher percentage Preventive and Chronic treatment gaps.
- Medicare patients have higher percentage of Chronic treatment gaps.



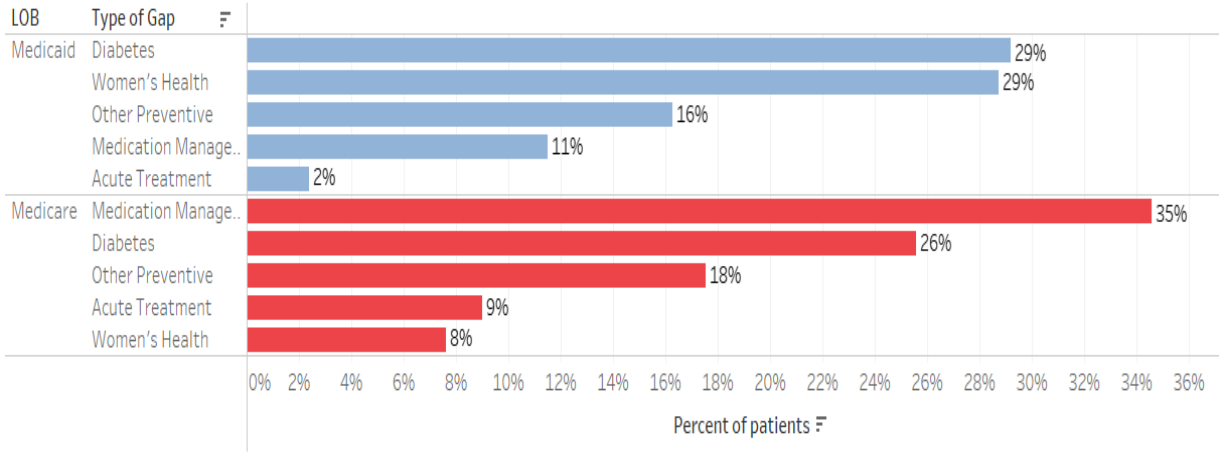




05: Significant Findings - Patients have gaps in their care

RECOMMENDATIONS

- Launch health initiatives for Colorectal Screening, Breast & Cervical cancer screenings at Dr. C's practice for Non commercial patients, above 30 years.
- Launch health initiatives for Diabetes care and Medication management for high BP at Dr. B's practice for non commercial patients above 50 years..
- Gradually expand this for other practices and LOB.



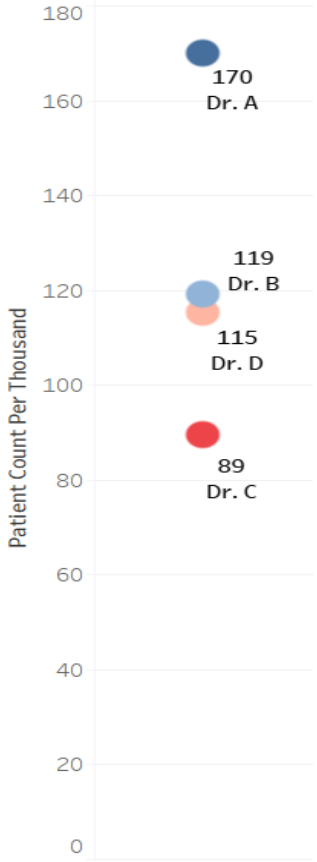
Dr. B

Diabetes	30%
Medication Manage..	24%
Other Preventive	19%
Women's Health	15%
Acute Treatment	7%

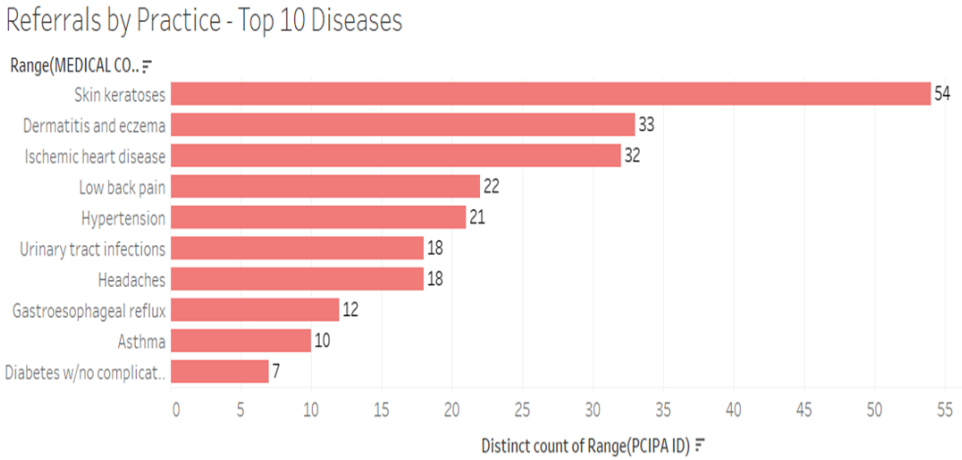
Dr. C

Other Preventive	25%
Women's Health	24%
Diabetes	16%
Medication Manage..	12%
Behavioral Health	8%

05: Significant Findings - Referrals to Specialists



- Dr A has the most amount of low value specialty referrals followed by Dr B, Dr D, and Dr C.
- 50% of the specialists seen, were from either Hospital X, Hospital Y, or Hospital Z. **(**Note: The names have been removed due to confidential reasons.)
- The top 10 diseases for which patients were sent to specialists are given below -



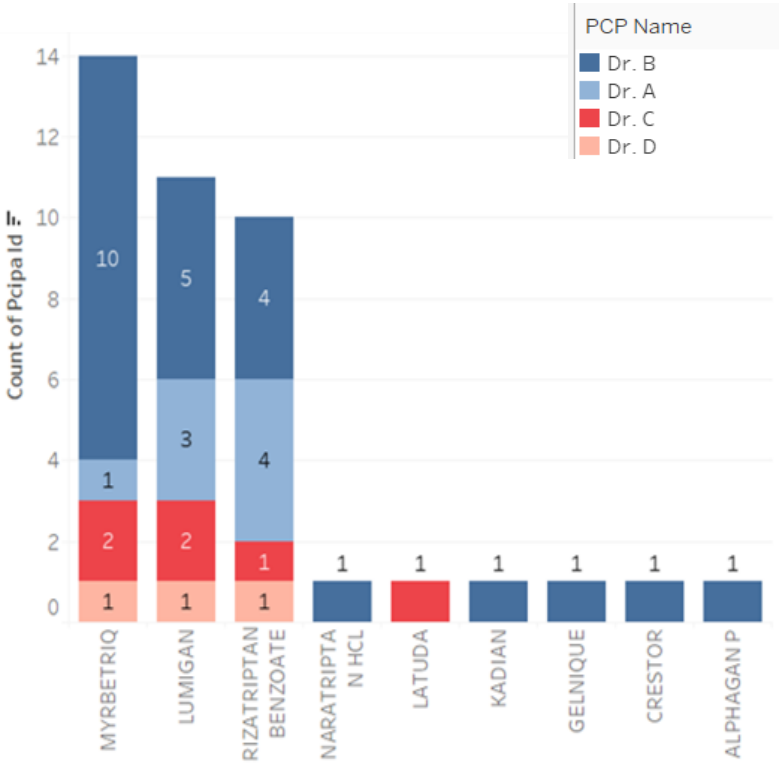
05: Significant Findings - Referrals to Specialists

RECOMMENDATIONS:

- We can **improve primary level care for the most commonly observed medical conditions** by training the doctors to be able to take care of them. (For example, Skin Keratosis, Eczema etc.)
- Some of these conditions are not life threatening, so the primary care doctors can take some time to **analyze the patient's condition before referral**. If the analysis is inconclusive, then the patient can be referred to the specialist.
- For patients with life threatening conditions, doctors can check if the patients have had a prior visit regarding the issue and immediately refer to specialists.

- If possible, some contracts can be negotiated by the Insurance company with the most visited hospitals or recommended specialists.
- Referrals can be made to another smaller practice to reduce cost.

05: Significant Findings - Utilization of Non-preferred drugs



- The top 3 non preferred drugs that are being prescribed **across all practices** are - Myrbetriq, Lumigan & Rizatriptan Benzoate.
- For every thousand patients, Dr. A's and Dr.B are prescribing the highest number of branded medications.
- Not only these medicines are prescribed to a lot of patients, but the script count/number of refills is also high.

PCP Name ..	Distinct Patient Count
Dr. A	31
Dr. B	24
Dr. C	12
Dr. D	9

Non Pref Drug N..	No of Scripts
MYRBETRIQ	95
LUMIGAN	49
RIZATRIPTAN BENZ..	36
GELNIQUE	9
KADIAN	8

RECOMMENDATIONS

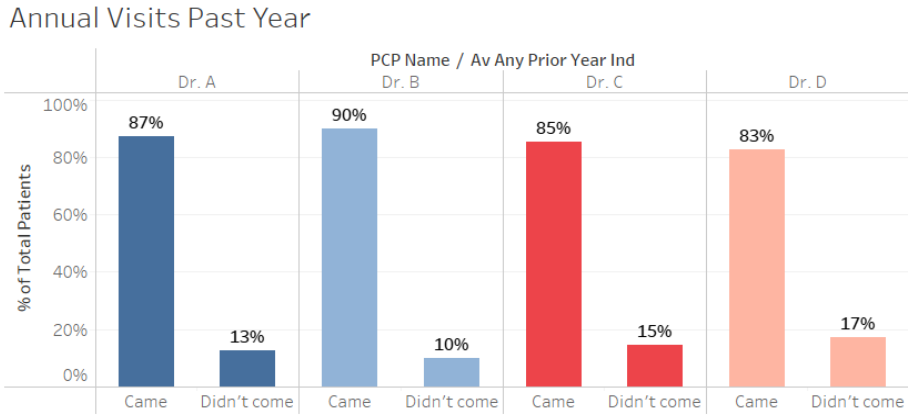
- Confirm if the branded forms are absolutely needed for that patient? (Alternate Drug in Market?)
- If the medicine is being prescribed by a specialist, the primary care doctor could suggest specialist to switch before next filler.
- Prior authorization process can be put in place for branded medications.
- Dr. A and Dr. B should carefully monitor/reduce prescription of non-preferred drugs - Myrbetriq, Rizatriptan Benzoate and Lumigan.

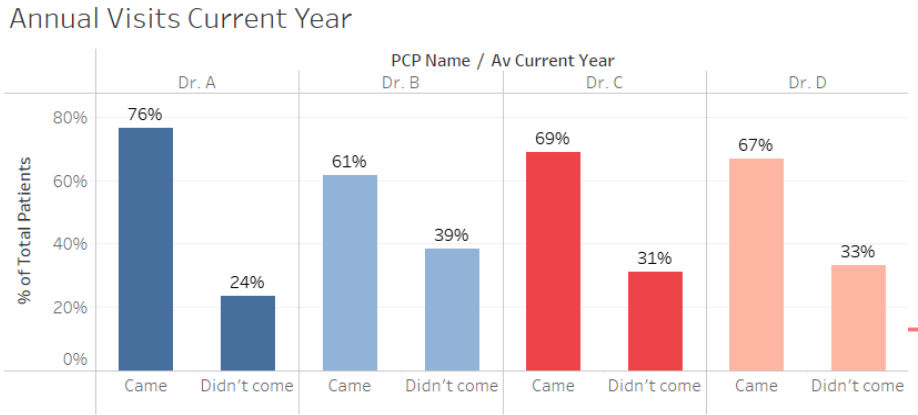
05: Significant Findings - Change in Annual Visits

- For the prior year, all four practices had more than 80% annual visit completion rate. Drastically **lower percentage of patients completed their annual visits** this year across all practices as compared to last year.
- The reduction in completion has been highest at Dr. B's practice (-32%) and the least at Dr. A's (-12%).
- Potential reasons include (but not limited to) -
    - practitioners not sending timely alerts to such patients
    - patients avoiding visits due to personal reasons
    - patients avoiding visits due to unsatisfactory service

RECOMMENDATIONS

- Significant proportion of patients visiting emergent/urgent care facilities had gaps in care and had missed annual visits.
- Further research should be done into this segment to identify the reasons why patients avoided their annual visit and the following efforts should be taken to remedy the situation -
    - send relevant alerts regularly to those patients
    - incentivize patient attend their annual visits by provide good experience
    - Provision of telehealth services





06: Top Recommendations

Based on the findings, recommendations have been formulated. They have been prioritized keeping the below factors in mind -

- Is it feasible or will it require more research?
- How many patients can be covered?
- Can more cost reduction be done by minimum effort?

1. Eliminating Gaps in Care (Improve Quality)

Launch Healthcare Initiatives for the following medical conditions - **Colorectal Screening, Breast & Cervical cancer screenings** at Dr. C's practice (patient's above 30 years) and **Diabetes care and Medication management for High BP** at Dr. B's practice (patients above 50 years), followed by expansion to other LOBs and practices.

2. Reducing no. of recurring Emergent visits (Both HU and AVER)(Improve Quality/Decrease Cost)

Practices should provide **focused care & incentivized follow-ups to those patients who have already availed Emergent services once**, so that proactive care can reduce, if not eliminate, the risk of the same patient needing to visit ER again. Dr. D and Dr. B can also start performing **additional diagnosis on the most common avoidable visit conditions** to ensure the patients don't avail Emergent Care services unless necessary.

3. Ensuring appropriate cost-effective diagnostic referrals (Decrease Cost)

Practitioners should refer patients to reliable free-standing testing centers instead of conducting in-house tests. This would help save cost of care for patient and may help eliminate some gaps in care. We can start with requesting Dr. A and Dr. D to **reduce referrals to Hospitals for PET and CT scans**.

07: Future Considerations

1. Reducing Non-Preferred Drug Prescriptions (Decrease Cost)

- Primary Care Practitioners should conduct further analysis into patient's medical condition to determine if a non-preferred medication is necessary, especially starting with Dr. A and Dr. B.
- The insurance company can establish an approval process for cases where practitioners prescribe non-preferred medications.
- In cases where specialists recommend non-preferred medications, Primary Care Practitioners can suggest them to switch to preferred drugs starting with the next refill.

2. Increasing the number of Annual Visits (Improve Quality)

- Practitioners should conduct surveys of patients from prior year to know why they avoided annual visit this year. Once causes are identified, they can remedy it and send relevant alerts regularly to all patients and create awareness about improved services.
- Practitioners and insurance company can provide incentives to encourage annual visits.

3. Consciously decreasing Specialty referrals (Decrease cost)

- Practitioners can be trained on diagnosing and treating the most common non-life-threatening medical conditions in a better way, for which patients were being referred to specialists, thus limiting referrals only to cases where diagnosis is inconclusive or medical condition is life threatening.
- To reduce cost, practitioners can refer patients to smaller (but reliable) practices, or get help from the insurance company to have negotiated contracts with the most visited hospitals.

08: Plan Summary

Objective / Recommendation	Milestones	Benefit	Key Results/ KPIs
To launch health initiative at Dr. C's practice for patients above 30 years of age, belonging to Medicare and Medicaid insurances for the following medical conditions - **a. Colorectal Screening (Both males and females)** **b. Breast & Cervical cancer screenings (Only females)**	1. Setting up health initiative dictionary 2. Enrolment of physician and staff 3. Completion of required trainings 4. Onboarding patients 5. Screenings completed by 85% patients in the year	Improve quality of patient care and long-term reduction in costs	• Consistent percent reduction in preventative gaps of care • Percent increase in screening outreach
To design and launch care management plans at Dr. B's practice for patients above 50 years of age, belonging to Medicare and Medicaid insurances for the following medical conditions - **a. Comprehensive Diabetes care** **b. Medication management for High BP**	1. Setting up care plan dictionary 2. Enrolment of physician and staff 3. Completion of required trainings 4. Onboarding patients to the health plan 5. Increased proactive follow-ups by 70% and 40% reduced diabetes and high BP cases	Improve quality of patient care and long-term reduction in costs	• Percentage increase in Diabetes patients enrolling in care sessions • Percentage increase in follow-ups for High BP after program enrolment
To develop a patient monitoring and follow up system for all the patients of Dr. D and Dr. B who have utilized emergent or urgent care services at least once in the past year.	1. Setting up monitoring and follow up plan 2. Completion of required trainings 3. Identification of patients to be monitored 4. 25-30% reduction in number of returning patients to emergent care services in the first year.	Improve patient quality of care and reduce cost in long term	• Percentage decrease in annual Emergent/ Urgent care admissions • Percentage decease in multiple or recurring ER/UC visits.
To reduce the percentage of PET and CT scans being done at Hospitals at Dr. D and Dr. A's practices.	1. Classification of patients who need PET and CT scans and structuring them for referrals. 2. Reduction in patient referral to Hospitals for PET by 40% and CT by 30% in the year.	Cost Reduction	• Percentage increase in PET & CT scan referrals from hospitals to private facilities (freestanding)

THANK YOU