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Research Article

**EFFECT OF URGENT CARE CENTERS ON EMERGENCY
DEPARTMENT WAITING TIME AMONG RIYADH HEALTH
CLUSTERS, SAUDI ARABIA.**Faisal Alsarrani^{1 2}, Rami Bustami¹, Nada Alwehaibi¹, Abdullah Aloraini¹¹ Alfaisal University, College of Business, Riyadh 11533, Saudi Arabia² National Guard Hospital NGH, Department of Surgery, Riyadh 14611, Saudi Arabia**Abstract:**

Urgent care centers (UCCs) are a relatively new site of ambulatory care that has grown steadily over the last few decades. Generally, they are primary care facilities that offer walk-in medical care for a wide variety of urgent, non-emergent conditions that need immediate medical or surgical attention. Urgent care centers are part of the healthcare organization's rapidly expanding "fulfilled care" category, which includes a wide variety of consumer and population-oriented interventions aimed at timely, easily accessible, and more affordable care. Primarily delivered the care for the cases classified as Level 3, Level 4, and Level 5 - according to a different triage system, throughout the day (24 hours), in shifts based and according to the population need. Health centers that provide urgent care services along with diagnostic, curative, and preventive services, which include radiology, a laboratory, and a pharmacy. Furthermore, referring the patient to the Emergency Rooms or outpatient clinics. The staff working in the urgent care centers are trained with certain competency and adhere to safety and infection control standards within the center. It is concluded that the urgent care centers play an important role in sharing the burden of the emergencies of the Hospitals. During their opening hours, comparatively lesser number of patients will visit the ED. As a result, they will help to reduce the expenditures of the health care. The convenient access of the patients to these centers in future will further reduce the ED load of patients so that better care will be available for those who truly need it. But overall impact of UCCs on the economy need to be evaluated further.

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INTRODUCTION:

Urgent care centers (UCCs) are a relatively new site of ambulatory care that has grown steadily over the last few decades. Generally, they are primary care facilities that offer walk-in medical care for a wide variety of urgent, non-emergent conditions that need immediate medical or surgical attention. Urgent care centers are part of the healthcare organization's rapidly expanding "fulfilled care" category, which includes a wide variety of consumer and population-oriented interventions aimed at timely, easily accessible, and more affordable care. Primarily delivered the care for the cases classified as Level 3, Level 4, and Level 5 - according to a different triage system, throughout the day (24 hours), in shifts based and according to the population need.[1] Health centers that provide urgent care services along with diagnostic, curative, and preventive services, which include radiology, a laboratory, and a pharmacy. Furthermore, referring the patient to the Emergency Rooms or outpatient clinics. The staff working in the urgent care centers are trained with certain competency and adhere to safety and infection control standards within the center.[2]

Urgent Care Center Classifications based on the characteristic within the center from the perspective of staffing, qualification, services, operation style, and working hours. The classification purpose is providing a better understanding for healthcare leaders and providers on how to build a UCC and what are the essential requirements based on population needs. In addition, clarity for the patients who are seeking treatment and/or evaluation for Urgent Care medical conditions and does not in any way discourage a

patient from deciding to go to the nearest Emergency Department (ED) if needed. There are four levels from high to low: Level I equivalent to freestanding Emergency Medicine clinic. UCC Level II, UCC Level III, UCC Level IV [3]

UCCs offer immediate medical and surgical attention and unscheduled episodic care to patients who need prompt care. The scope of service of each center determines based on the Urgent Care center level and population needs. Because most UCCs are not equipped or staffed to handle life-threatening emergencies, acutely ill patient's critical care must be started along with immediate referral via ambulance through the activation transportation system. Patients needing a further clinical care or care out of UCC scope of service are referred to a higher care system e.g.: ED through a defined patient-centered referral system either physically or virtually. The number of health centers to provide urgent care services will be determined according to the need within the cities while considering the proximity to hospitals, Emergency's demand and distance and population density. Generally, the distance standard of maximum 50 km from the nearest hospital will be considered in determining which health centers can provide urgent care services [4]

In general, urgent care centers (UCCs) open 7 days a week with extended (variable) hours from 16 to 24 hours, usually extended from normal business hours depend on the population need and Emergency Department demand [5].

Distribution of UCC around Riyadh region with working hours:

Region/ Cluster	No.	Healthcare Center	Sunday- Thursday		All Week	
			16- Hours	24- Hours	16- Hours	24- Hours
First Health Cluster, Riyadh	1	Al-Aziziyah Healthcare Center	✓			
	2	First Al-Shifa Healthcare Center	✓			
	3	Eastern Laban Healthcare Center	✓			
	4	Tuwayq General Healthcare Center	✓			
	5	Al-Urajja Healthcare Center	✓			

Region/ Cluster	No.	Healthcare Center	Sunday- Thursday		All Week	
			16- Hours	24- Hours	16- Hours	24- Hours
Second Health Cluster, Riyadh	1	Al- Diriyah Healthcare Center	✓			
	2	Al-Khaleej Second Healthcare Center	✓			
	3	Al-Rawda Healthcare Center 1	✓			
	4	Al-Yasmeen Healthcare Center		✓		
Region/ Cluster	No.	Healthcare Center	Sunday- Thursday		All Week	
			16- Hours	24- Hours	16- Hours	24- Hours
Riyadh	1	Al-Jelh Healthcare Center	✓			
	2	Al-Safrrat Healthcare Center	✓			
	3	Al-Hesi Healthcare Center	✓			
	4	Helban Healthcare Center	✓			
	5	Layla Healthcare Center, Al-Aflaj	✓		✓	
	6	Rowaigeb Healthcare Center				✓
	7	An-Nuway'imah Healthcare Center	✓			
	8	Kamadah Healthcare Center	✓			
	9	Ad-Dilam Healthcare Center	✓			
	10	Tamrah Healthcare Center	✓			
	11	As Seeh Healthcare Center	✓		✓	
	12	Al-Faiha'a Healthcare Center, Al Majma'ah	✓		✓	
	13	Haferat Smakh Healthcare Center	✓			
	14	Al-Feqarah Healthcare Center	✓			
	15	South Ad Dawadmi Healthcare Center	✓			
	16	Al-Muzahmiyah healthcare Center	✓			
	17	West Afif Healthcare Center	✓			
	18	Um Al-Jamajim Healthcare Center	✓			

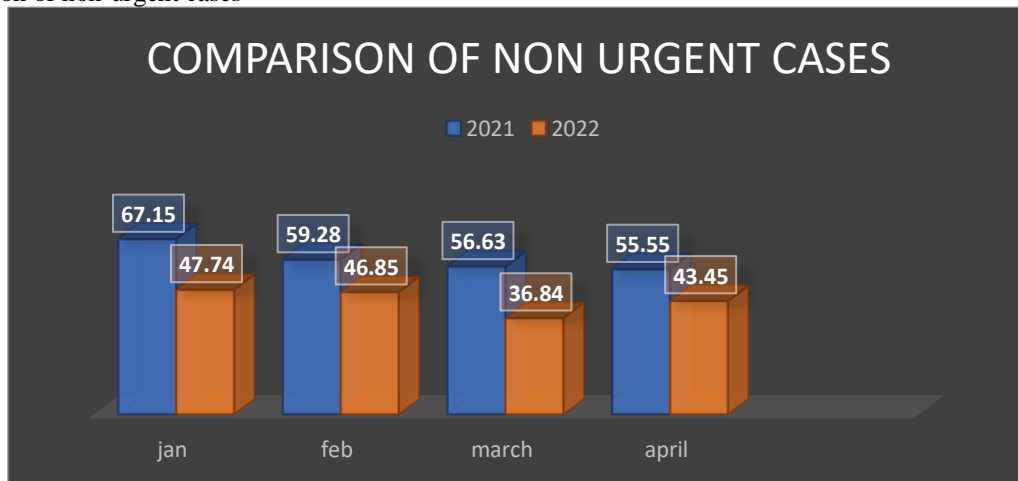
Monthly comparison of urgent and non-urgent cases of year 2021

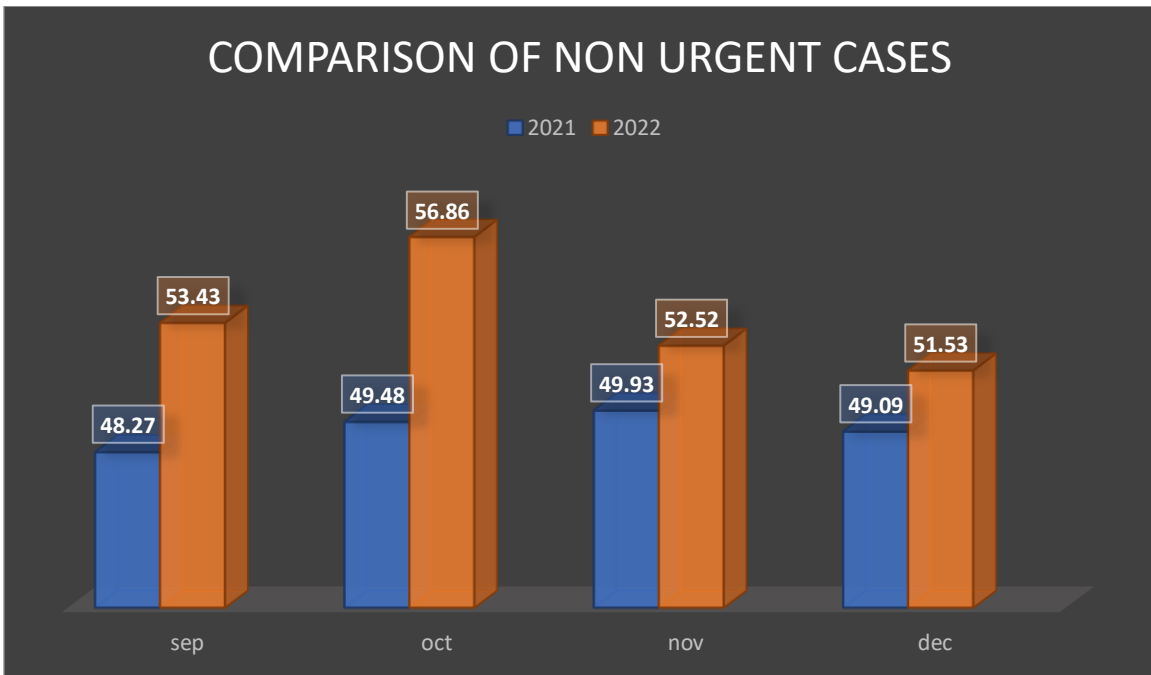
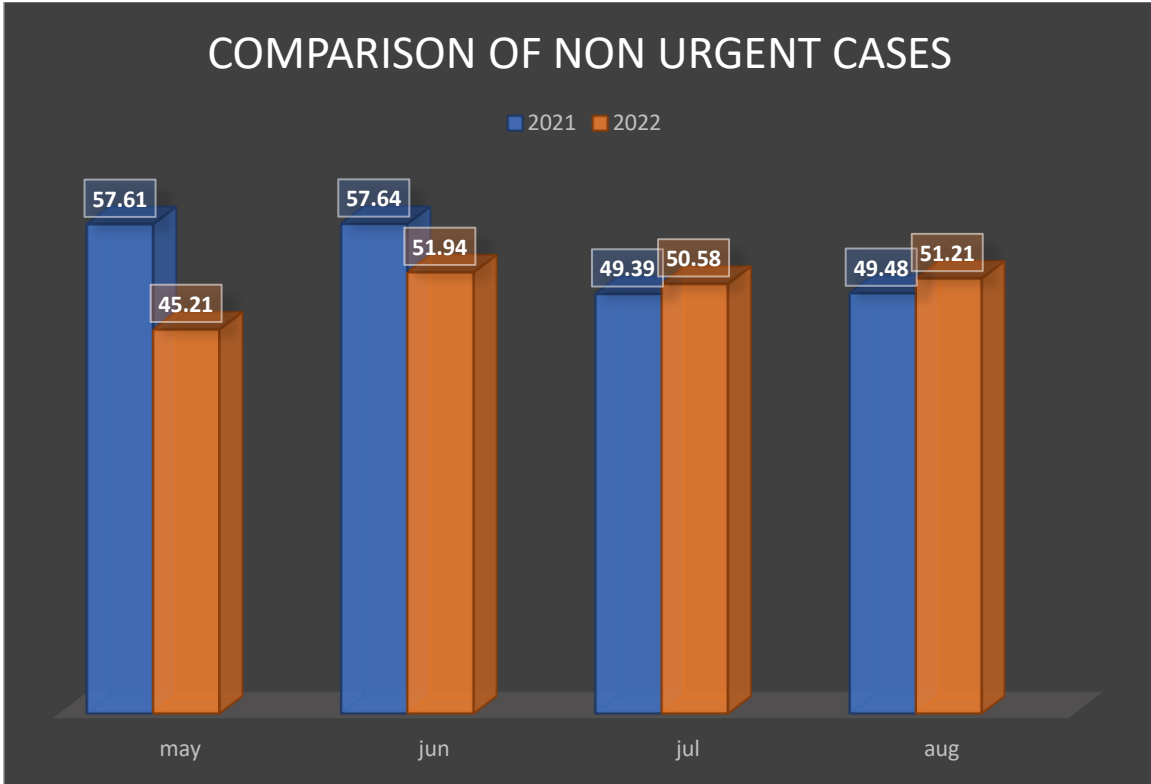
Month	Non urgent cases (%)	Urgent cases (%)
January 2021	67.15	32.85
February 2021	59.28	40.27
March 2021	56.63	43.37
April 2021	55.55	44.45
May 2021	57.61	42.39
June 2021	57.64	42.36
July 2021	49.39	50.61
August 2021	48.48	51.52
September 2021	48.27	51.73
October 2021	49.48	50.52
November 2021	49.93	50.07
December 2021	49.09	50.91
Total	54.12	45.88

Monthly comparison of urgent and non-urgent cases of year 2022

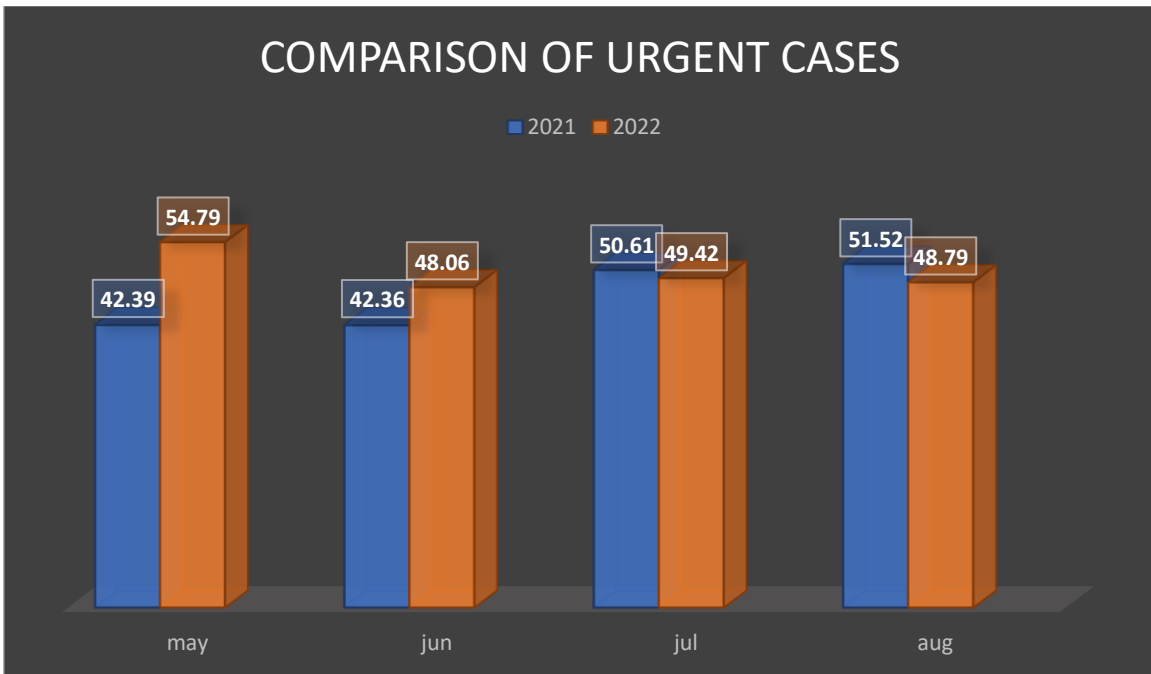
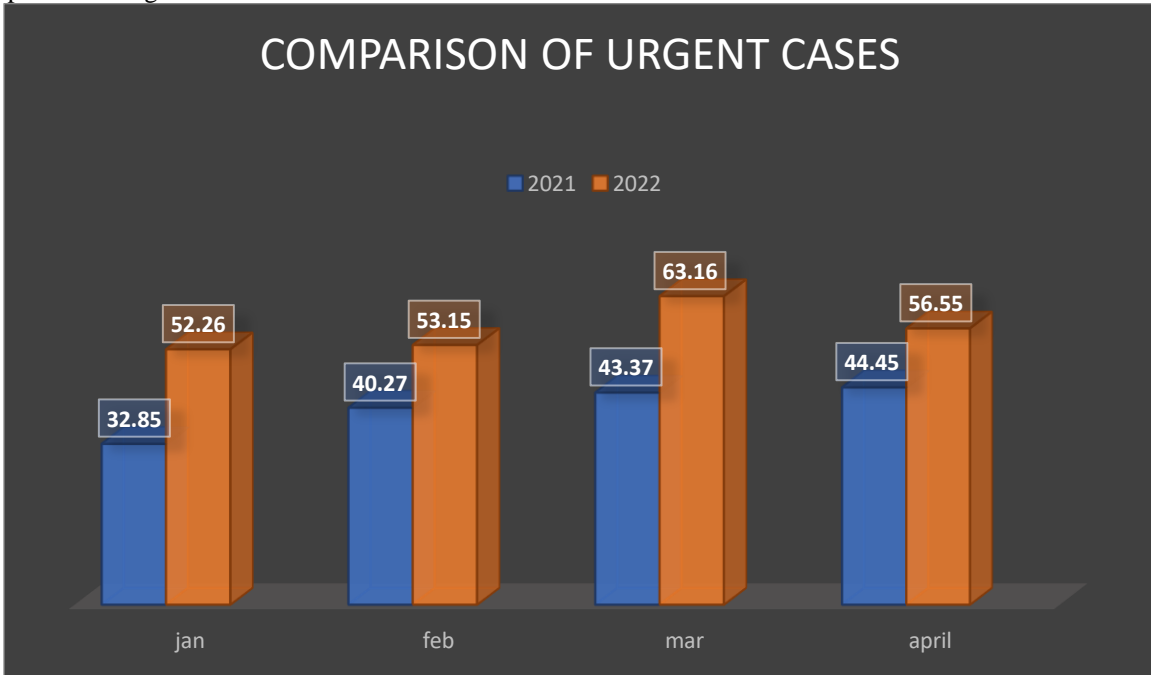
Month	Non urgent cases (%)	Urgent cases (%)
January 2022	47.74	52.26
February 2022	46.85	53.15
March 2022	36.84	63.16
April 2022	43.45	56.55
May 2022	45.21	54.79
June 2022	51.94	48.06
July 2022	50.58	49.42
August 2022	51.21	48.79
September 2022	53.43	46.57
October 2022	56.58	43.42
November 2022	52.52	47.48
December 2022	51.13	48.87
Total	48.93	51.07

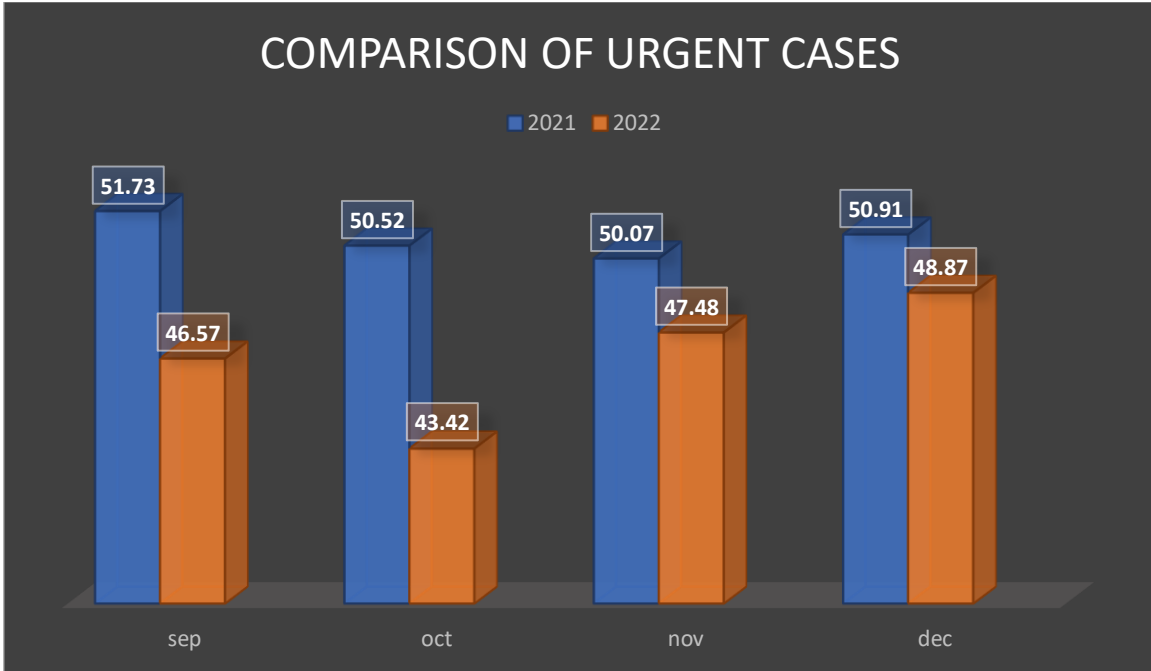
Comparison of non-urgent cases



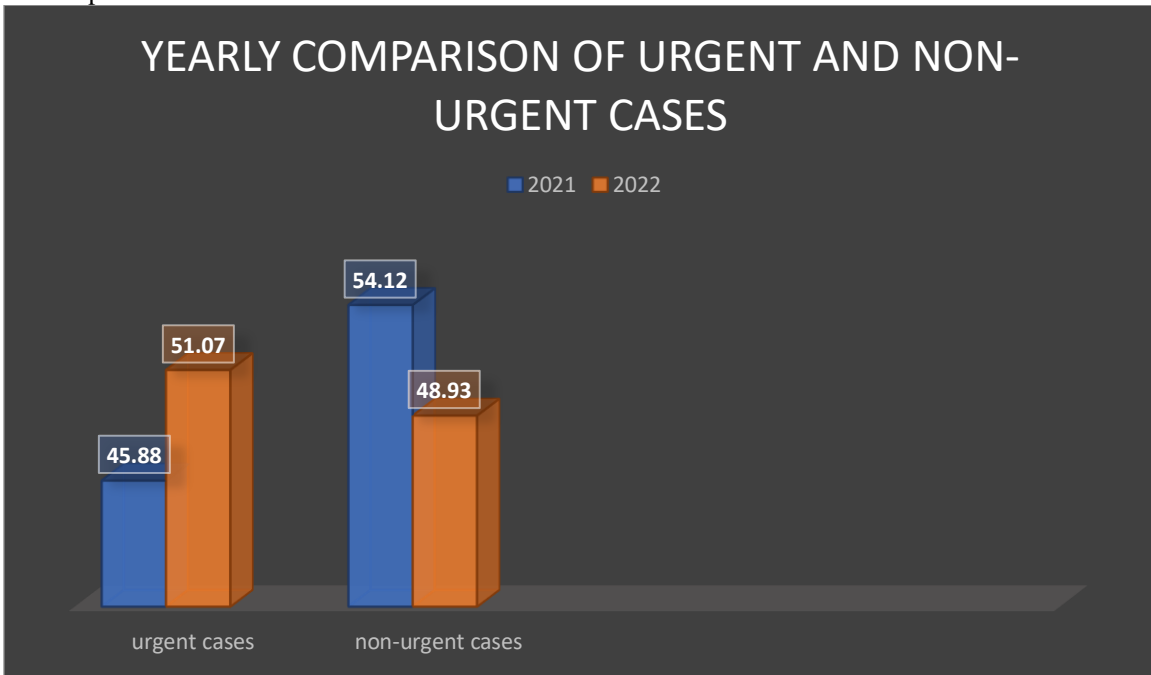


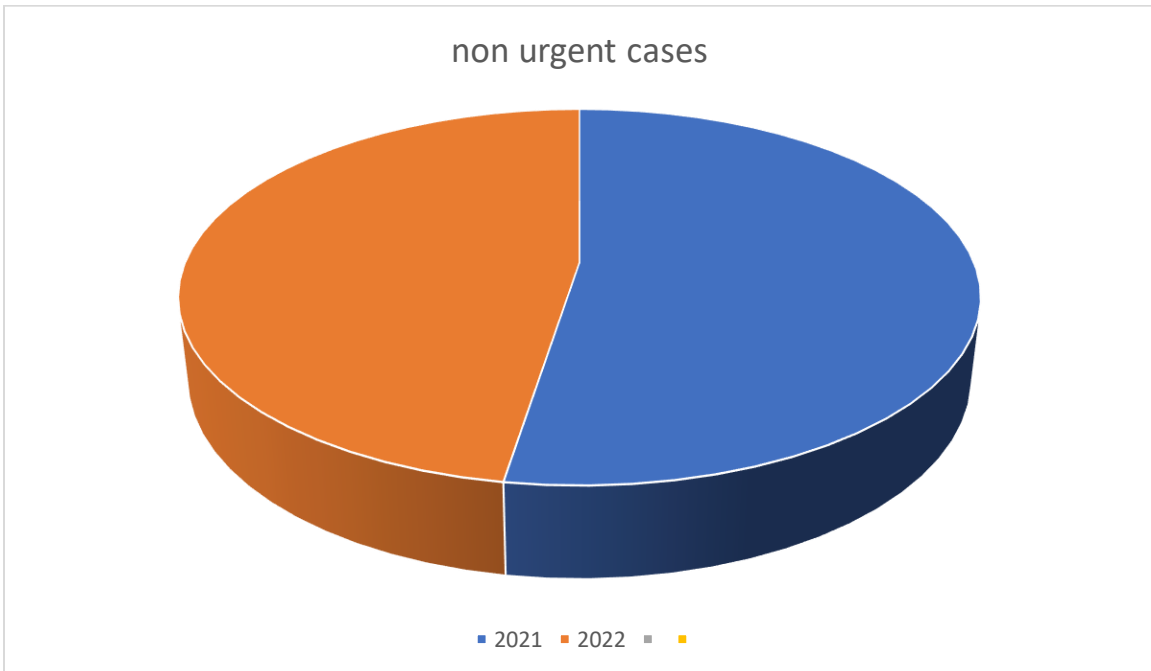
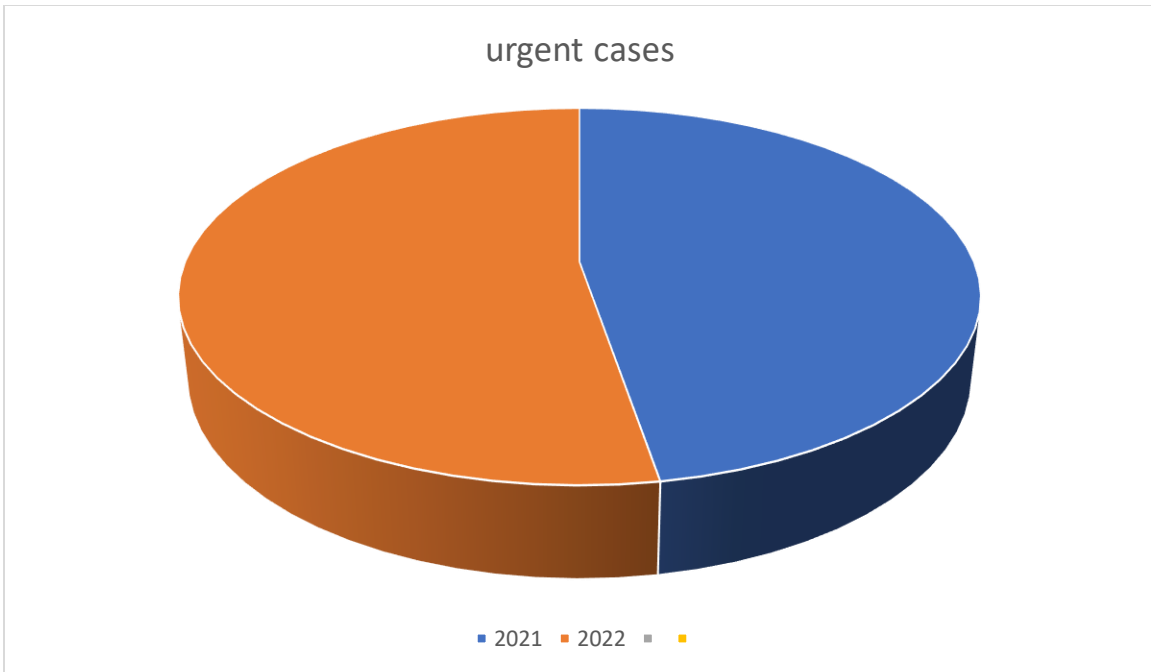
Comparison of urgent cases





Overall comparison





RESULTS:

The urgent care center program launched in Saudi Arabia in 2022. Currently, the MOH has launched two clusters: Riyadh Health Cluster One and the Second Health Cluster in Central Region. To find out the efficacy of the system, all the cases presented to the emergency department of the major hospitals of the Saudi Arabia in year 2021 and 2022 are included in this report. The cases are then divided into two

categories, urgent and non-urgent cases. The monthly data is organized, and all cases are added from different hospitals in each group.

The monthly data of year 2021 and year 2022 are compared in term of the percentages of urgent and non-urgent cases separately. The net overall results showed that urgent cases presented through the year 2021 are 45.88% and urgent cases in 2022 after the

application of the UCC system, the percentage of the urgent cases increased to 51.07%.

The result of the report is in the concordance with the aim and objectives of the urgent care centers. These act as the triage centers to sort of the urgent cases and refer them to the emergencies. As a result of which the more percent urgent and life-threatening cases referred to the emergencies through well-defined patient-centered referral system in year 2022.

DISCUSSION:

Due to extended emergency department wait time and long waits for primary care appointments, new system of urgent care centers had been developed. Even the well-developed countries like US grapples with the load of the emergency department in some area of the country, shortage of primary care clinician and rising cost of the health care. These urgent care centers may help to share the burden and improve the access and cost. Saudi Arabia took this initiative and launched the UCCs system in 2022. Over report on the efficiency of this system prove the fact that this system will help to share the burden of the ED and lesser number of the non-urgent cases land in the ED. [6]

At some places they are seen as a way to gain the patients, but health care system takes it as an opportunity to save the cost by containing the non-urgent cases away from the costly ED visits. But the overall data is lacking in proving the cost effectiveness of these centers and their overall impact on the economy. Further research and data are required in this field.[7]

UCC provides the health care during the usual business hours of the days maybe some hours in the evening but not throughout the day. These centers deal with the common conditions like ear infection, minor cuts and lacerations, sore throat, common cold and flu.[8] While emergency department deal with major trauma, resuscitation of the patients and admit the patients to the hospitals. UCCs should be run by a trained physician and staff nurse and assistant. The concept of UCCs emerged in back 1980s but it took a while to flourish because of limited resources and lack of marketing. [9] But due to their convenient access, it become popular among the patients.

Another one of the major hurdles in its development is the demand for the more clinicians. According to the report of the US that state will need 2500 more primary clinicians by the end of 2025.[10]

Further steps can be taken to make this system more cost effective even to generate savings by expanding this to low-income patients who have no other alternative to ED. Independent UCCs in the underserved areas to treat uninsured patients will help to decrease the ED load as well as to gain financial independence. More research and data are required to thoroughly access the effectiveness of the UCCs in decreasing non-urgent ED visits and overall impact on the economy and demand for more primary care physicians.

CONCLUSION:

It is concluded that the urgent care centers play an important role in sharing the burden of the emergencies of the Hospitals. During their opening hours, comparatively lesser number of patients will visit the ED. As a result, they will help to reduces the expenditures of the health care. The convenient access of the patients to these centers in future will further reduce the ED load of patients so that better care will be available for those who truly need it. But overall impact of UCCs on the economy need to be evaluated further.

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