



دانشگاه علوم پزشکی قزوین

Journal Club

Qazvin University of Medical Sciences



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The Impact of Covid-19 Pandemic on Hospital Key Performance Indicators (KPIs)

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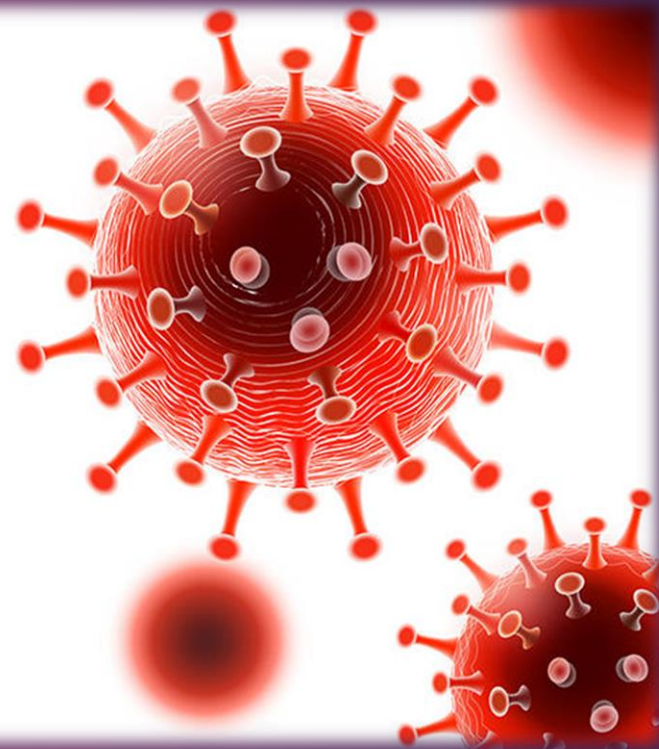
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COVID-19

CORONAVIRUS

NOVEL CORONAVIRUS





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Pandemic in Iran

Swine Influenza

Typhoid Fever

Cholera

Spanish flu

Typhus

Covid-19

Smallpox

Malarial

SARS/MERS

Avian Influenza



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HOSPITAL WORKERS ARE
HEROES



BSC perspectives	Indicators		Indicators	
Finance (F)	F1	Ratio of total revenue to total costs	F6	Current cost per bed
	F2	% Deductions of hospital	F7	the ratio of capital expenditures to current costs
	F3	Average hospitalization expenditures	F8	the cost of drugs and materials
	F4	Average outpatient expenditures	F9	%Personnel costs of total costs
	F5	Average expenditures per bed per day	F10	Total fixed cost for per Bed occupancy
Internal Process (P)	P1	average Length of stay	P15	Wrong-site surgery
	P2	Bed Turnover Interval	P16	Leaving a foreign object during surgery
	P3	Bed occupancy	P17	Medication errors
	P4	bed turnover	P18	wrong in the type of blood group
	P5	Mortality rate	P19	Patient falls rate
	P6	Cancelled operations	P20	Hospital accidents prevalence rate
	P7	% Repeated surgeries	P21	Sentinel event rate
	P8	Discharge with Personal satisfaction	P22	Needlesticks and sharps injury
	P9	Hospital infection rate	P23	the legal complaint from a hospital
	P10	Clinical errors	P24	Doctors on-call at night
	P11	Readmission rate	P25	Waiting time for admission operation room
	P12	% Occupational accidents	P26	Mean Length of stay in emergency department
	P13	Pressure Ulcers rate	P27	Emergency Room (ER) waiting time
	P14	Medical errors	P28	Waiting time from triage to see doctor
Learning and Growth (G)	G1	Staff satisfaction rate	G6	the amount of the electronic medical record
	G2	Staff turnover	G7	number of days of sick leave to total employees ratio
	G3	Training expenditures per capita	G8	Employee absenteeism rate
	G4	key Jobs Contains substitute	G9	Rate of employee sick-leave
	G5	Average hours of Internet use		
Customer (C)	C1	The facilities for families and visitors	C4	Other Stakeholders satisfaction
	C2	Patients satisfaction percentage	C5	Social satisfaction
	C3	Rate of Patient complaints		



دانشگاه علوم پزشکی گجرات



First Article

Short Communication

Healthcare indicators associated with COVID-19 death rates in the European Union

Journal: Public Health

Indexing: Web of Science Core Collection: Science Citation Index Expanded, Current Contents:

Clinical Medicine, MEDLINE (Index Medicus), PubMed Central, Scopus, Embase (Excerpta Medica),

Google Scholar

Impact Factor: 2.427



دانشگاه علوم پزشکی گجرات



Second Article

Time series

Impact of coronavirus disease 2019 (COVID-19) on US Hospitals and Patients, April–July 2020

Journal: BMC Medicine

Indexing: Web of Science Core Collection: Science Citation Index Expanded, Current Contents:

Clinical Medicine, MEDLINE (Index Medicus), PubMed Central, Scopus, Embase (Excerpta Medica),

Google Scholar

Impact Factor: 3.254 (2020)



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Objective

The goals for these estimates were to allow ready comparison of COVID-19 hospital indicators among states and to provide a better evaluation of the magnitude of the pandemic for public health officials and for the American public. Here, we describe the impact of COVID-19 on US inpatients and hospital capacity in the early stage (April 1 through July 14, 2020) of the pandemic using time-series estimates of the critical hospital indicators developed by NHSN to characterize the pandemic in near real time.



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Method

Design: From March 27 to July 14, 2020, the Disease Control and Prevention's National Healthcare Safety Network (NHSN) collected daily data on hospital bed occupancy, number of hospitalized patients with COVID-19, and the availability and/or use of mechanical ventilators. Time series were constructed using multiple imputation and survey weighting to allow near–real-time daily national and state estimates to be computed.



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Results

During the pandemic's April peak in the United States, among an estimated 431,000 total inpatients, 84,000 (19%) had COVID-19.

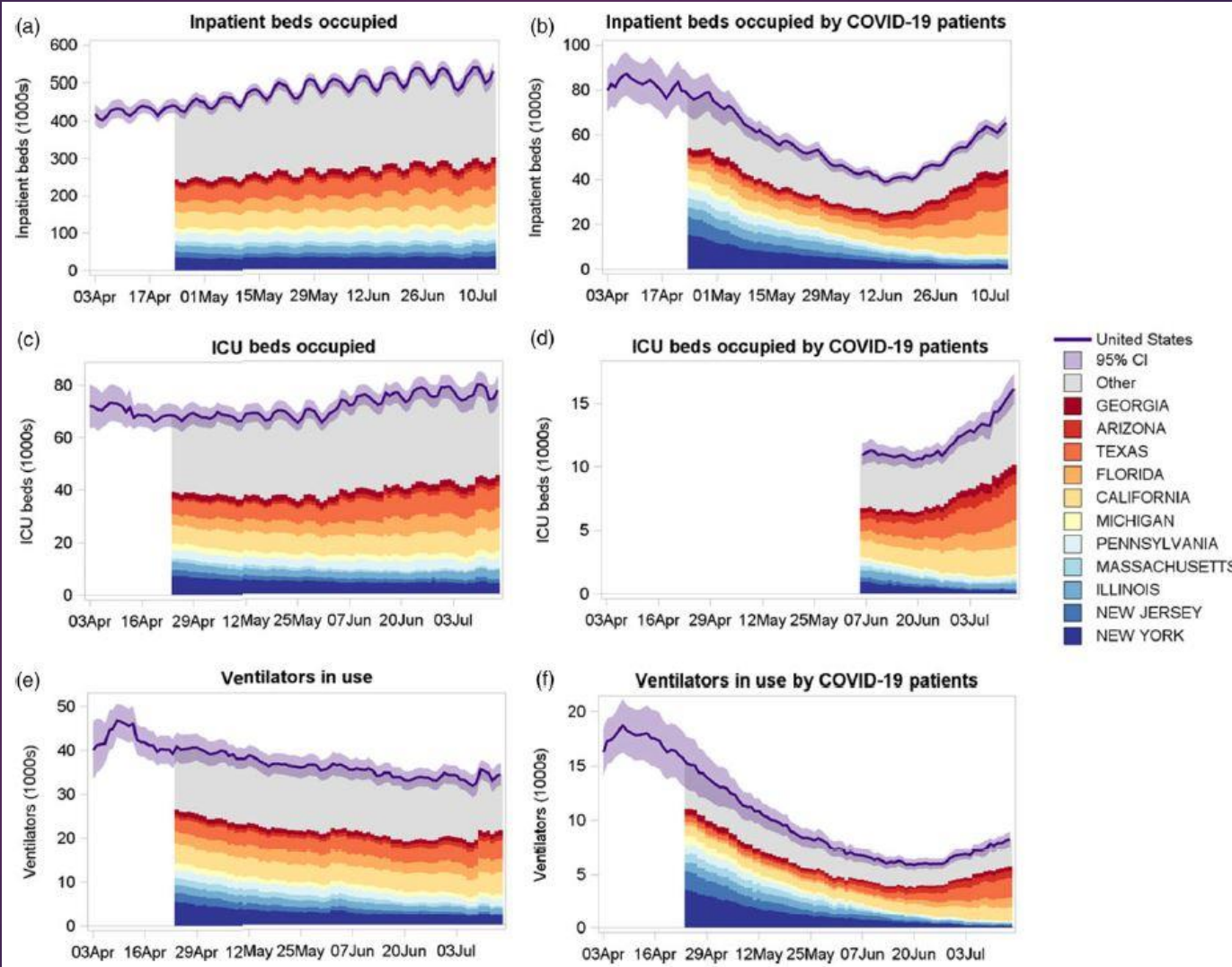
Although the number of inpatients with COVID-19 decreased from April to July, the proportion of occupied inpatient beds increased steadily.

COVID-19 hospitalizations increased from mid-June in the South and Southwest regions after stay-at-home restrictions were eased.

The proportion of inpatients with COVID-19 on ventilators decreased from April to July.



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Conclusions

These results provide important lessons for COVID-19 hospital surveillance during the continuing pandemic, as well as for future pandemics and outbreaks. The approach described is based on existing survey methods, and the extension to this arena lends a powerful tool for pandemic and other surveillance in the absence of complete reporting. This approach should be considered for other metrics within the hospital surveillance sphere, as well as to other areas of surveillance of hospital-based metrics. Accurate national and state estimates of these data are essential for any health system to decide and control pandemics. Such changes should be considered for systems for surveillance of hospital-based indicators.



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Third Article

Systematic Review

A Systematic Review: The Dimensions and Indicators utilized
in the Performance Evaluation of Health Care Organizations-
An Implication during COVID-19 Pandemic

Journal: medRxiv

Preprint



دانشگاه علوم پزشکی قزوین



Objective

This systematic review aims to identify the Key Performance Indicators (KPIs) which are the most frequently used and important in the Performance Evaluation (PE) of Health Care Organizations (HCOs). Also, it aimed to analyze the resulted Balanced Scorecard (BSC) dimensions during the Coronavirus Disease 2019 (COVID-19) era.

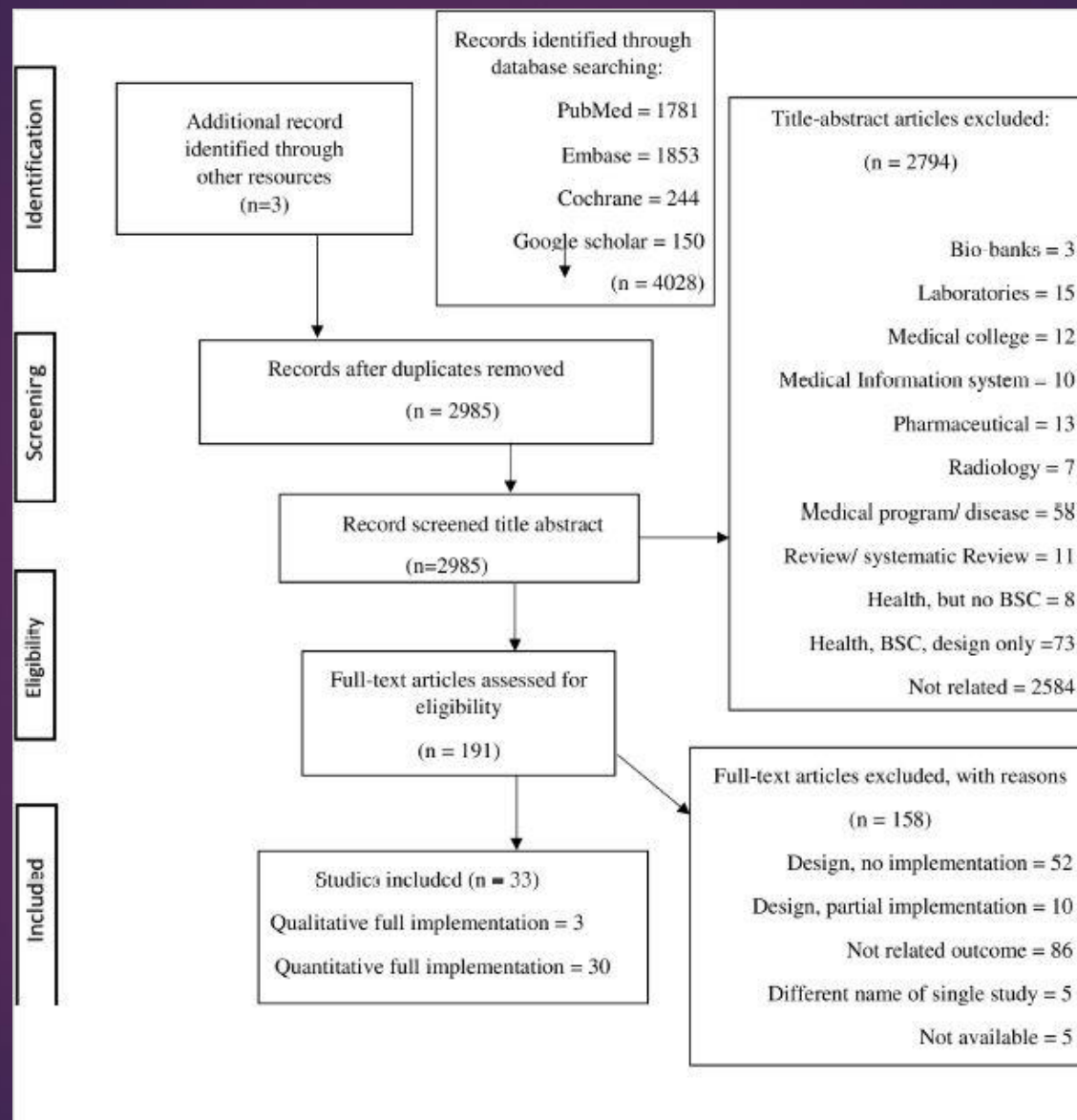


Method

This systematic review was prepared according to PRISMA guidelines. PubMed, Embase, Cochrane, and Google Scholar databases, as well as Google search engine, were inspected to find all implementations of BSC at HCOs until 20 September 2020. The Risk of Bias (RoB) was assessed for each included article. The eligible studies were 33

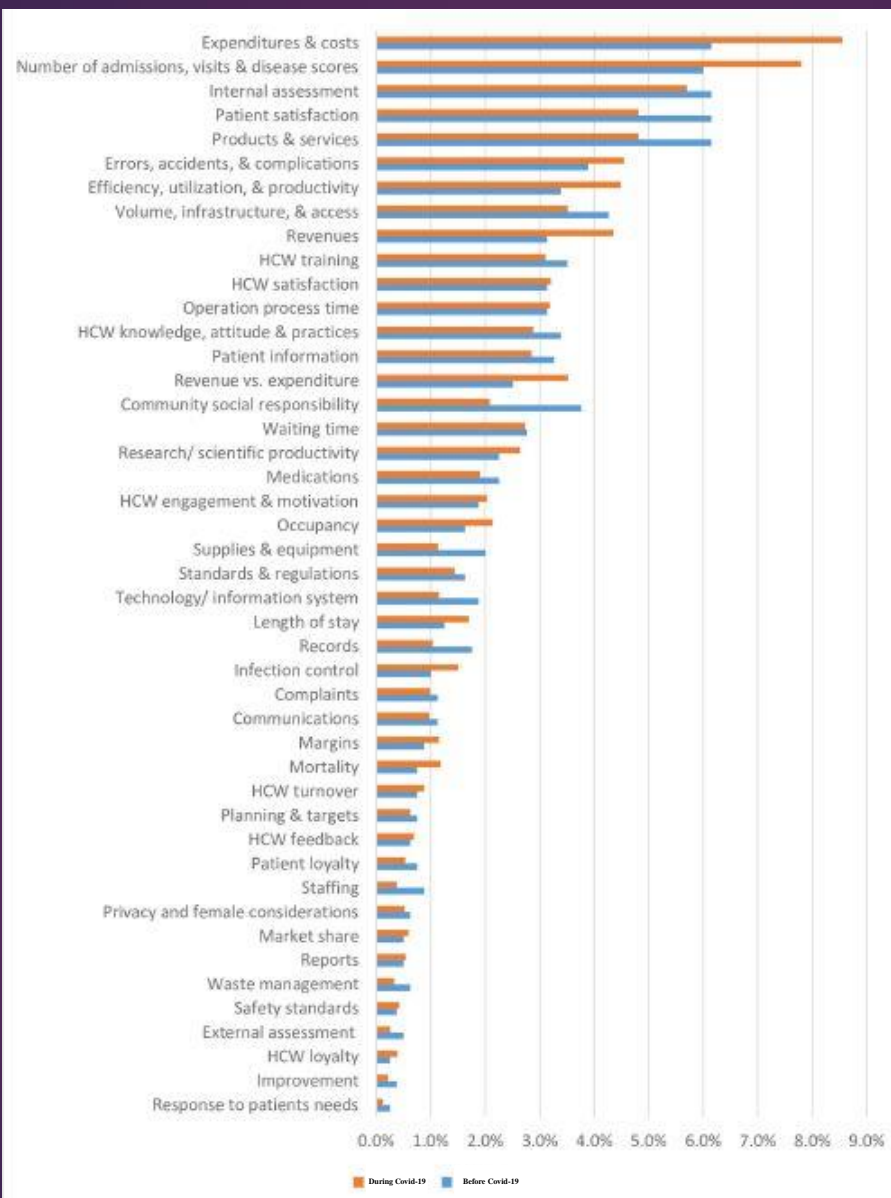


Method





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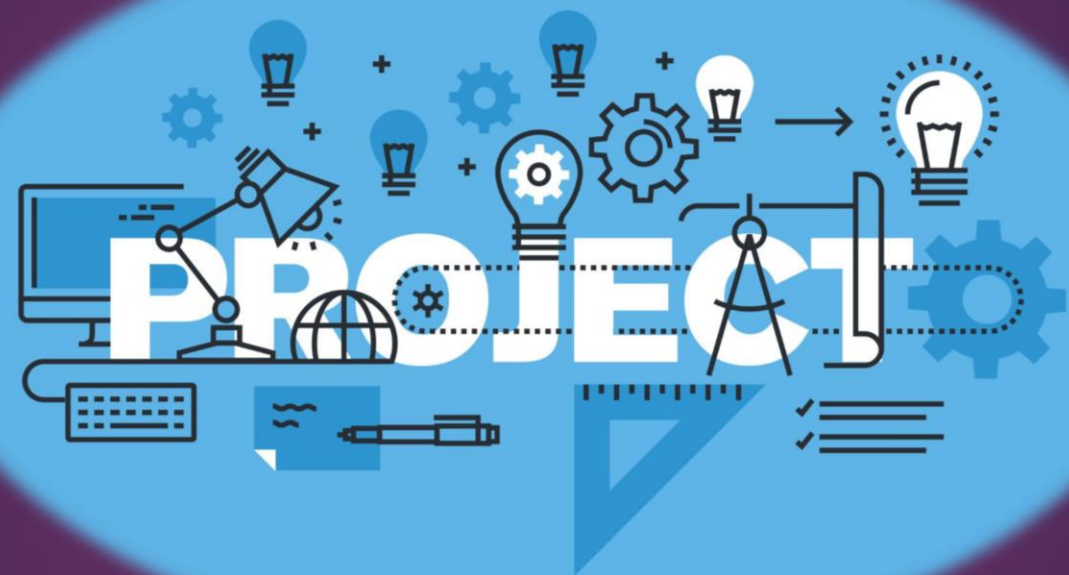


Results

A total of 797 KPIs were extracted from the resulted implementations. These KPIs were categorized in the studies under 45 perspectives



دانشگاه علوم پرستاری





ردیف	نام شاخص	واحد سنجش	دوره زمانی
۱	تعداد اعمال جراحی (به تفکیک نوع جراحی)	عدد	ماهانه
۲	نسبت پذیرش به هر تخت	عدد	ماهانه
۳	فاصله چرخش تخت	روز	ماهانه
۴	درصد اشغال تخت	درصد	ماهانه
۵	تعداد بستری شدگان	عدد	ماهانه
۶	نسبت تخت فعال به مصوب	عدد	ماهانه
۷	میانگین تخت فعال	عدد	ماهانه
۸	درصد بیماران تعیین تکلیف شده ظرف مدت ۶ ساعت	درصد	ماهانه
۹	درصد بیماران خارج شده از اورژانس ظرف مدت ۱۲ ساعت	درصد	ماهانه
۱۰	درصد CPR موفق	درصد	ماهانه
۱۱	درصد CPR ناموفق	درصد	ماهانه
۱۲	درصد ترک از اورژانس با مسئولیت شخصی	درصد	ماهانه
۱۳	درصد ترک از بخش ها با مسئولیت شخصی	درصد	ماهانه
۱۴	تعداد مراجعین درمانگاه	عدد	ماهانه
۱۵	تعداد مراجعین اورژانس	عدد	ماهانه
۱۶	متوسط زمان اقامت بیمار	روز	ماهانه
۱۷	درصد عفونتهای بیمارستانی	درصد	ماهانه
۱۸	فوت خالص در هزار نفر مرخص شده	عدد	ماهانه