



The trend of hospital quality improvement literature publication and the Hospital and Healthcare Standard in Thailand



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Introduction

Thailand has been continuously encouraging the hospitals involve in the Hospital and Healthcare Standards process, which has been updated in a total of 5 additional Hospital and Healthcare Standards. The Hospital and Healthcare Standards promulgation resulted in the improvement and the implement of standards in the hospitals in order to pass the criteria for hospital accreditation. This boosts the confidence of those who receive the service. However, there is a lack of evidence that shows the impact of Hospital and Healthcare Standards on the number of quality implement publications.

Methodology

Data collection The following database search were conducted from inception to January 2022

Thai Databases

TCI
TNRR
ThaiLIS
R2R website

International Databases

PubMed
Scopus

Figure 1: Search strategies overview

Thai Keywords

การรับรองคุณภาพ, การรับรองคุณภาพ
โรงพยาบาล, การพัฒนาคุณภาพ, การพัฒนา
คุณภาพโรงพยาบาล, มาตรฐานโรงพยาบาล, การ
พัฒนาคุณภาพอย่างต่อเนื่อง, ความปลอดภัยของ
ผู้ป่วย, ความปลอดภัยของบุคลากรทางการแพทย์,
ความคลาดเคลื่อนทางยา, ระบบบริหารความเสี่ยง
, การบริหารความเสี่ยง, เหตุการณ์ไม่พึงประสงค์,
ยาที่มีความเสี่ยงสูง, ยาความเสี่ยงสูง, การจัดการ
ด้านยา, สถานพยาบาล, บุคลากรทางการแพทย์

*** Thai keywords were only used in Thai
databases with the Boolean operator "OR"
***word-by-word search was conducted in
the TNRR database

English Keywords

Hospital
accreditation
OR Hospital
standard
AND
Quality improvement
OR Continuous
quality improvement
OR Patient safety
OR
personnel safety
OR
Routine to research
OR medication error
OR
R risk management
OR
adverse event
OR
adverse drug event
OR
high alert drug
OR
high alert medication
OR
medication
management
OR
hospital
OR
personnel
Thailand
OR
Thai

*** English keywords were used in Thai and international
databases. The Boolean operators were used as shown in fig1.

Inclusion criteria

- Data were collected in Hospitals in Thailand
- Literatures that covered at least one of the following issues:
 - Patient Safety, Personnel Safety
 - Quality of hospitals and processes in hospitals
 - The hospital's adoption of the Hospital and Healthcare Standards.
- Published in Thai or English

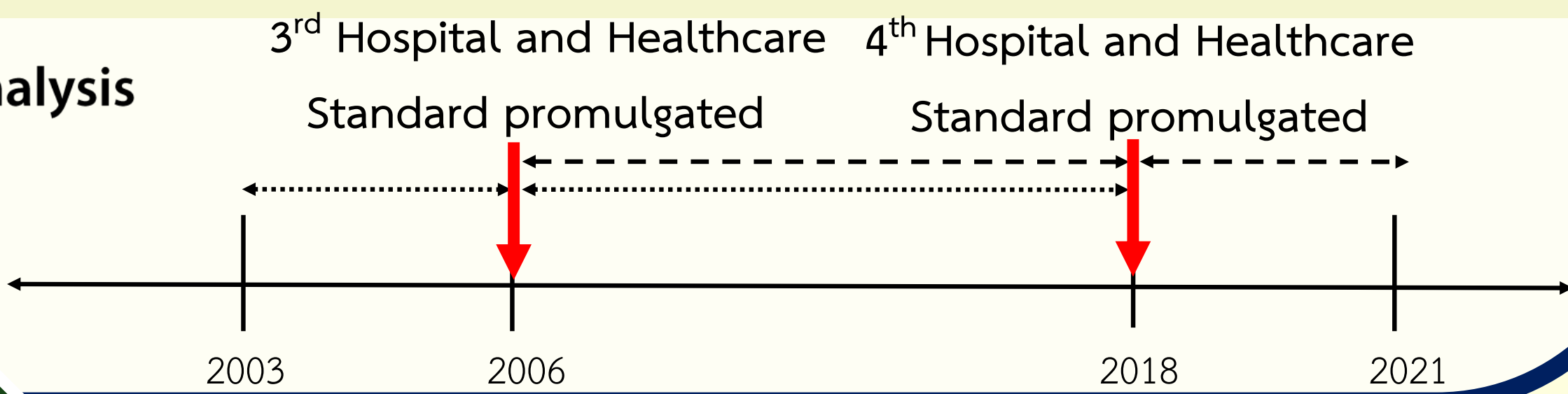
Exclusion criteria

- Duplicated literatures.
- Books, textbooks, guidelines, standards issued by various organizations, Clinical studies and Systematic reviews

Data analysis

- Interrupted Time Series:** Autoregressive integrated average model (ARIMA)
- Statistical software:** SPSS version 25
- Analysis period**
 - 3 years before and after promulgation 3rd Hospital and Healthcare Standard to 4th Hospital and Healthcare Standard (2003-2006 and 2006-2018)
 - After promulgation 3rd Hospital and Healthcare Standard to 4th Hospital and Healthcare Standard and 3 years after promulgation 4th Hospital and Healthcare Standard (2006-2018 and 2018-2021)

Figure 2: Period of Analysis



Results:

PRISMA flow diagram

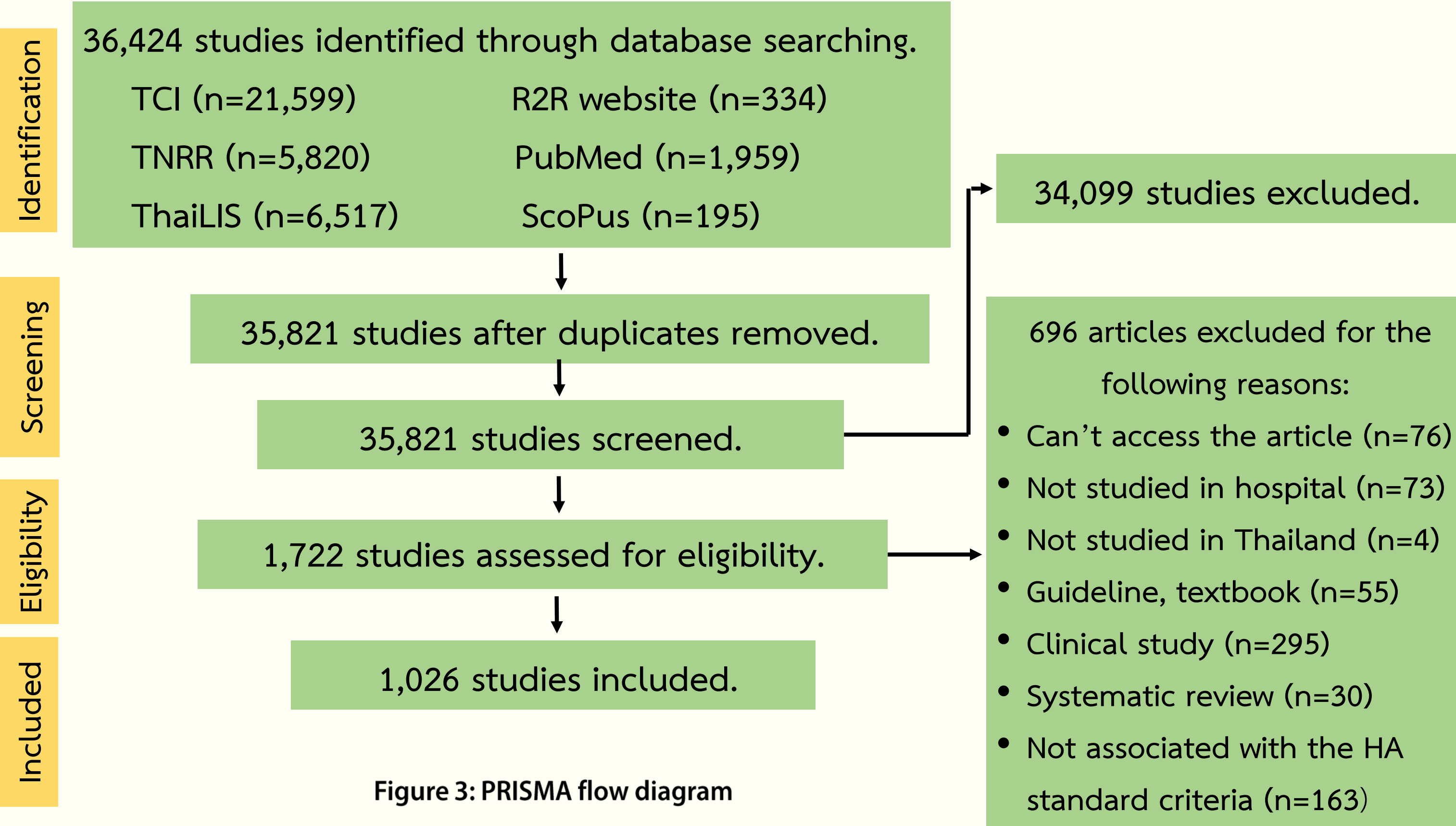


Figure 3: PRISMA flow diagram

Objective

To analyze the trend of literatures published on quality improvement in hospitals before and after the promulgation of the Hospital and Healthcare Standards in Thailand.

Results:

Characteristics of included studies (n=1,026)

Table 1: Characteristics of included studies (n=1,026)

Characteristics	N (%)
Hospital and Healthcare Standard topic	
I: Organization management overview	692 (67.45)
II: Key hospital systems	446 (43.47)
III: Patient care process	154 (15.01)
IV: Results	1 (0.01)
Type of hospital	
A private hospital	54 (5.26)
A government hospital	764 (74.46)
Multicenter private hospitals	22 (2.14)
Multicenter government hospitals	179 (17.45)
Multicenter private and government hospitals	7 (0.68)
Study design	
Randomized controlled trial	7 (0.68)
Quasi-experimental study	244 (23.78)
Descriptive study	775 (75.54)

Number of publications

Figure 4: Number of publication

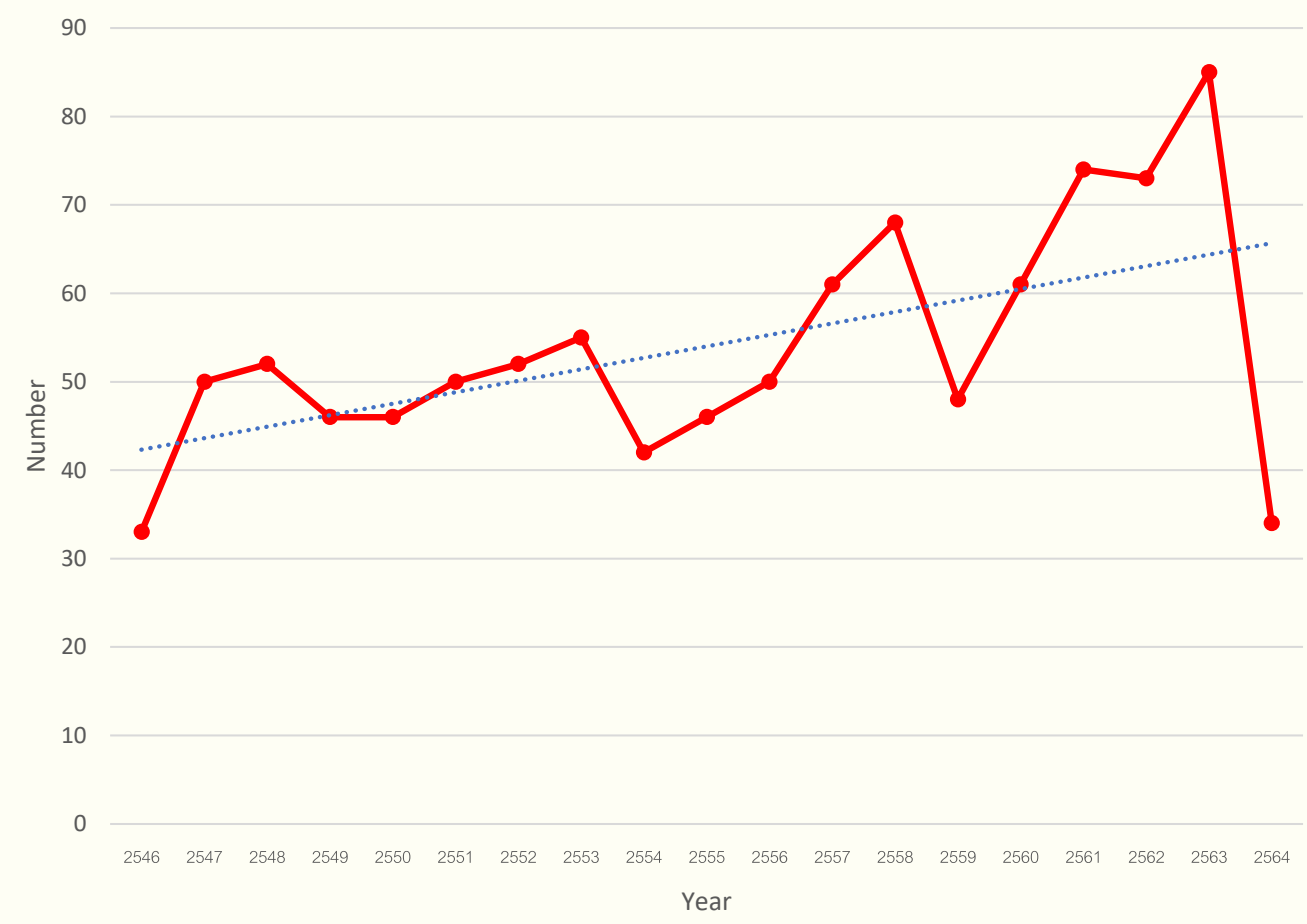


Table 2: Number of publication

Year	Number	Year	Number
2003	33	2013	50
2004	50	2014	61
2005	52	2015	68
2006	46	2016	48
2007	46	2017	61
2008	50	2018	74
2009	52	2019	73
2010	55	2020	85
2011	42	2021	34
2012	46		

Trend of publication

Figure 5: Trend of publication

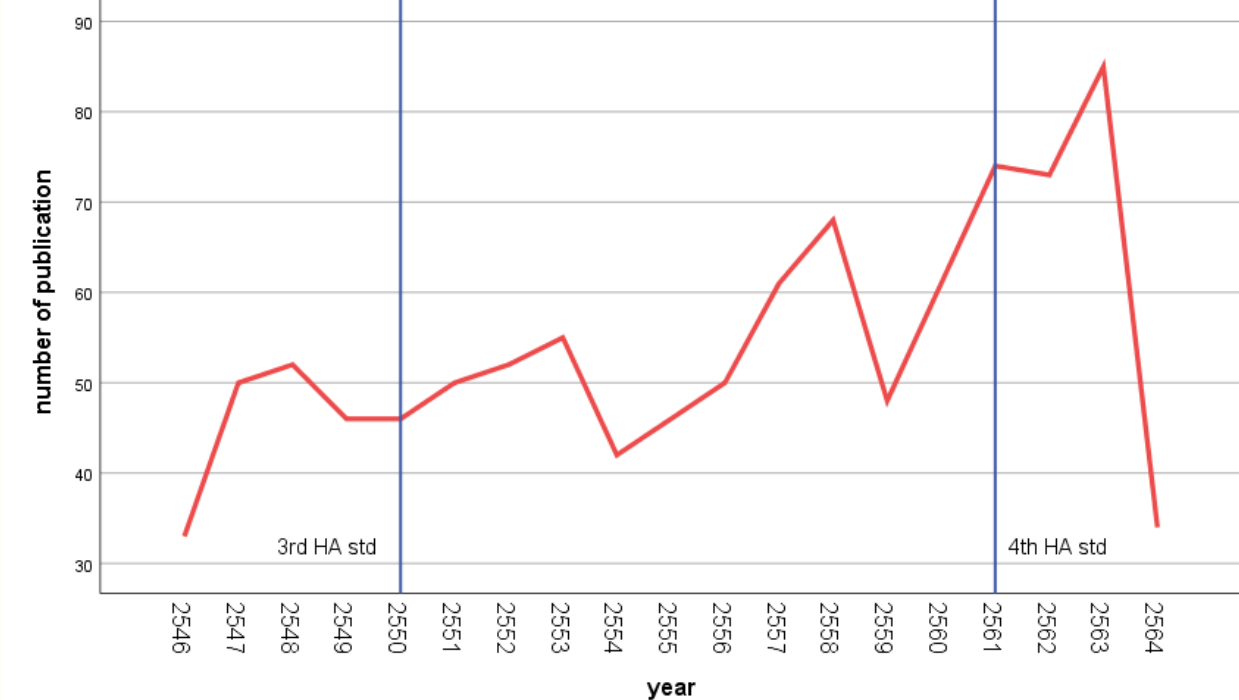


Table 3: Trend of publication

Number	Mean _{pre}	Mean _{post}	Mean difference	%Mean changed
3 rd Std	53.29	54.42	1.13	23.756
4 th Std	50.67	66.5	15.83	31.241

Mean difference = Mean_{post} - Mean_{pre}
% Mean changed = Percentage change relative to the pre-HA std
publication period = (Mean changed / Mean_{pre}) x 100

Interrupted time series (ARIMA model)

Figure 6: Interrupted time series (ARIMA model)

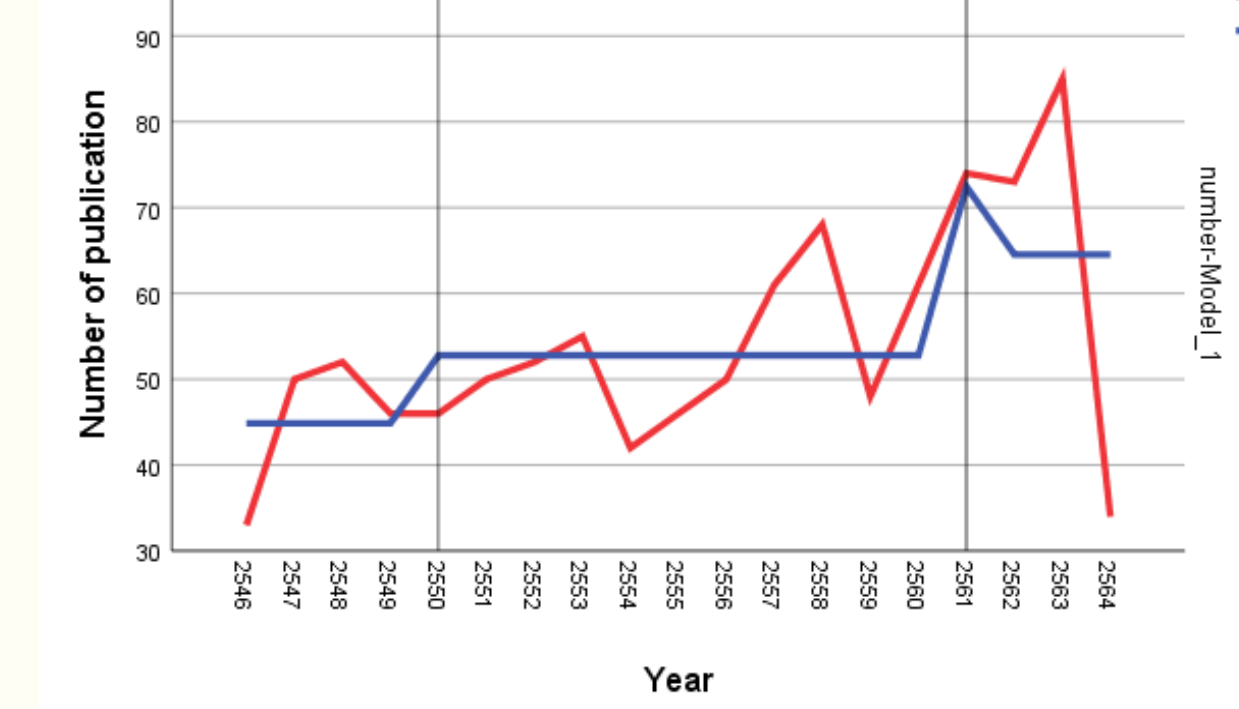


Table 4: Interrupted time series

Interrupted time series (ARIMA model)	% Changed	P-value
3 rd Std	7.919 %	0.220
4 th Std	19.661 %	0.016*

* P<0.05 ; significant

Discussion:

Limitations

- Some abstracts and fulltexts are not available online. This might impact the total number of publications included in this study.
- Trends of the publications during the 1st and 2nd Hospital and Healthcare Standards could not be analyzed due to the small amount of accessible literatures.
- There is a limitation on the length of time that hospital uses the Hospital and Healthcare Standards. Therefore, the results might not reflect the impact resulting from the promulgation of each standard.

Conclusion:

The 3rd and 4th editions of the Hospital and Healthcare Standard was associated with a 7.191% increase in publication (P=0.220) without a statistical significant and 19.661% (P=0.016) with statistical significant, respectively.

References:

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