



Ente Ospedaliero Cantonale

Multifaceted intervention to curb the over-prescription of Proton pump inhibitors (PPI) in hospitalized patients

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Background & Method

Background

Aim

To achieve a significant reduction of new PPI prescriptions at discharge in hospitalized patients by testing the efficacy of a multifaceted strategy consisting in:

- A continuous transparent monitoring-benchmarking system
- A capillary educational interventions (guidelines, presentations,...)

Method

Multicenter longitudinal quasi-experimental before and after study, July 1st 2014 to June 30th 2017 ; 5 public teaching hospitals of the Italian-speaking region of Switzerland (Ente Ospedaliero Cantonale, EOC).

Intervention

Applied in the internal medicine departments.

Primary outcome

Reduction of PPI prescriptions at discharge.

Control group: surgery departments of the same hospital network

Results

44'973 patients admission, collected on 36 months

	Internal Medicine Department	Surgery Department
Admissions (n.)	26.312	18.661
H1, n (%)	2.995 (11.4)	1.536 (8.2)
H2, n (%)	4.975 (18.9)	3.273 (17.5)
H3, n (%)	6.558 (24.9)	4.545 (24.4)
H4, n (%)	5.805 (22.1)	4.531(24.3)
H5, n (%)	5.976 (22.7)	4.776 (25.6)
Age, years (median, Q1-Q3)	75 (63-83)	67 (50-78)
Age groups, n (%)		
<65, y	7.200 (27.4)	8.658 (46.4)
65-80, y	10.107 (38.4)	6.241 (33.4)
>80, y	9.005 (34.2)	3.762 (20.2)
Gender, females (%)	13.129 (49.9)	9.630 (51.6)
Case-mix (median, Q1-Q3)	0.70 (0.51-0.92)	0.80 (0.53 -1.49)
PPIs admission, n (%)	11.829 (44.9)	4.339 (23.3)
PPIs discharge, n (%)	13.337 (50.7)	8.534 (45.7)
New PPI prescriptions, n (%)	2.617 (18.1)	4.696 (32.8)
New PPI prescriptions by hospital		
H1, (%)	328 (12.5)	546 (11.6)
H2, (%)	379 (14.5)	487 (10.4)
H3, (%)	747 (28.5)	1.316 (28.1)
H4, (%)	481 (18.4)	772 (16.4)
H5, (%)	682 (26.1)	1.575 (33.5)
New PPI prescriptions by age groups, n (%)		
<65, y	1.004 (38.4)	2.524 (53.7)
65-80, y	967 (36.9)	1.472 (31.4)
>80, y	646 (24.7)	700(14.9)

➤ % of patients already taking PPI on admission:

■ Surgery wards: 23.3%

■ Medicine wards: 44,9% 

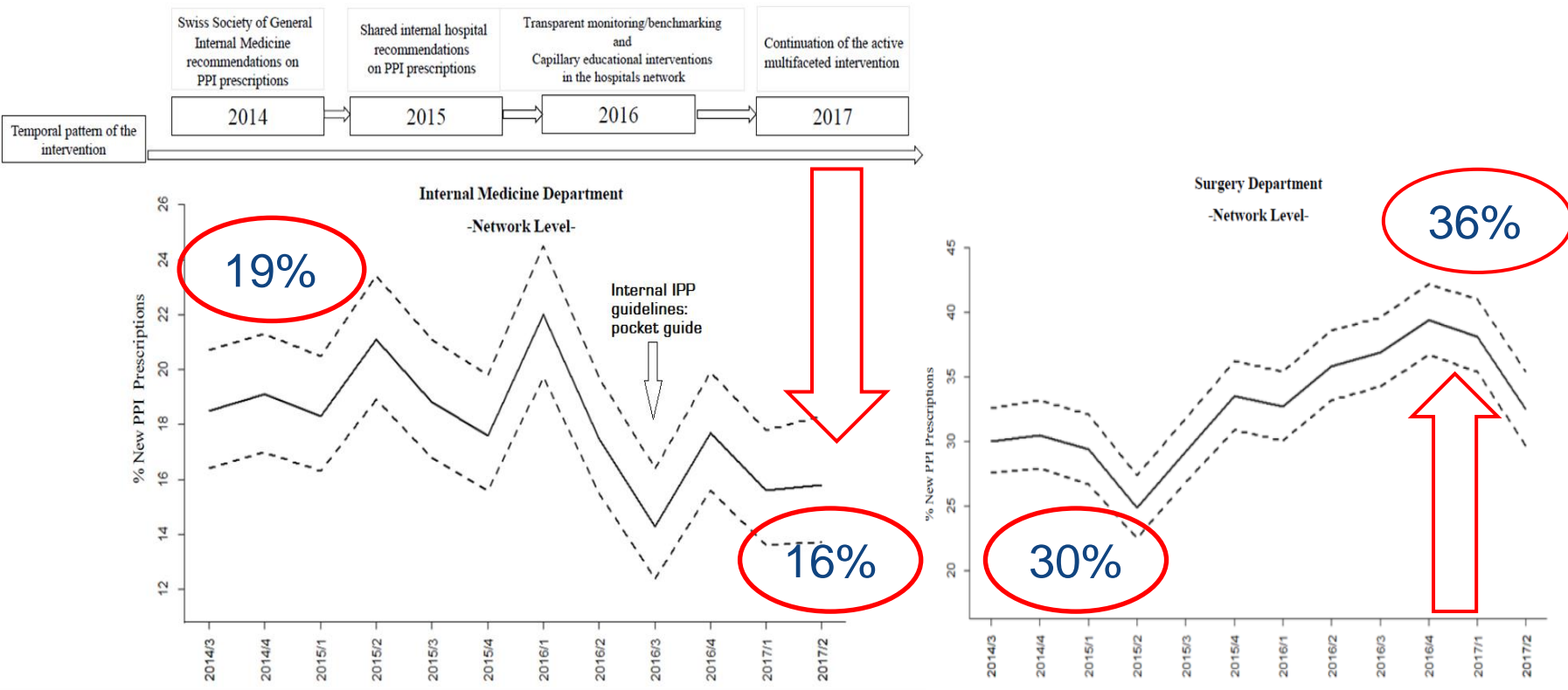
➤ Hospitals inter-variability: high!

Same hospital: similar trend in medical and surgical wards

➔ «Hospital trend»?

Results

- **Internal medicine wards:** decreasing-trend of the annual rate of new PPI prescriptions: 19% (2014), 19% (2015), 18% (2016), and 16% (2017) ($p < 0.001$ year 2014 vs. 2017; p -fortrend < 0.001).
- **Surgery wards:** increasing trend 30% (2014), 29% (2015), 36% (2016) and 36% (2017) ($p < 0.001$, year 2014 vs. 2017; p -for-trend < 0.001).



Conclusion

- Design: Longitudinal quasi experimental before/after study (no RCT) but innovative!
- No data on PPI prescription indication
 - ➔ We suppose decreasing trend means better appropriateness
 - ➔ To confirm our hypothesis: ongoing data collection analyzing the PPI prescriptions appropriateness

The introduction of a multifaceted intervention significantly reduced the trend of PPI prescriptions at hospital discharge in internal medicine departments.

Further studies are needed to confirm if the strategy proposed could contribute to optimize the in-hospital drug prescription behavior in other settings as well.