DECREASING HOSPITAL ACQUIRED BLOOD STREAM INFECTIONS THROUGH SELF-INVESTIGATION BY HOSPITAL WARDS

Pnina Shitrit, MD 1,2 (pninash@clalit.org.il), Michal Chowers, MD 2,3, Beatriz Gerber, MA ,RN 1, Hanni Lederman, MA ,RN 1, Mira Maram, MD 4

1 Infection Control Unit, Meir Medical Center, Kfar Saba, Israel, (2) Medicine, Sackler Medical School, Tel-Aviv University, Tel-Aviv, Israel, (3)Infectious disease unit Meir Medical Center, Kfar Saba, Israel, (4)Medical Management, Meir medical center, Kfar Saba.

INRODUCTION
Data on the incidence of hospital-wide acquired bloodstream infection (HA-BSI) and the best ways to reduce it are lacking

OBJECTIVE
Our aim was to increase hospital-wide awareness and decrease incidence of hospital-acquired (HA) -BSI

METHODS
• Intervention of self investigation HA- BSI by all hospital wards was initiated in January 2016
• Interrupted time series analysis was used to compare the monthly rate of HA-BSI before and after the intervention
• We estimated the number of cases prevented by applying the HA-BSI rate in 2015 and comparing the observed number of cases to the expected if the rate had not changed

THE INTERVENTION
1 Daily report of all positive blood cultures generated by the infection control Unit
2 Events suspected as HA- BSI sent to the wards with requests to investigate the event using a structured questionnaire (Data collected: source of infection, risk factors, microbiology, lesson learned from the investigation)
3 BSI clusters or events related to specific procedures initiated immediate investigation and intervention by the IC Unit
4 Investigation results reviewed by IC unit together with the wards and hospital management
5 A summary of the results sent to the wards and to hospital management quarterly
6 Prevention and improvement measures are taking place according to investigation results

RESULTS
- 64% of HA-BSI events were investigated by the wards in 2016; and 78% in 2017
- Before the intervention: HA-BSI rate per 1000 admissions increased by 0.11 per month (not significant P=0.15)
- During the intervention period: HA-BSI rate decreased by 0.045 per month (P=0.05, 95% CI: -0.09 - 0.00)
- The rate of HA-BSI decreased in both ICU units and in non-ICU wards
- There was no change in community-acquired BSI rate (P for trend = 0.83) or in the number of blood cultures drawn
- All-cause 30-day mortality for patients with HA-BSI was 30%

CONCLUSIONS
Increase awareness to HA BSI through self-investigation by the wards led to hospital-wide significant reduction in HA-BSI

We estimated that in 2016-2017, 200 cases of HA-BSI and 60 deaths were prevented