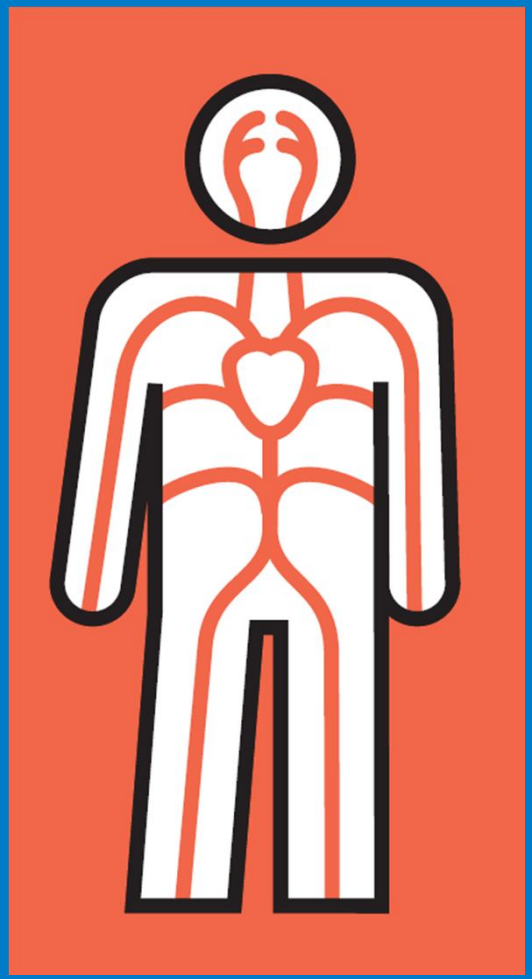

National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport

Is incidence of CLABSI influenced by compliance to an intervention bundle?

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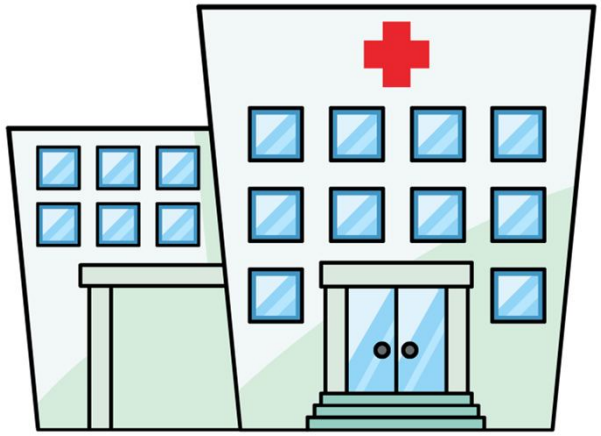
Background

CVC are an important cause of bloodstream infection

~7% of patients have a CVC

CLABSI

- Increase hospital stay
- Increase medical costs



PREZIES network

- Standardized surveillance
  - Strict definitions based on definitions from (E)CDC
  - Regular validation is mandatory for all participating hospitals

- Participation in PREZIES
  - Voluntary

Incidence surveillance of CLABSI

- Since 2002

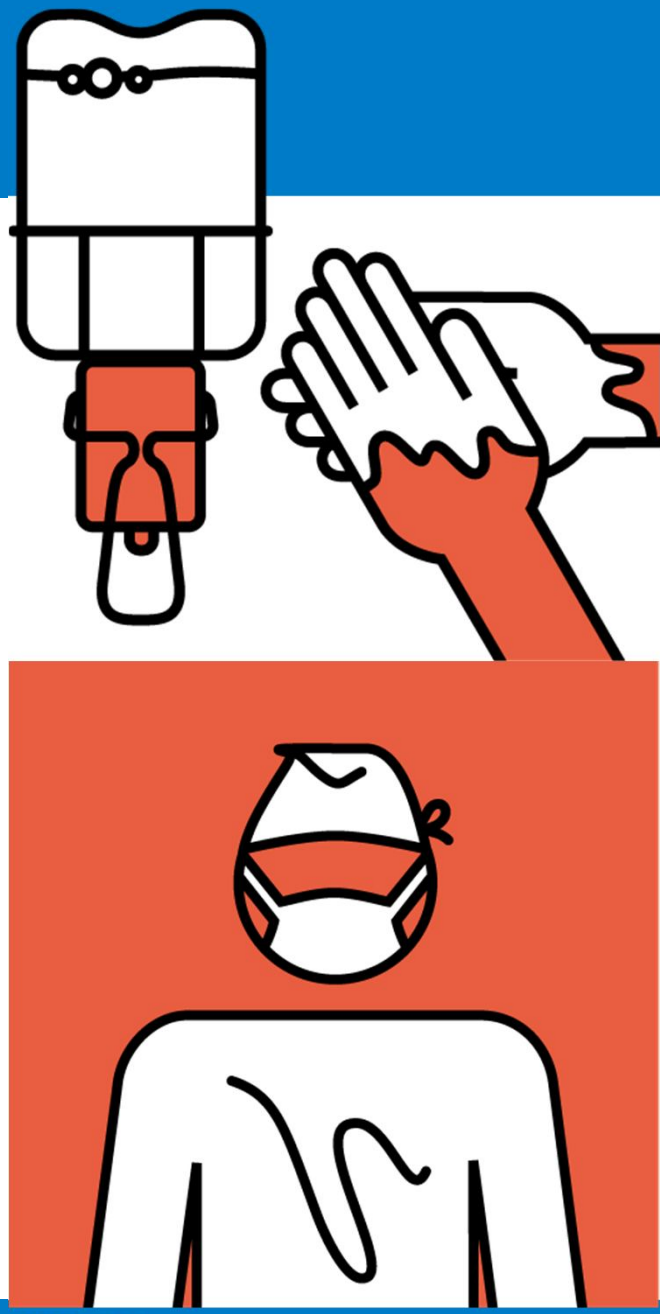
- All CVCs are registered
  - Number of CVC-days
  - Risk factors
  - Infection

- In 2009 an intervention bundle was added
  - From the National Patient Safety Program (2008-2012)

Intervention bundle – 6 elements

- **4 elements during inserting of the CVC**
  - Hand hygiene
  - Precautions during insertion
  - Desinfection of the skin
  - Selection of insertion site

- **2 daily checks**
  - Daily check on indication
  - Daily check on insertion site



Aim

To determine the impact of implementing the CLABSI intervention bundle on the incidence of CLABSI.

Methods

Data

- PREZIES network 2009-2013
- All CVCs registered
  - 19,659 CVCs
  - 136,397 CVC-days

1. Hand hygiene
2. Precautions during insertion
3. Cleaning of the skin
4. Selection of insertion site
5. Daily check on indication
6. Daily check on insertion site

Analyses

- Multilevel Cox Regression for grouped bundle elements
  A. Elements 1, 2, 3 and 4
  B. Elements 5 and 6
  C. All bundle elements
- For registration and compliance
- Adjusted for age, gender, application of the CVC and insertion site

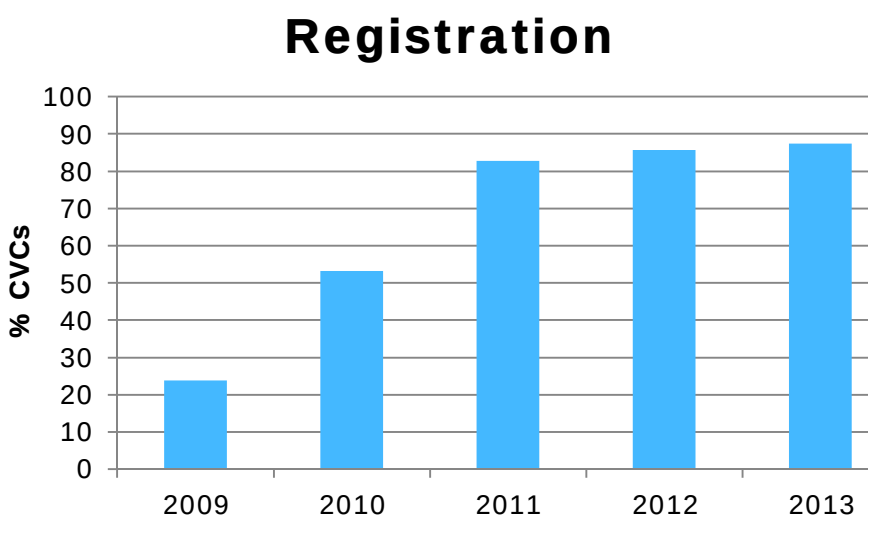
Results

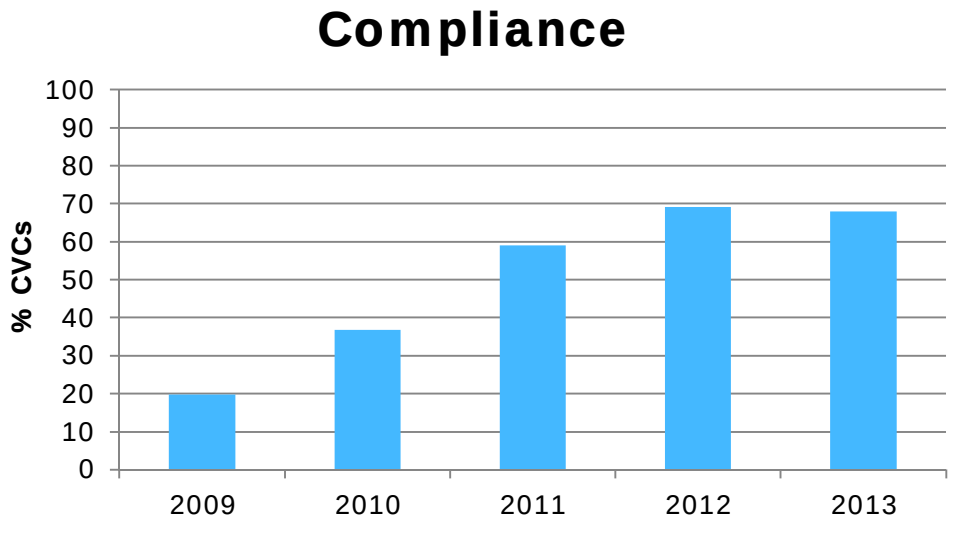
Registration

- At least one bundle element answered (with yes/no)
  - o 14,728 CVCs (74.9%)
  - o 102,661 CVC-days

Compliance

- At least one bundle element answered with yes
  - o 11,257 CVCs (57.3%)
  - o 76,806 CVC-days

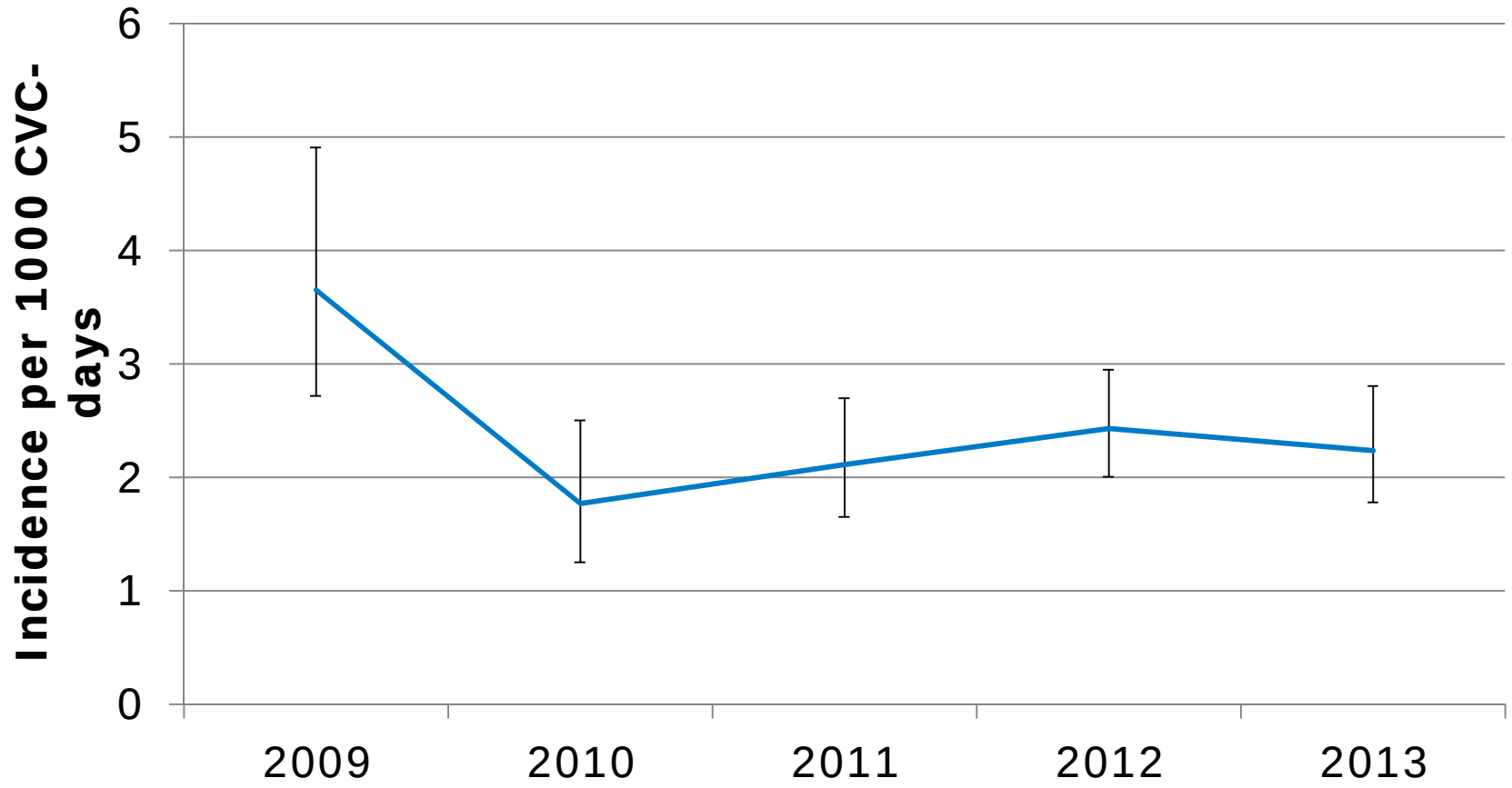




Results – Cox regression

	Registration			Compliance		
	Model 1 Elements 1-4	Model 2 Elements 5-6	Model 3 All	Model 4 Elements 1-4	Model 5 Elements 5-6	Model 6 All
	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)
Intervention	**0.9** **(0.7 – 1.4)**	**0.8** **(0.5 – 1.0)**	**0.9** **(0.6 – 1.1)**	**1.0** **(0.3 – 2.8)**	**1.3** **(0.8 – 2.2)**	**1.1** **(0.6 – 2.1)**

Incidence of infection



Discussion and conclusion

No difference in infection incidence for registration or compliance to the intervention bundle

Decrease in incidence of CLABSI since 2009 from 3.7 to 2.2 infections per 1000 CVC-days .

Due to awareness through surveillance or implementation of the intervention bundle

Questions?