Working together to improve the quality of healthcare: 10 years of Cooperation between Kenya and the Tuscany Region

5 September 2017 - Nairobi

Regione Toscana

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world friends

Patient Safety: results from a first pilot intervention at North Kinangop Catholic Hospital and Ruaraka Uhai Neema Hospital”

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How do we define quality of care?

6 dimensions of Quality
Institute of Medicine (IOM)

"WHO definition of quality of care: "**the extent to which health care services provided to individuals and patient populations improve desired health outcomes. In order to achieve this, health care must be safe, effective, timely, efficient, equitable and people-centred**."

Safe

Delivering health care that minimizes risks and harm to service users, including avoiding preventable injuries and reducing medical errors

Patient Safety

World Health Organization | Patient Safety
A World Alliance for Safer Health Care

Doc:1.1

Course: Fundamentals in Patient Safety

Topic: What is Patient Safety?

Patients can be harmed from health care, resulting in permanent injury, increased lengths of stay in hospital and even death. Over the past 15 years, we have learned that adverse events occur not because people intentionally hurt patients, but rather due to the complexity of health-care systems, where treatment and care depend on many factors, in addition to the competence of health-care providers. When so many and varied types of health-care providers, such as dentists, dieticians, doctors, midwives, nurses, surgeons, pharmacists, social workers, and others are involved, it can be difficult to ensure safe care, unless the system is designed to facilitate the delivery of quality and safe services.

Patient Safety: the reduction of risk of unnecessary harm associated with health care to an acceptable minimum. (*WHO-ICPS, 2009)*

Why Patient Safety is important

Health care - associated infection (HCAI)	■ Hundreds of millions of patients are affected by HCAI worldwide each year, leading to significant mortality and financial losses for health systems and patients ■ Of every 100 hospitalized patients at any given time, 7 in developed and 10 in developing countries will acquire at least one HCAI ■ 5-15% of hospitalized patients acquire HCAI - about 40% in ICUs - mortality from HCAI is 12%-80% (WHO) ■ 5 million HCAI estimated to occur in hospitals in Europe/year (WHO)
Medication errors	Leading cause of injury in developed/developing countries ■ 1.5 million harmed and thousands killed in USA/year (2006) ■ In some countries, 70% of patients' medication histories contain errors (2005)
Unsafe surgery	■ 234 million surgical procedures/year worldwide (more than childbirths) ■ 7 million complications, 1 million deaths worldwide each year (WHO)
Clinical handovers	Communication between units/health-care team/hospital facilities/community ■ 15% handovers result in adverse events (Australia, 2007)
Injection safety	■ Over 70% of injections in primary health-care are unnecessary ■ Unsafe injections account for 33% of new HBV infections, 42% of HCV and 2% of all new HIV infections worldwide

Health care is one of the most unsafe industry

The burden of unsafe care in developing countries

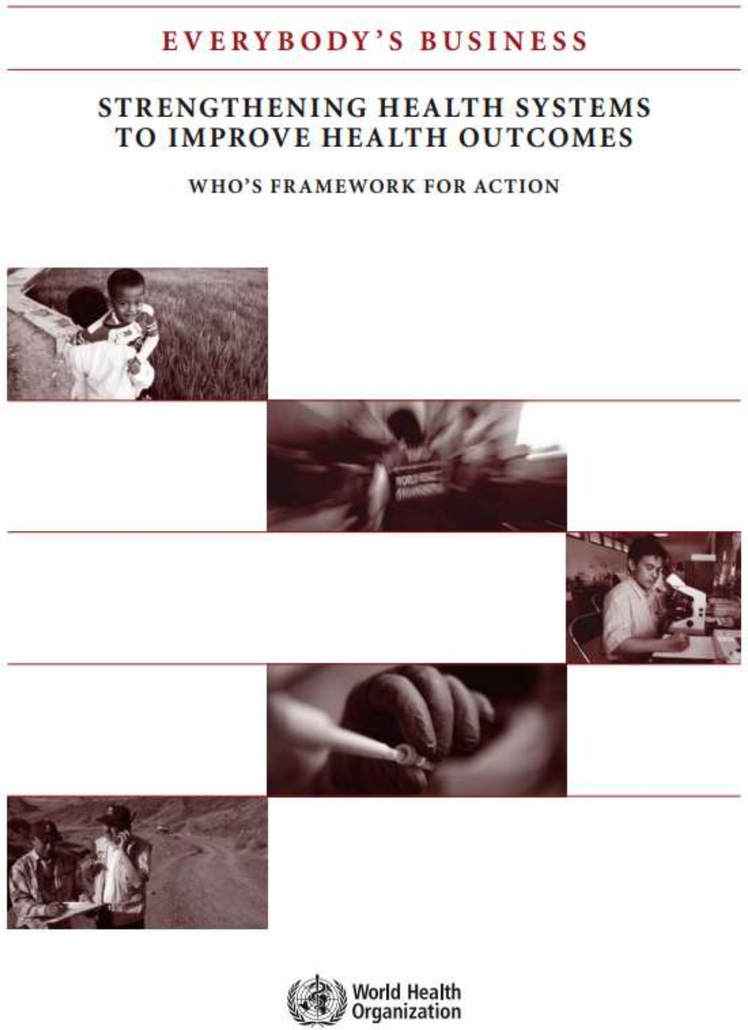
Patient safety in developing countries: retrospective estimation of scale and nature of harm to patients in hospital

BMJ

- 15 548 records reviewed in 26 hospital from 8 countries in Africa (Kenya) and Middle East
- **8.2%** showed at least one adverse event, with a range of 2.5% to 18.4% per country
- **83% were judged to be preventable**
- **30%** were associated with **death of the patient**.
- **34%** adverse events were from **therapeutic errors, 19%** from **diagnostic errors**
- Main contributory factors:
  - Inadequate training and supervision of clinical staff
  - the failure to follow policies or protocols

BMJ2012;344:e832doi:10.1136/bmj.e83

Broadening the focus: from access to care to quality and safety of care



The World Health Organization's (WHO) 2007 Framework for Action for strengthening health systems in developing countries **identified quality and safety as keys drivers of improved health outcomes**

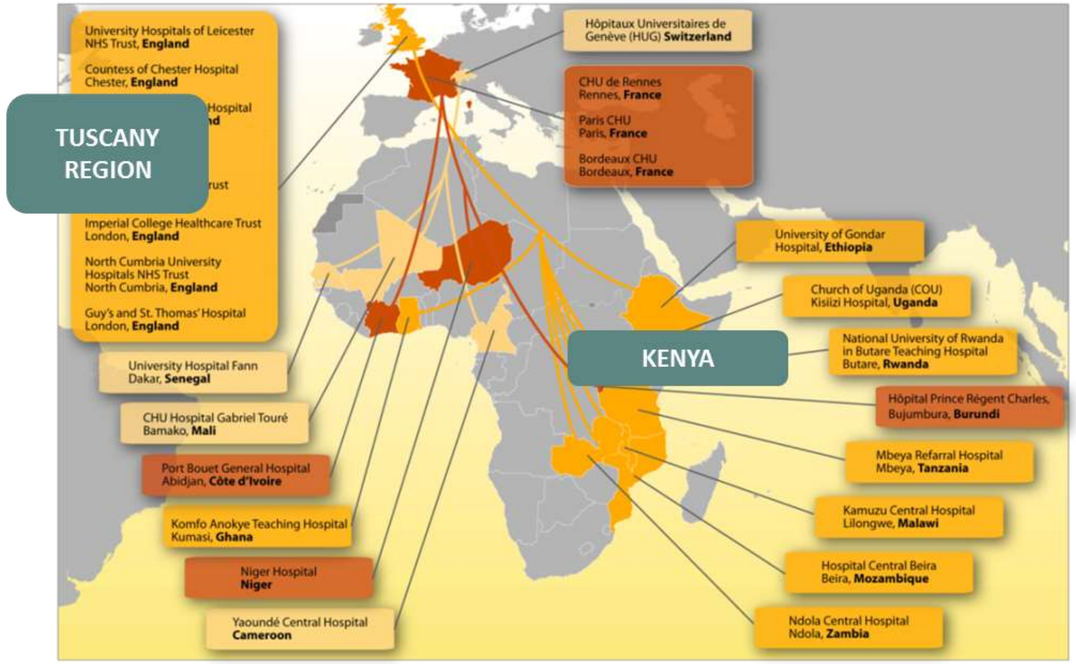
Quality & Safety initiatives can:

- Support the **achievement of greater equity**
- Optimize the use and **reduce waste** of the limited resources available
- Support **capacity-building** efforts and realizing widely agreed-upon and shared aspirations

Examples of clinical areas describing significant improvement in quality and safety in developing countries

AREA	GOAL	INTERVENTION	RESULTS	SETTING
Emergency obstetric care	Reduce maternal and infant mortality	Obstetric first aid box, training for medical personnel, coomunity intervention to imporve access	Significant reduction in maternal mortality	Rwanda Ghana Nigeria
Acute child illness care	Reduce child mortality from acute infections	Integrated managemnt of chilhood illness; a multy-level approach, including provider, facility and community	Increased adherence to guidlines, reductions on childhood mortality	Tanzania Rural Bihar Uganda
Primary care	Imporve service efficiency and quality	Peer reviw, performance standards, training, electronic records	Increased adherence to guidlines and efficiency	South Africa Cameroon Uganda
Prescribing practices	Improve appropriateness and safety of maedication use	National essential drug lists with guidelines, training, performance feedback	Increased appropriate prescribing practices	Sudan Tanzania Delhi Nepal

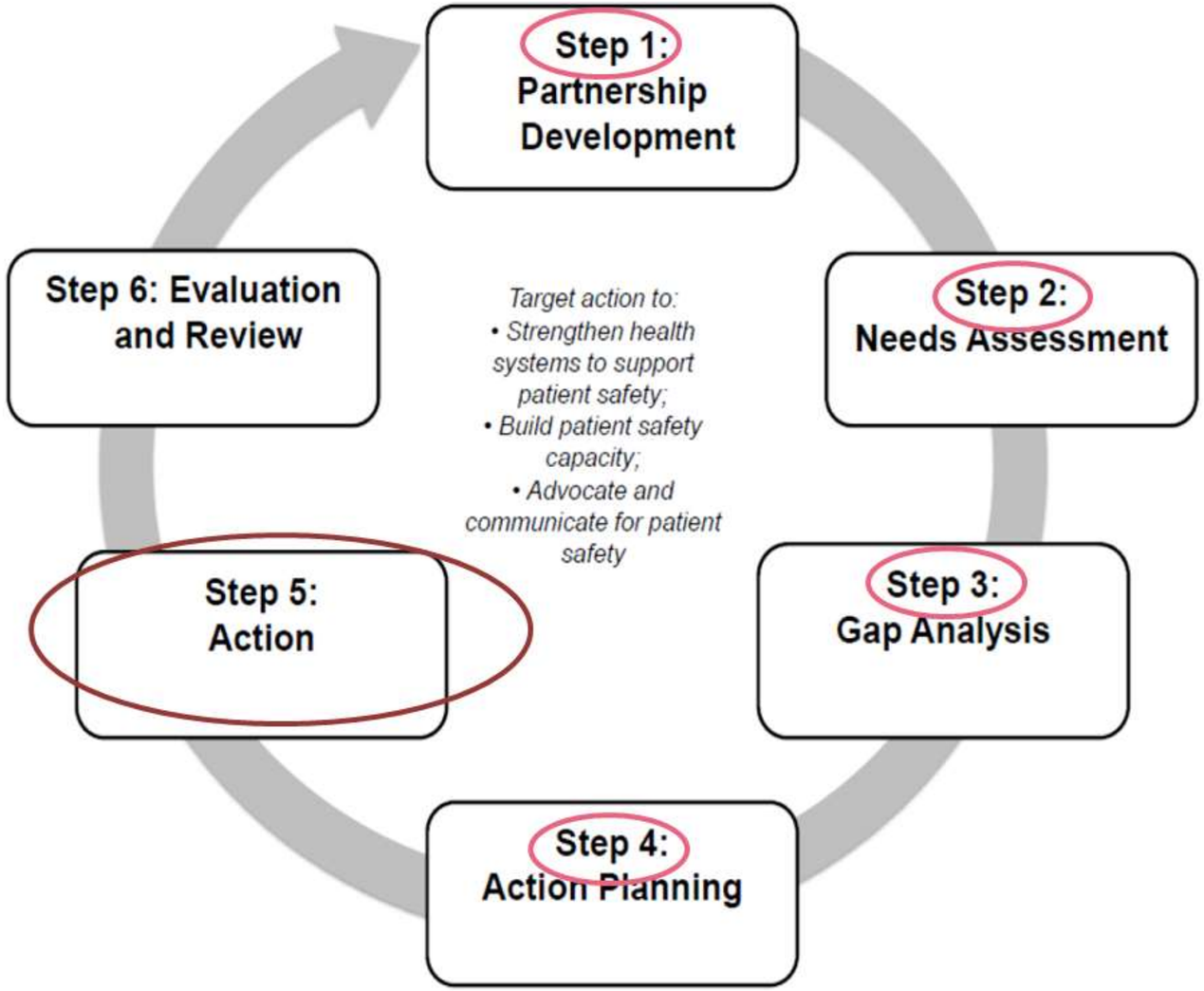
WHO- African Partnership for Patient Safety



Building sustainable **patient safety partnerships** between hospitals in countries of the WHO African Region and hospitals in other regions

Bidirectional and intercontinental transfer of knowledge, experience and solutions: channel for patient safety improvements that can spread across countries

African Partnership for Patient Safety_Approach



Partnership Kenya-Tuscany Region

Teaching Hospital of Siena

- IMPLEMENTING PARTNER

Ruaraka Uhai Neema Hospital

- IMPLEMENTING PARTNER

North Kinangop Catholic Hospital

- IMPLEMENTING PARTNER

Center for Clinical Risk Management and Patient Safety

- SCIENTIFIC SUPERVISION/ Community Member

Center for Global Health

- SCIENTIFIC SUPERVISION/Community Member

Need assessment and gap analyses

12 PATIENT SAFETY ACTION AREAS	HYPOTHETICAL AREAS OF INTERVENTION	CAMPAINGS & TOOLS
Health systems strengthening ○ Patient safety and health services and systems development ○ National patient safety policy ○ Patient safety surveillance and research ○ Knowledge and learning in patient safety	**NEEMA HOSPITAL** • Maternal and neonatal care • Pediatrics • Basic element of Patient Safety **NORTH KINANGOP** • Surgery • Infections prevention • Basic element of Patient Safety	• Safe Childbirth Checklist • Pediatric Early Warning Score • RLS • Surgical safety checklist • Clean Care is Safer Care • RLS
Capacity Building ○ Preventing healthcare-associated infections ○ Health worker protection ○ Health-care waste management ○ Safe surgical care ○ Medication safety		
Advocacy e Resource Mobilization ○ Patient safety awareness raising ○ Patient safety partnerships ○ Patient safety funding		

Sharing a common language: the basic principles of patient safety

North Kinangop Catholic Hospital, January 2016

Ruraka Uhai Neema Hospital, January 2016

In both hospitals been constituted a group of facilitators that represents the

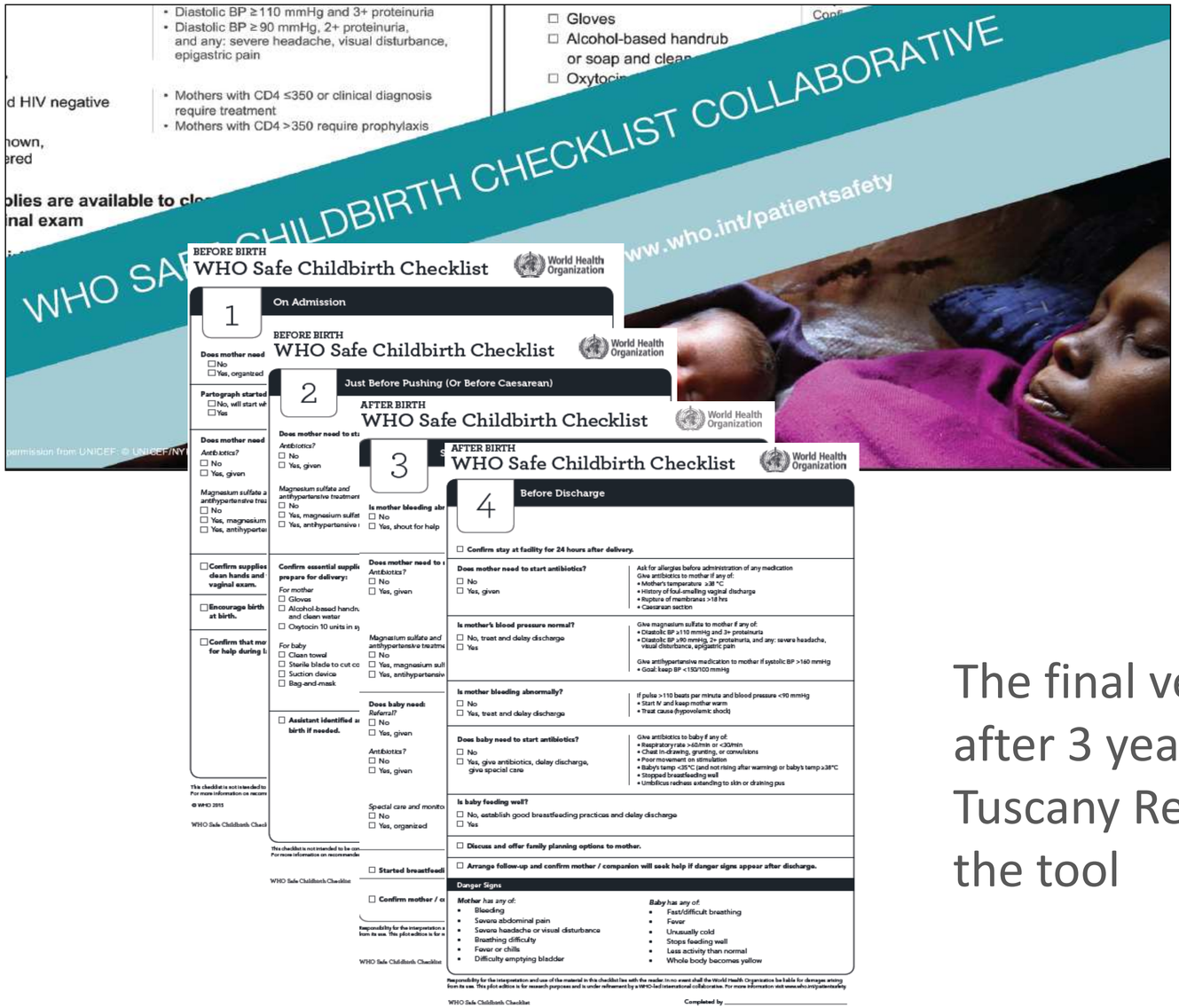
Patients Safety Team (PST)

PST has been trained on basic principles of patient safety and clinical risk management: they will provide cascade training and act as leaders and champions for improvement

Ruraka Uhai Neema Hospital

WHO Safe Childbirth Checklist

The WHO Safe Childbirth Checklits Collaboratives



- Launched in 2008 with the aim of testing the tool
- The Checklist underwent field evaluation in **nine countries**
- Following a successful pilot study in Karnataka, India, a large randomized control trial is now in progress in Uttar Pradesh, India

The final versione of the checklist was release in 2015 after 3 year of piloting in 29 countries including the Tuscany Region, Italy, that tested a modified version of the tool

OPEN ACCESS Freely available online

PLoS one

Improving Quality of Care for Maternal and Newborn Health: Prospective Pilot Study of the WHO Safe Childbirth Checklist Program

Jonathan M. Spector[1*], Priya Agrawal[2], Bhala Kodkany[3], Stuart Lipsitz[4], Angela Lashoher[5], Gerald Dziekan[5], Rajiv Bahl[6], Mario Merialdi[7], Matthews Mathai[6], Claire Lemer[8], Atul Gawande[1]

Method

- pre-post-intervention study observing childbirth practices (499 birth events at baseline and 795 birth events after introduction of the checklist program
- review of birth registers

Primary end point

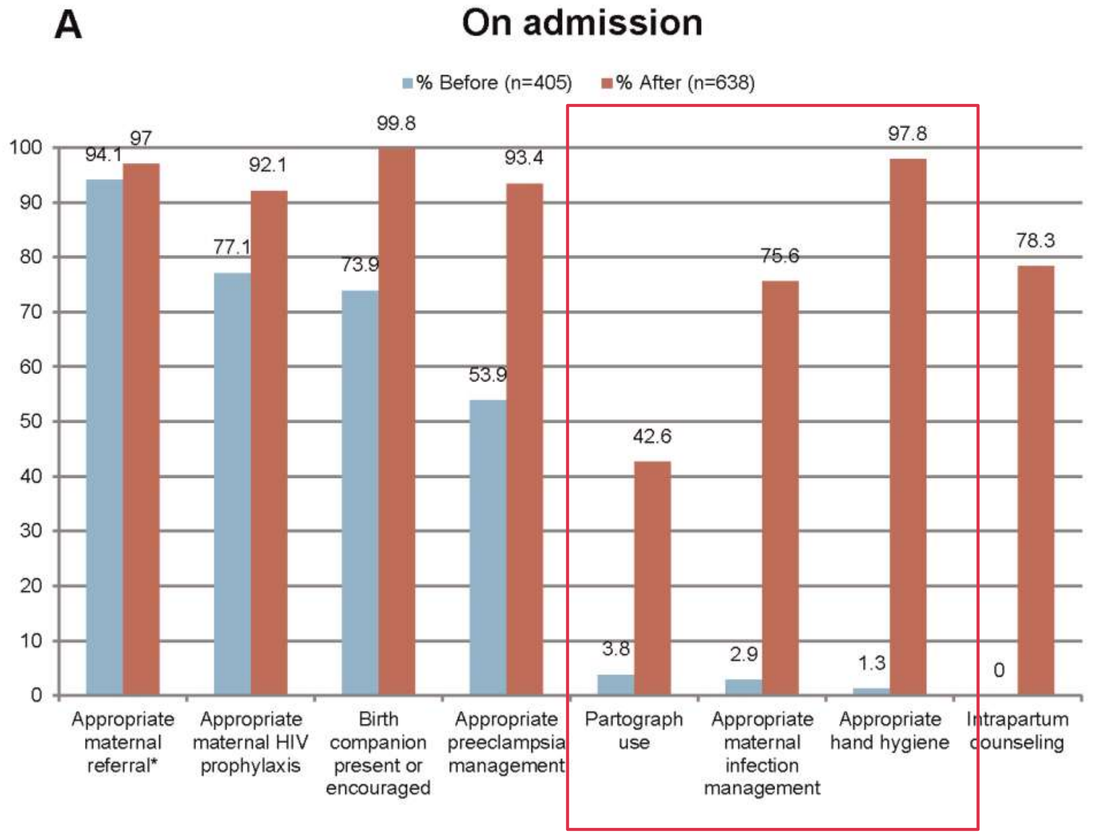
- the average rate of successful delivery of essential childbirth practices by health workers

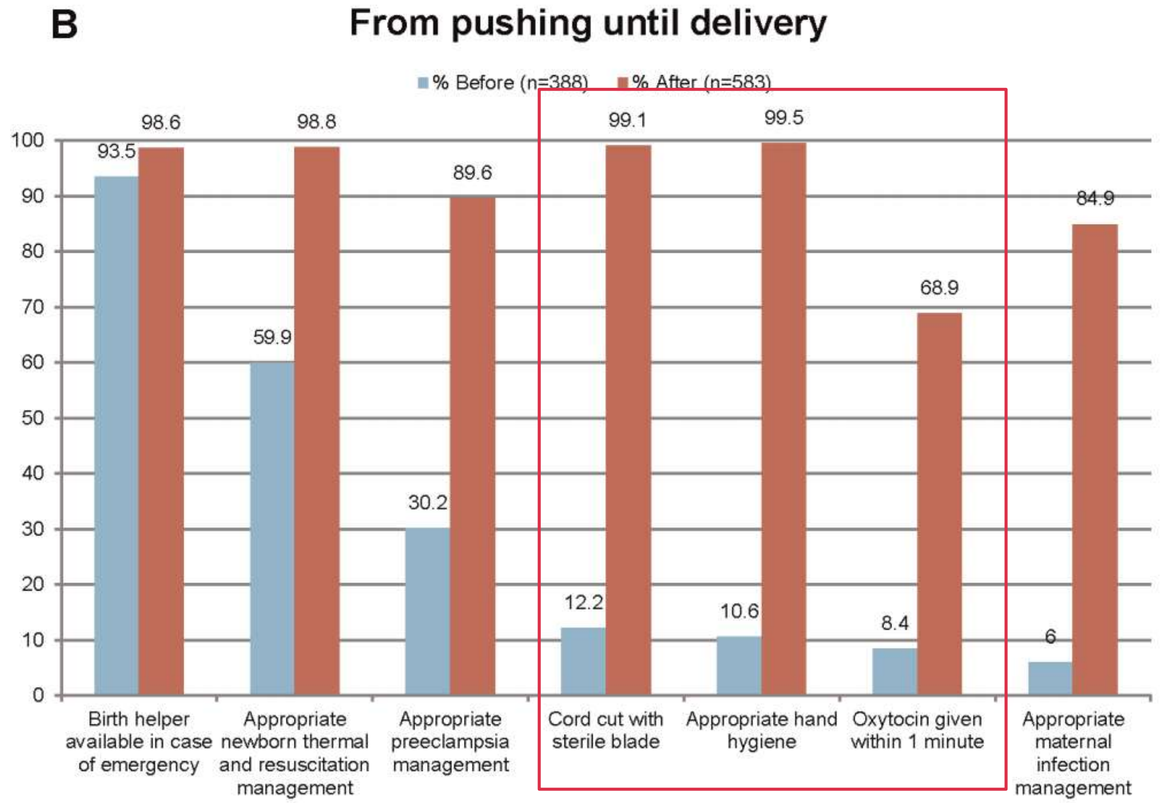
Results

- **increase** in the delivery of essential childbirth-related care practices **from an average of 10 of 29 practices at baseline to an average of 25 of 29 practices afterwards**

PLoS ONE 7(5): e35151. doi:10.1371/journal.pone.0035151

The WHO Safe Childbirth Checklits Collaboratives



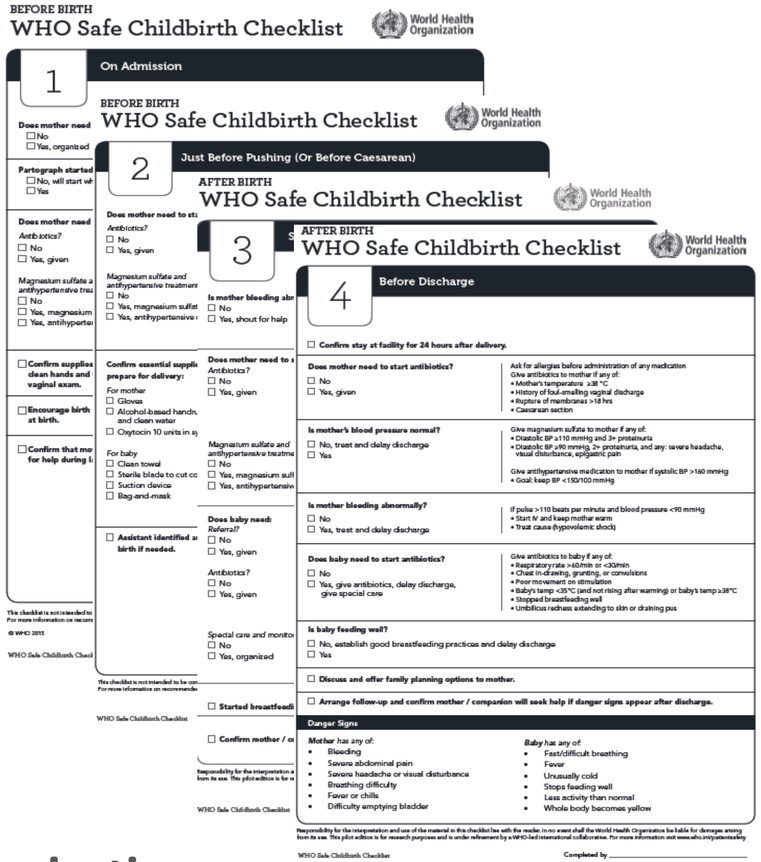


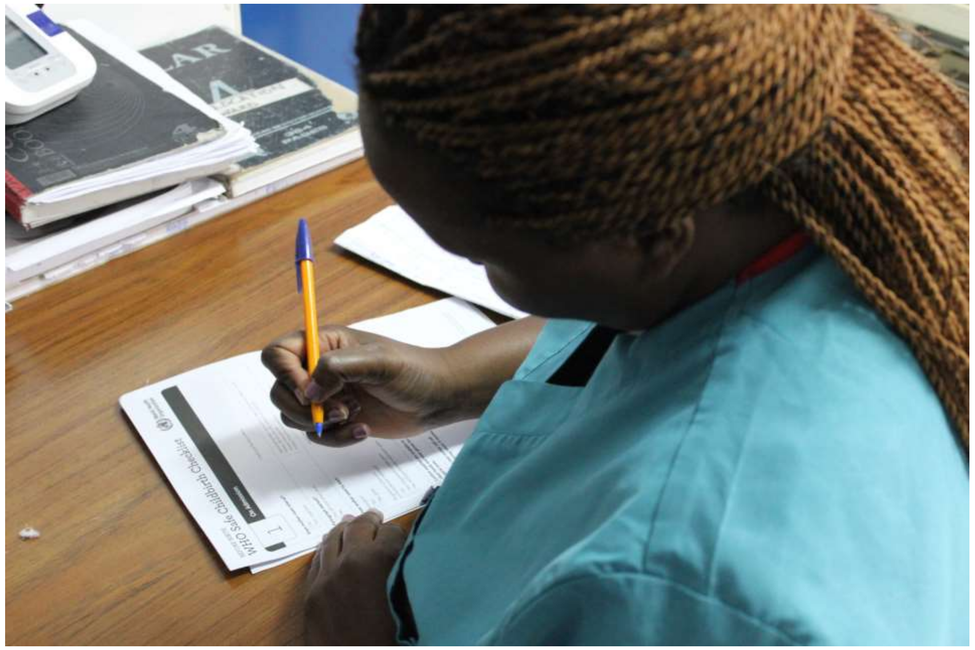
Action Plan at Neema

- Customization of the tool
- Coaching on basic principal of patient safety
- Piloting of the Safe Child Birth Checklits
- Monitoring and evaluation
- Recustomization
- Launch

FIRST RESULTS

Customization of the WHO SCC and Coaching


BEFORE BIRTH
WHO Safe Childbirth Checklist
World Health Organization
1 On Admission
2 Just Before Pushing (Or Before Caesarean)
AFTER BIRTH
WHO Safe Childbirth Checklist
3
4 Before Discharge
Confirm stay at facility for 24 hours after delivery.
Does mother need to start antibiotics?
Is mother's blood pressure normal?
Is mother bleeding abnormally?
Does baby need to start antibiotics?
Is baby feeding well?
Discuss and offer family planning options to mother.
Arrange follow-up and confirm mother / companion will seek help if danger signs appear after discharge.
Danger Signs
Mother has any of:
Bleeding
Severe abdominal pain
Severe headache or visual disturbance
Breathing difficulty
Fever or chills
Difficulty emptying bladder
Baby has any of:
Fast/difficult breathing
Fever
Unusually cold
Stops feeding well
Less activity than normal
Whole body becomes yellow
Completed by



Customization

- Hospital workflow and guidelines
- Health workers needs
- Cultural peculiarities

Coaching

- To a group of midwife and nurses

“coach the coachers”

- By trained midwife and nurses

“cascade coaching”

Monitoring and evaluation of the intervention

1- Usability, efficiency and functionality survey

- Anonymous questionnaire administrated to a group of 10 representatives of the delivery unit

2- Prospective pre and post-intervention clinical record review for evaluating the effect of introduction of the checklist on some selected process measures

- Sample of 75 clinical records both before and after the intervention
- Clinical records sampled from the period February-March 2016 and October-November 2016 (after 3 months of piloting)

3- Hospital Survey on Patient Safety (AHRQ)

- AHRQ anonymous questionnaire administrated to a group of 50 hospital workers in order to measure their perception about patient safety issue, medical errors and reporting

Results

1_Usability, efficiency and functionality survey

Number of workers that participated in the survey: 10

Number of workers in the Maternal and neonatal unit: 45

Professional background: Midwife (10/10)

Years of experience: most between 2 and 4 years

- Most of them finds that the checklist **was easy or very easy to used**
- Half of them feels **very willing or willing** to use the checklist
- More that half of them believe that the checklist **has significally improved** their practice around childbirth
- All of them believe that the checklist **has improved communication and teamwork**
- All of them believe that the cheklist **has improved awareness of patient safety** in the hospital

Results

2_ Prospective pre and post-intervention clinical record review

Number of clinical reconds reviewed:

- 75 period pre-intervention (February-March 2016)
- 75 period pre-intervention (October- November 2016)

Number of deliveries in the periods:

- period pre-intervention

  Vaginal delivery: 158

  Emergency Caesarean Section: 57

  Planned Caesarean Section: 14

- period pre-intervention

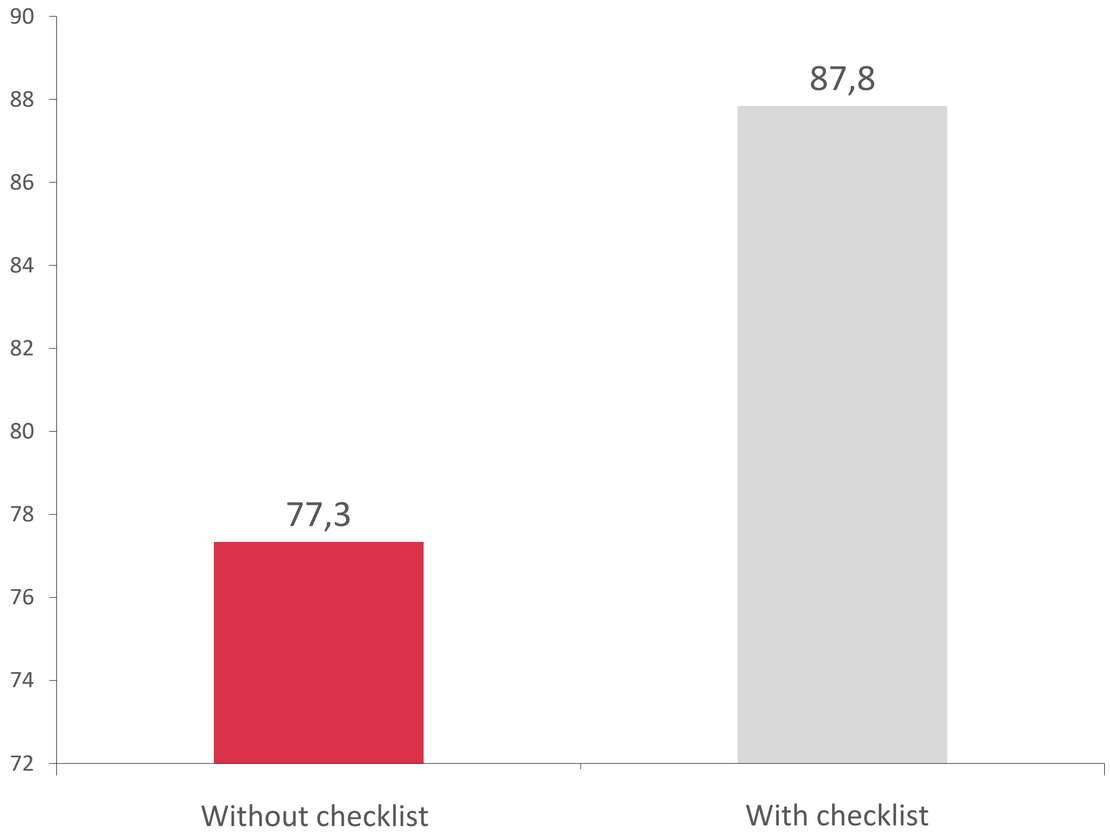
  Vaginal delivery: 171

  Emergency Caesarean Section: 71

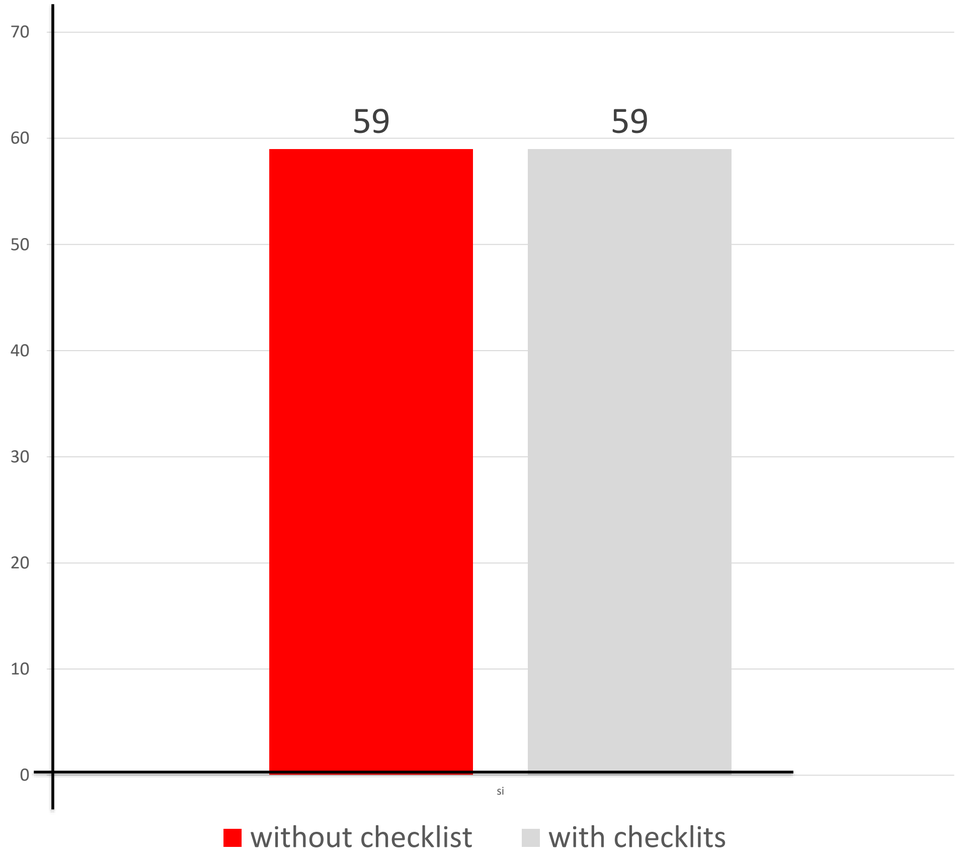
  Planned Caesarean Section: 21

Pre-partum

Heart rate evaluation



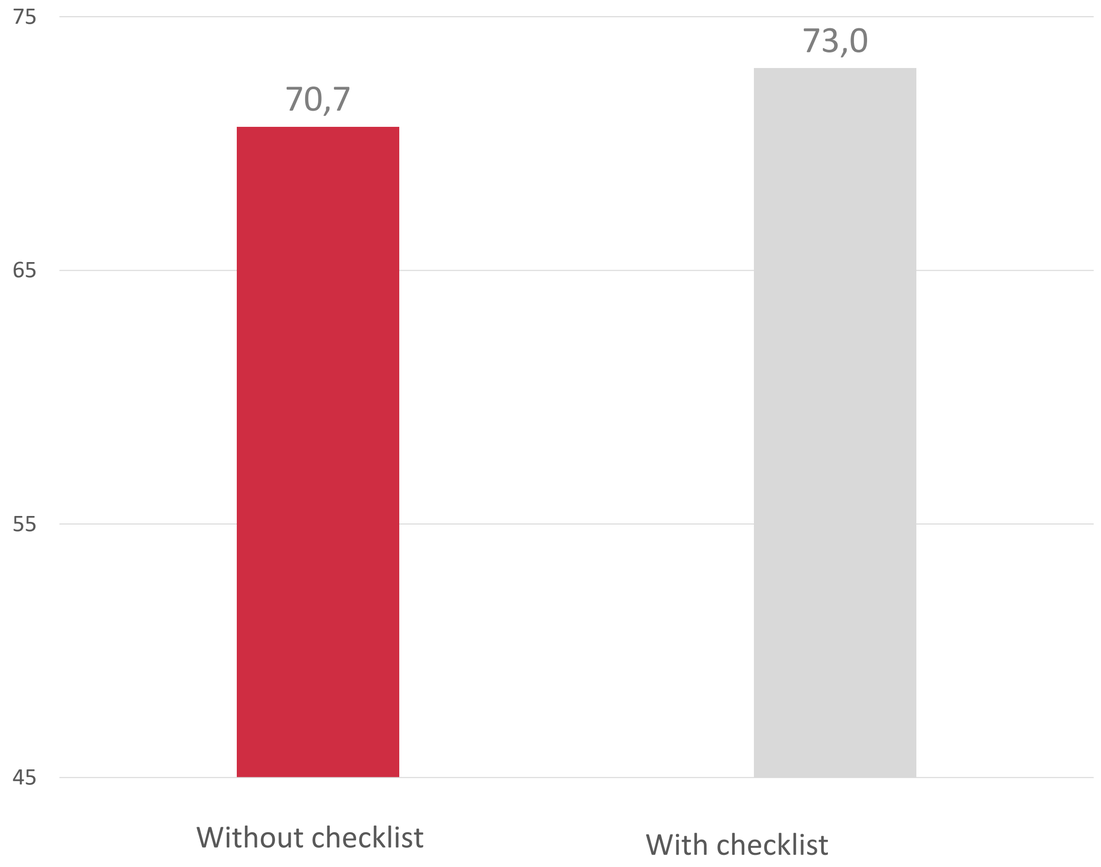
Diastolic Blood pressure evaluation



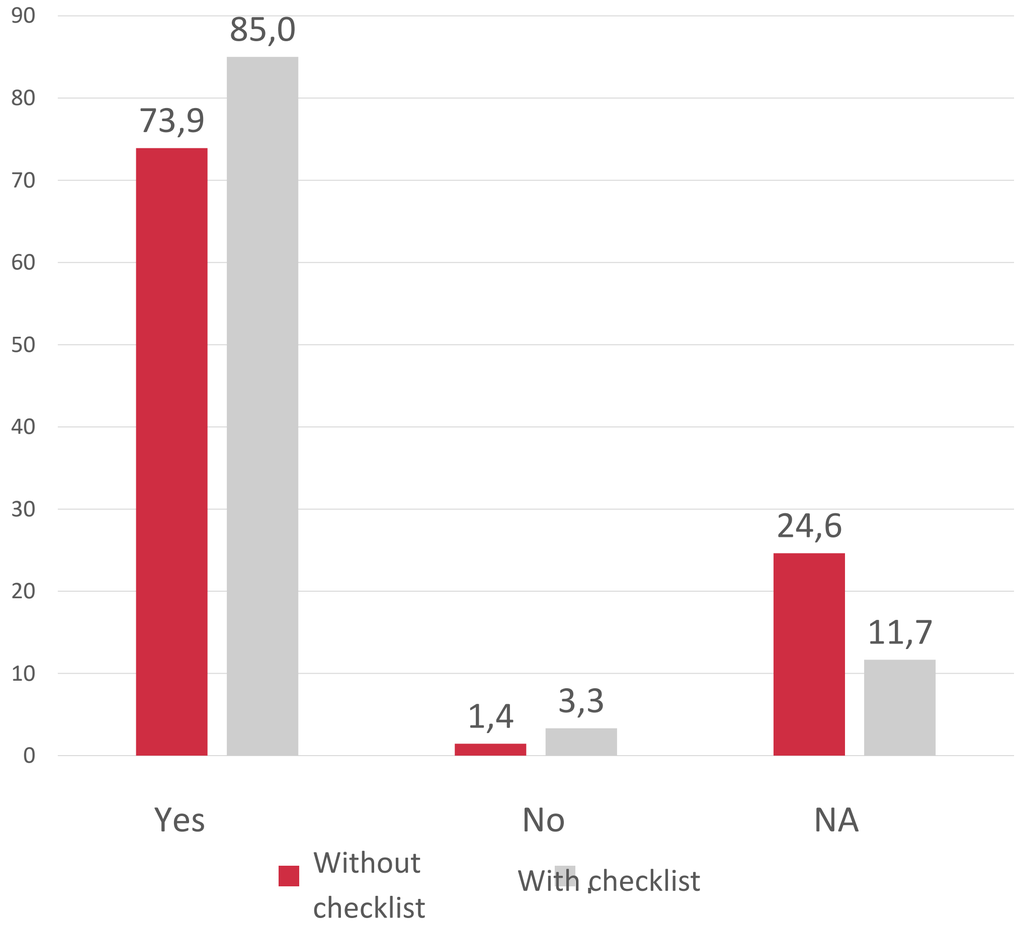
Increase in the number of heart rate evaluation

Intra-partum

Presence of the partogram



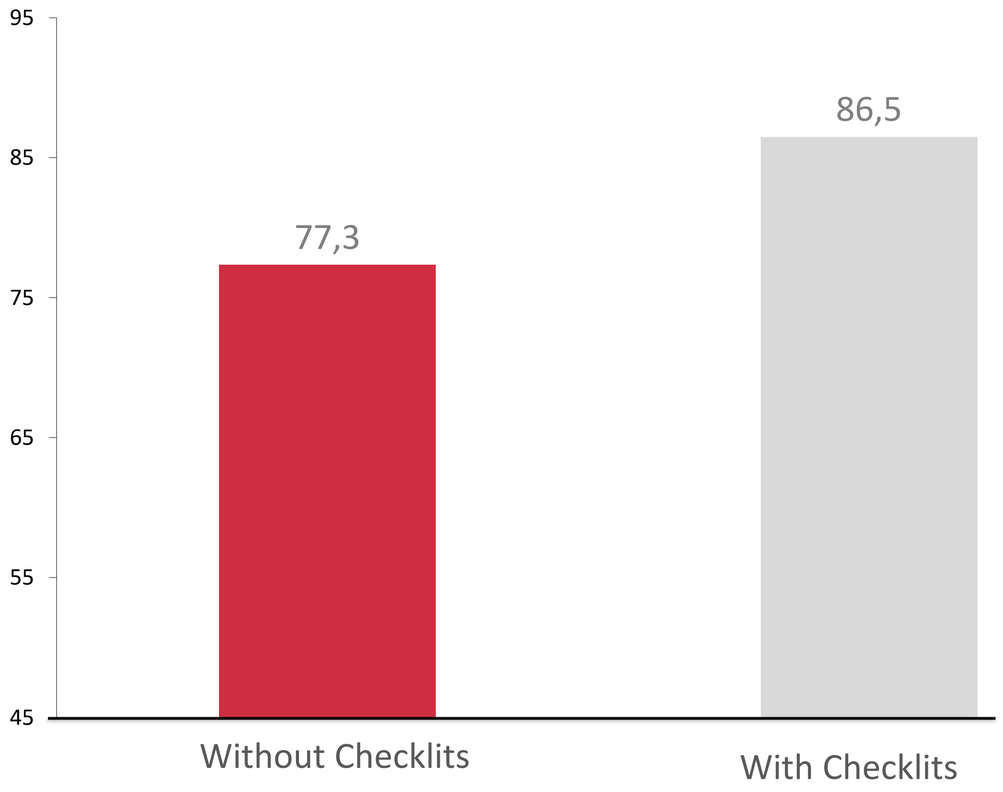
Evaluation every 4h when cervix ≥4 cm



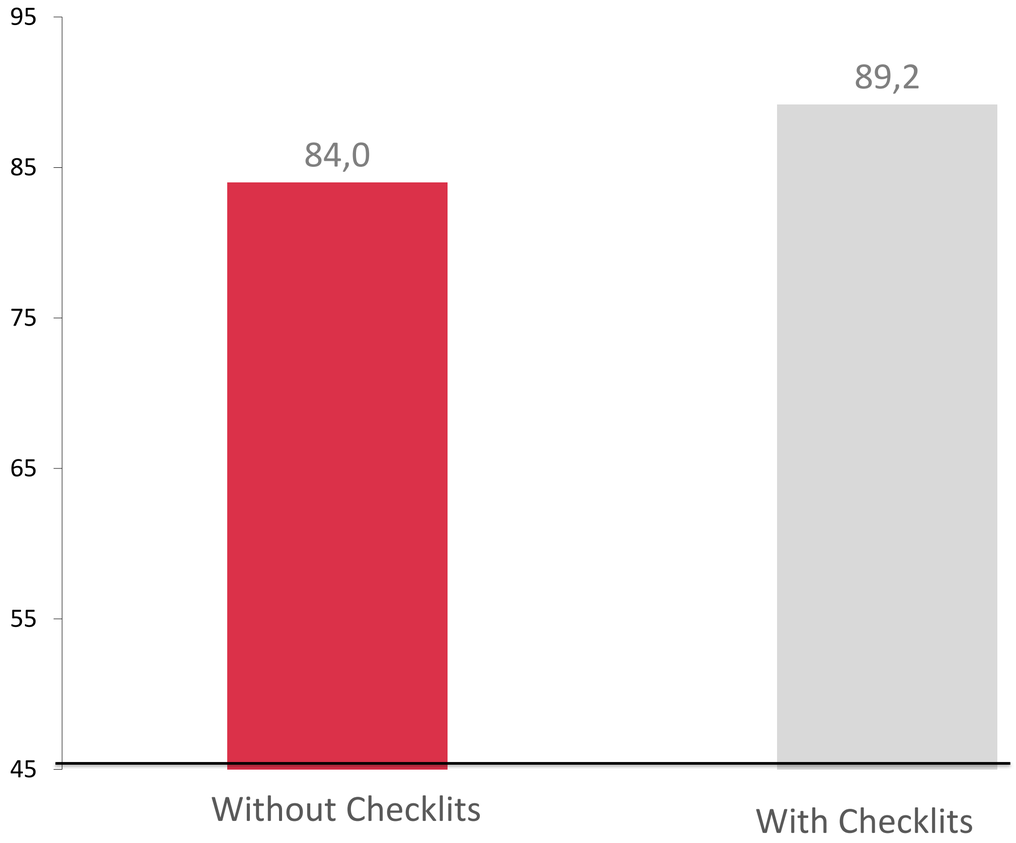
Increase in the number of partograms and in the evalution of the women every 4 h

Post-partum

Heart rate evaluation



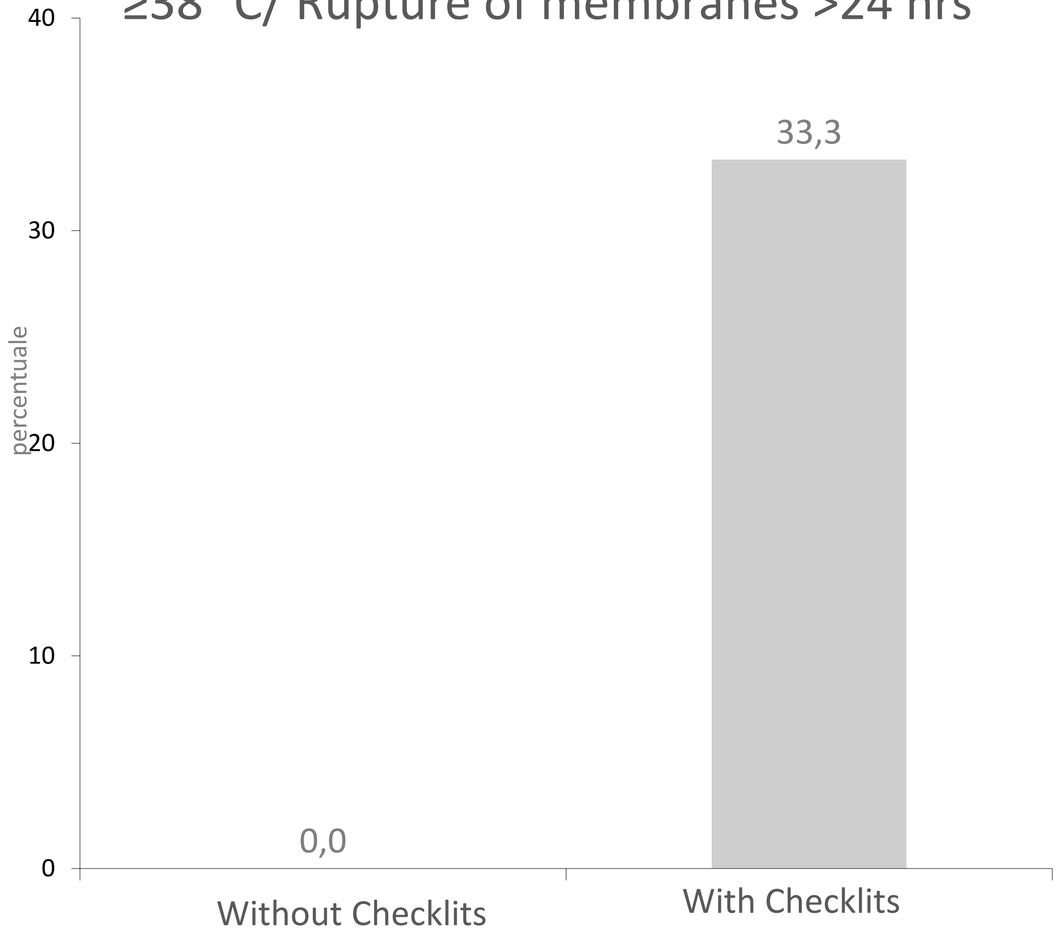
Diastolic Blood pressure evaluation



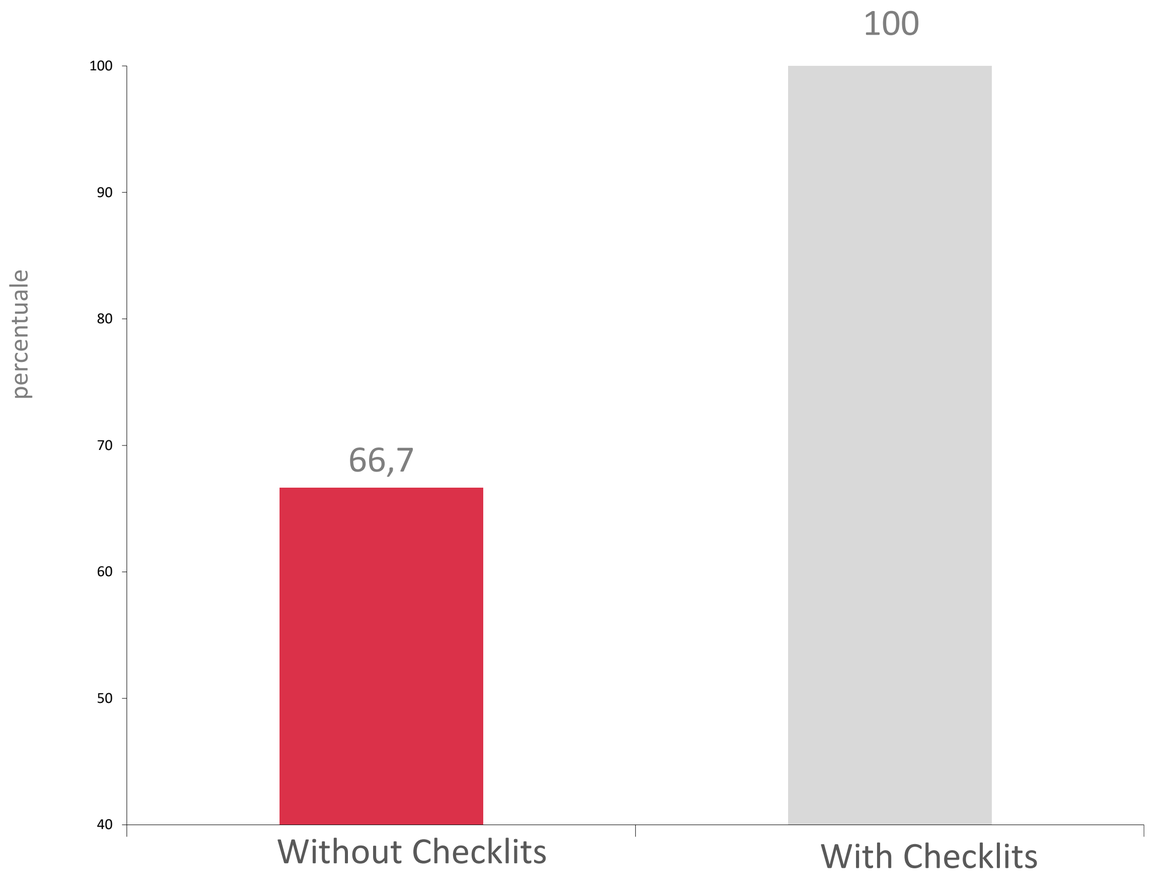
Increase in the number of heart rate and diastolic blood evaluations

Process Indicators

Adm. antib. if mother's temperature ≥38 °C/ Rupture of membranes >24 hrs

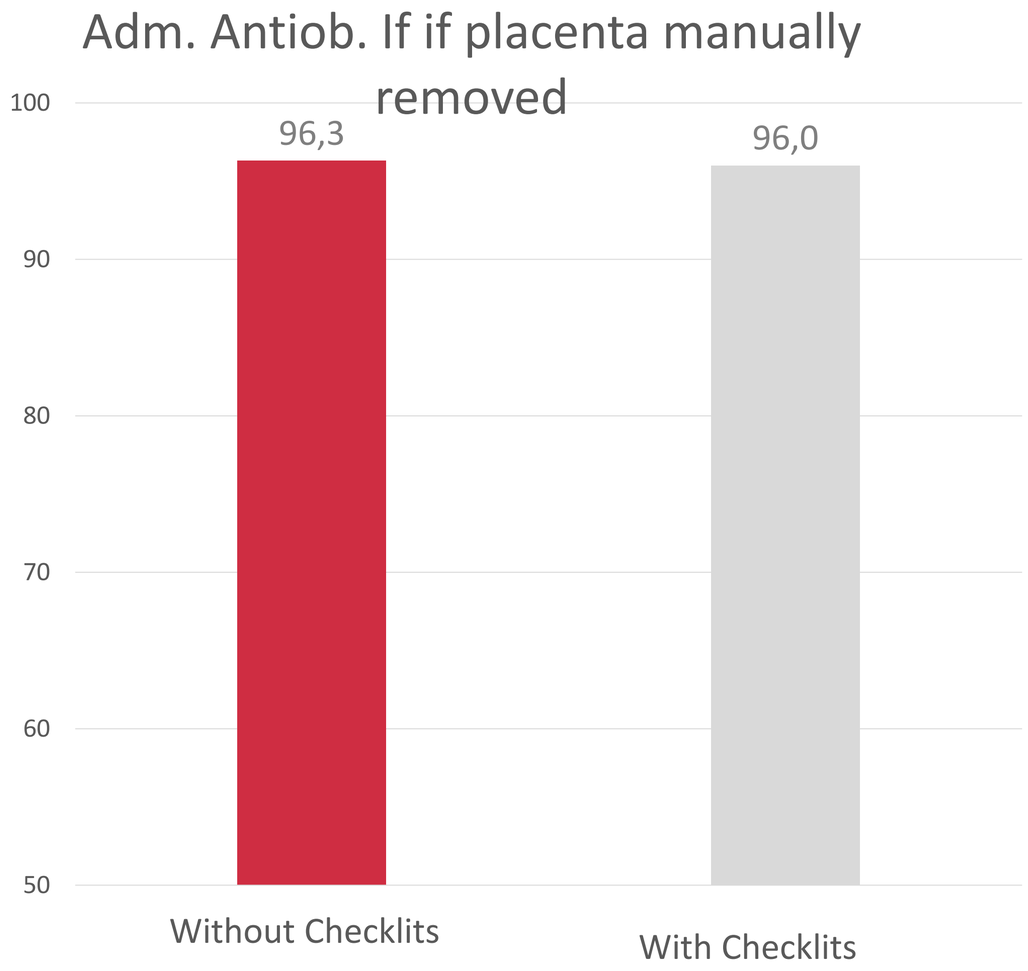


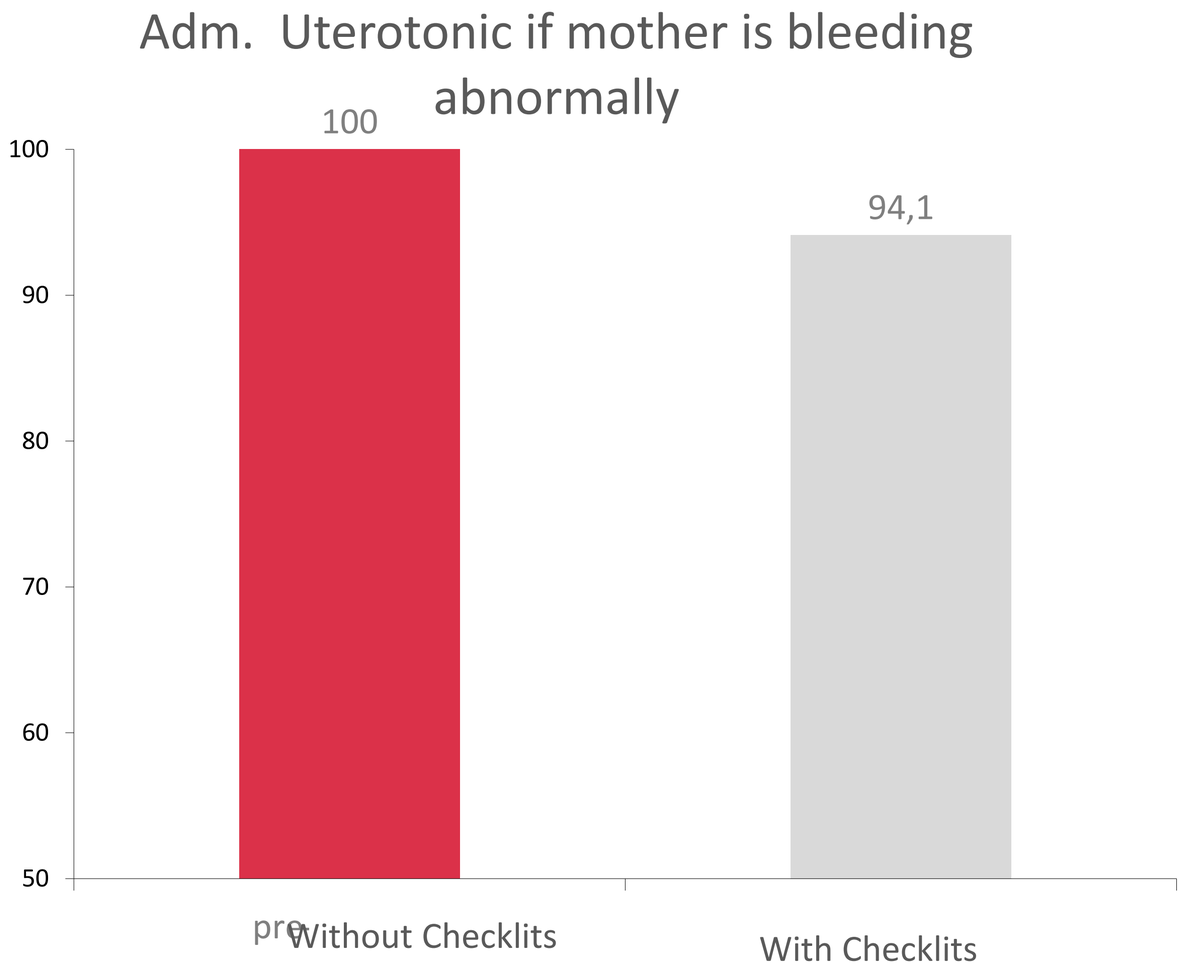
Adm. antihyp. Treat. if Diastolic BP ≥100



Increase in appropriateness during the administration of antibiotic therapy and antihypertensive treatment

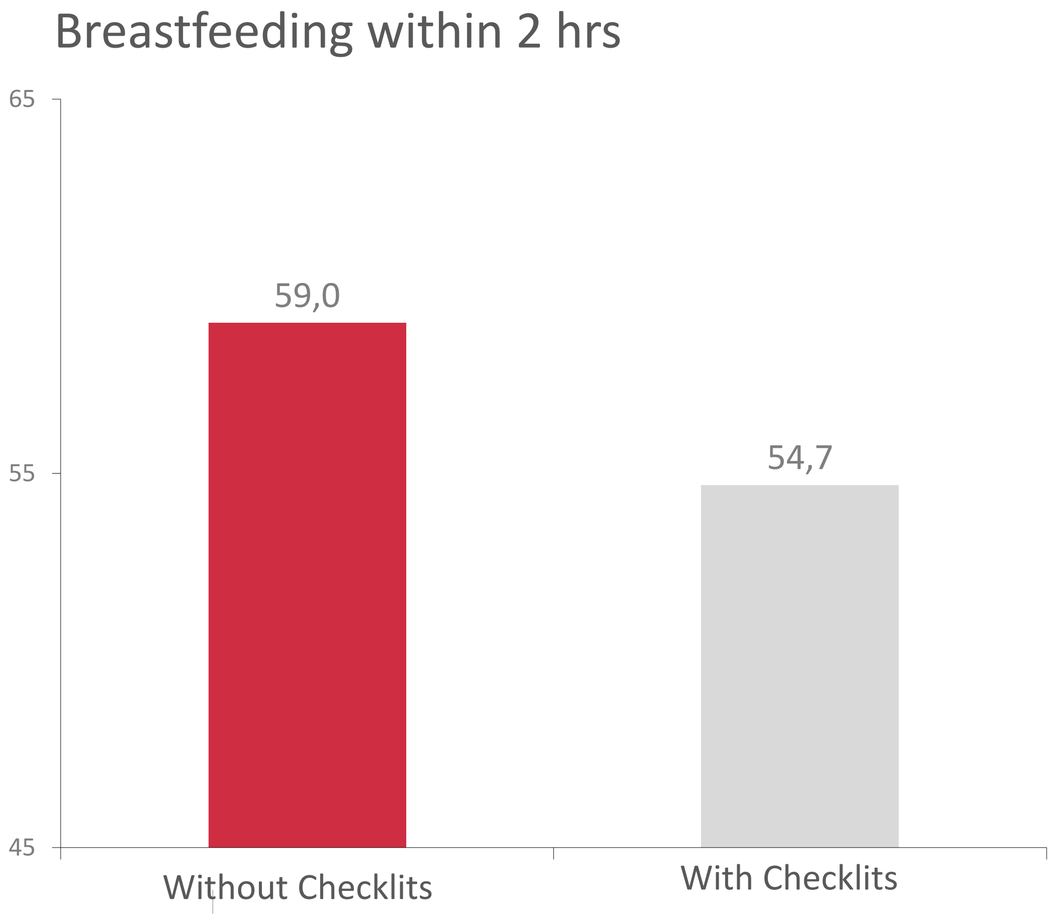
Process Indicators





Limited increase in appropriateness in the administration of antibiotic therapy

New born



Detection of the body temperature of newborn within 2 h completely missing

Results

3_Hospital Survey on Patient Safety (AHRQ)

Number of questionnaire: 50

Total personnel: 186

Period of administration: July 2017

Main area/unit (out of 24)

- Rehabilitation (7)
- Laboratory (5)
- Obstetric (4)
- Emergency (4)
- Paediatric (3)

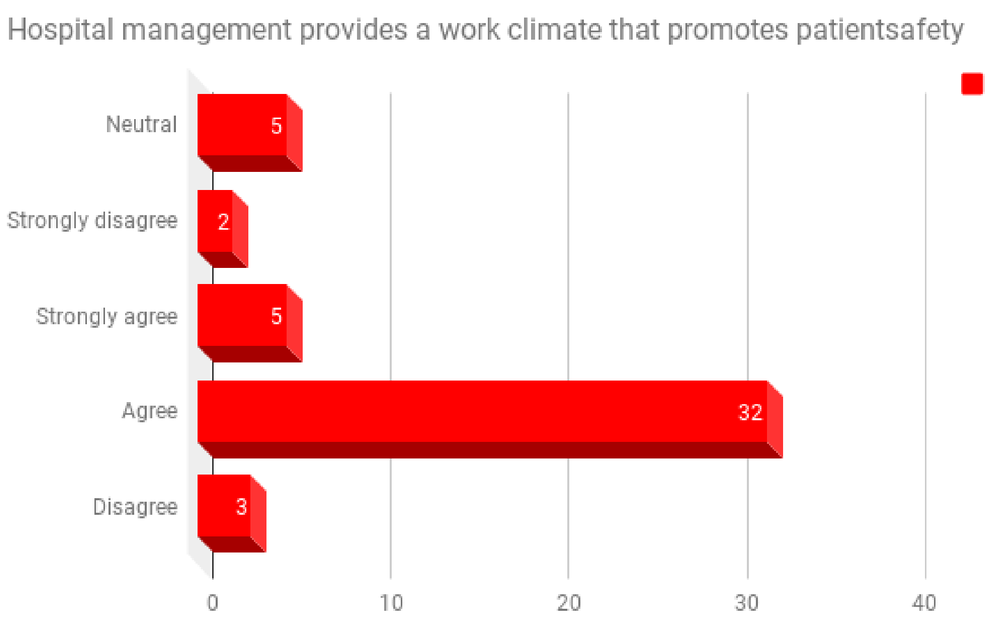
Years in the unit

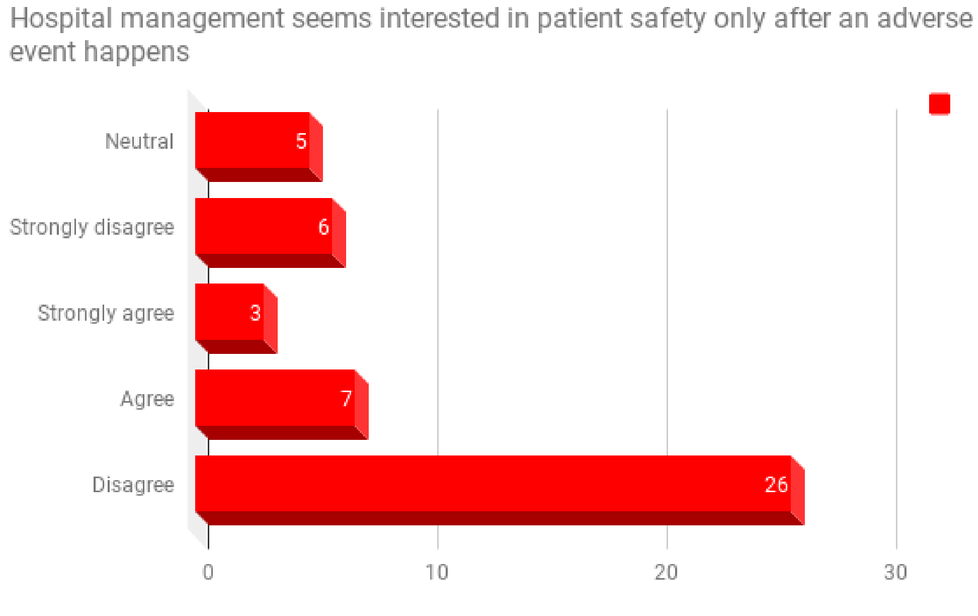
- 56% 1 year - 5 years
- 20% 6 years-10 years
- 24% less than 1 year

Main professional positions (out of 16)

Registered nurse (11)
Physical, Occupational or speech therapist (5)
Technician (5)
Unit Assistant/ Secretary (3)
Physician Assistant/Nurse practioner (3)

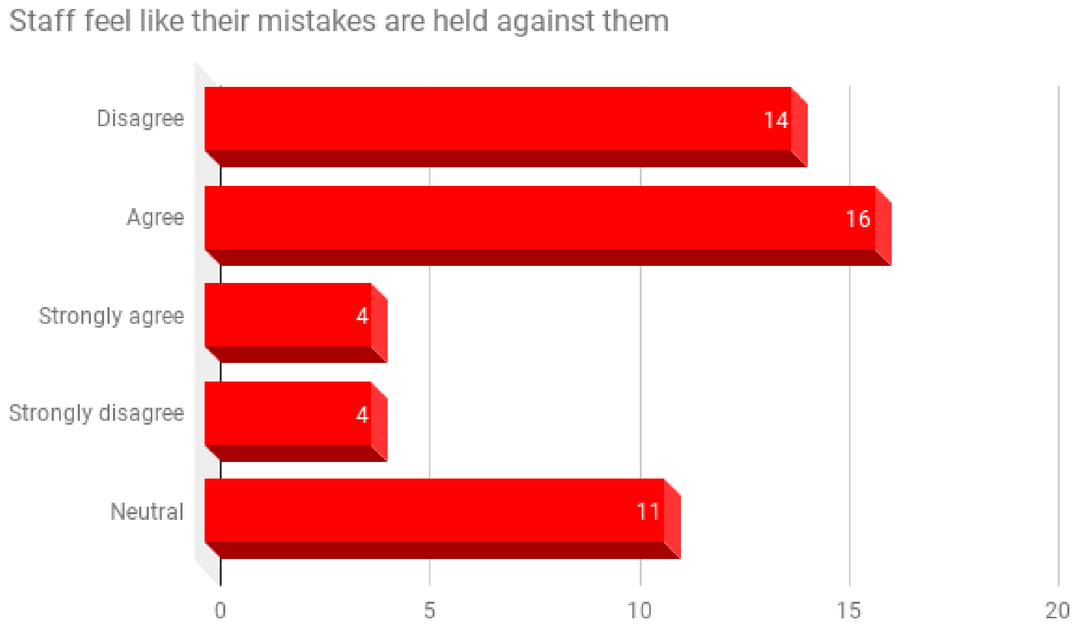
Top Management Commitment

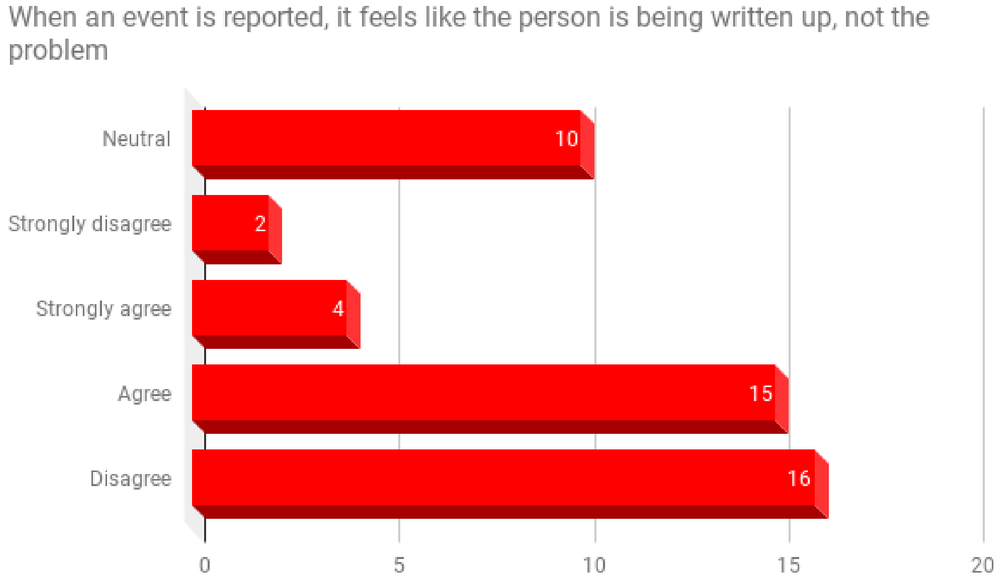




Workers feel that the **top management is committed** in improving patient safety and this represents a **positive background** for developing quality and safety interventions

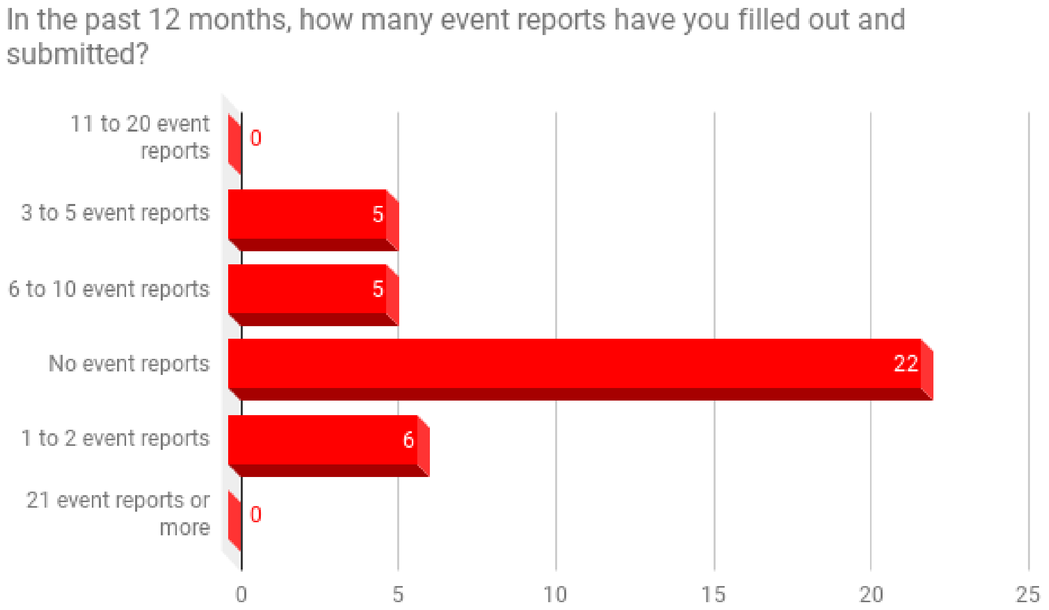
Blame Culture

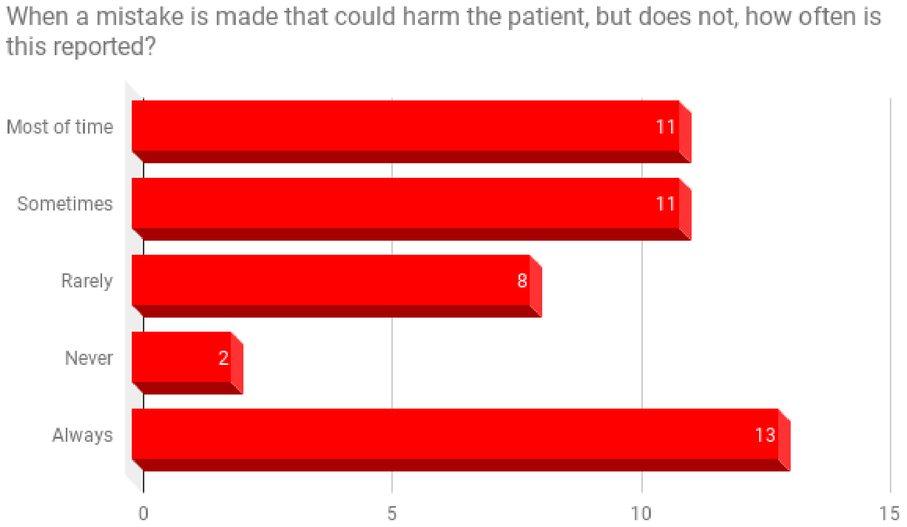




Staff needs to develop **more awareness** on safety culture: about 50% of the staff associate the occurrence of an adverse event
to **potential blaming rather than a learning opportunity**.
This can represent a barrier to reporting

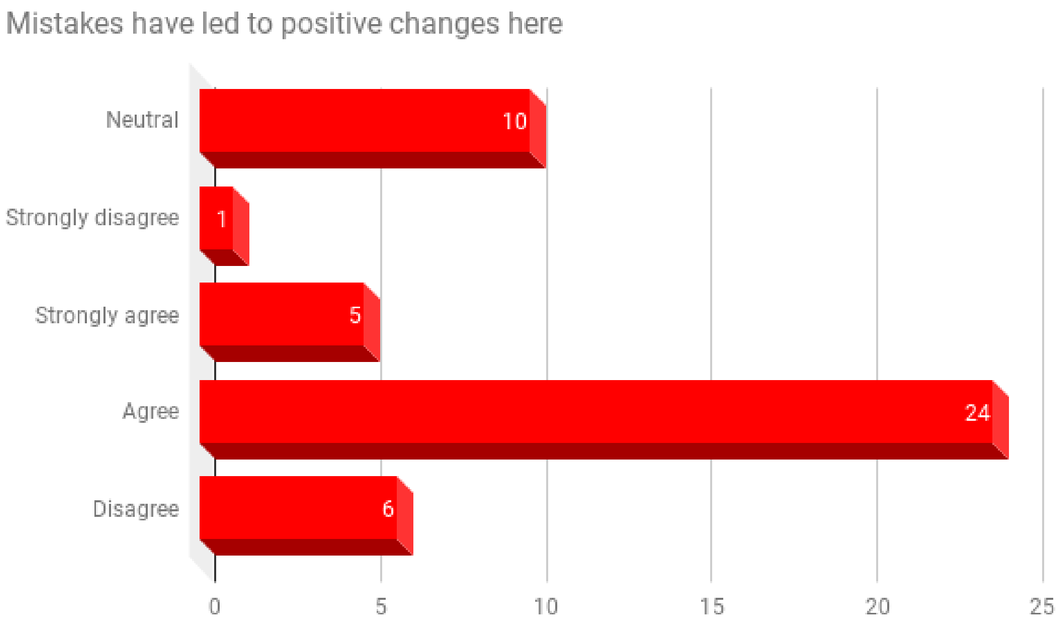
Reporting

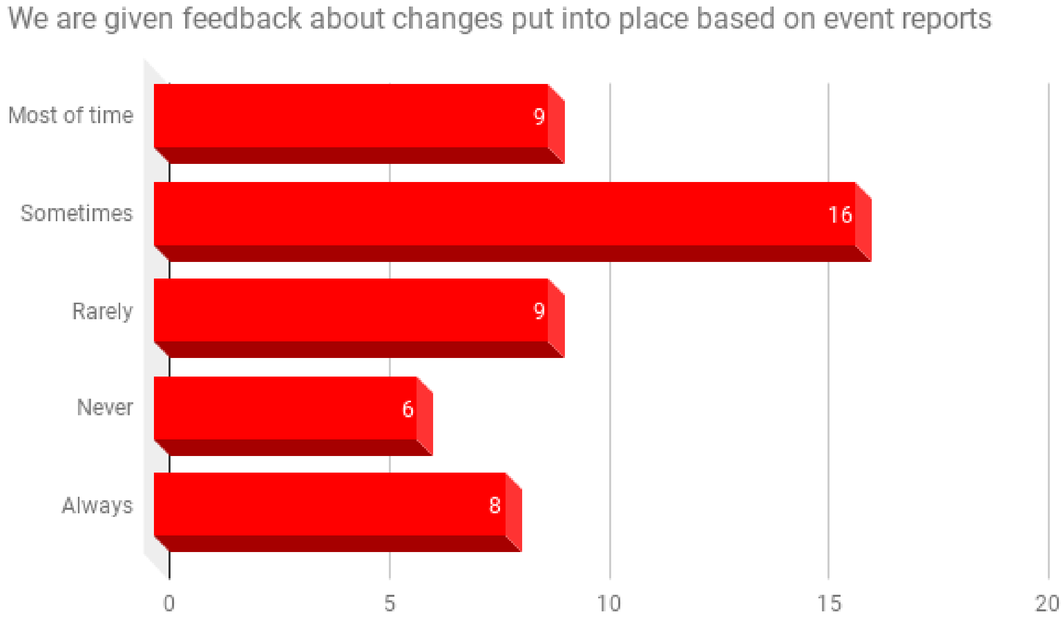




In line with the previous slide, most of the headworkers say that there is a **limited culture of reporting** even related to near misses

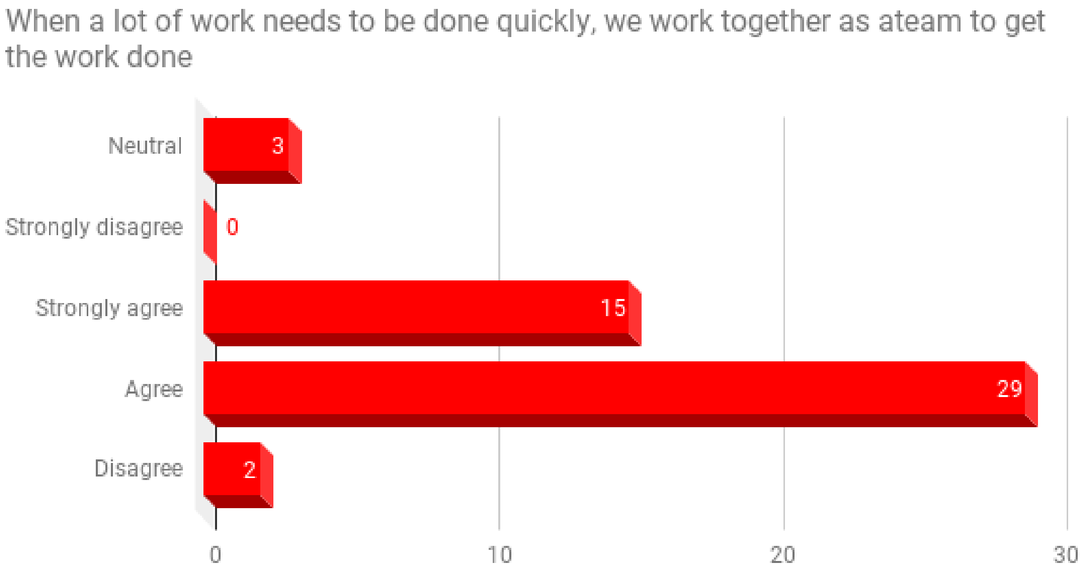
Learning from mistakes

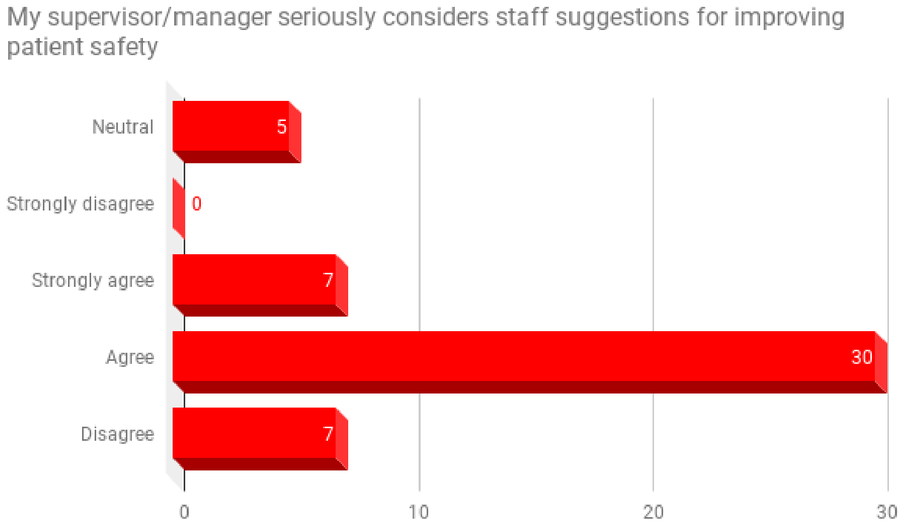




These data need further understanding as they are not in line with the others

Teamwork





In line with the other data, staff feel to be part of **a positive environment** for teamwork and collaboration also with top management

Statistically not significant sample

Limits and Opportunities

Limits

- Sample non statistically significant
- Need to conduct further analyses on a larger sample

Opportunities

- «Narrative evaluation»: telling local success stories and reporting small concrete changes in the approach to safety and quality can act as an effective vehicle for change
- Deeper understanding of cultural and social diversity and its impact on implementation strategies
- Low-cost, low-technology and simple tools and solutions can promote a broad cultural change towards safety and quality of services delivery

North Kinangop Catholic Hospital

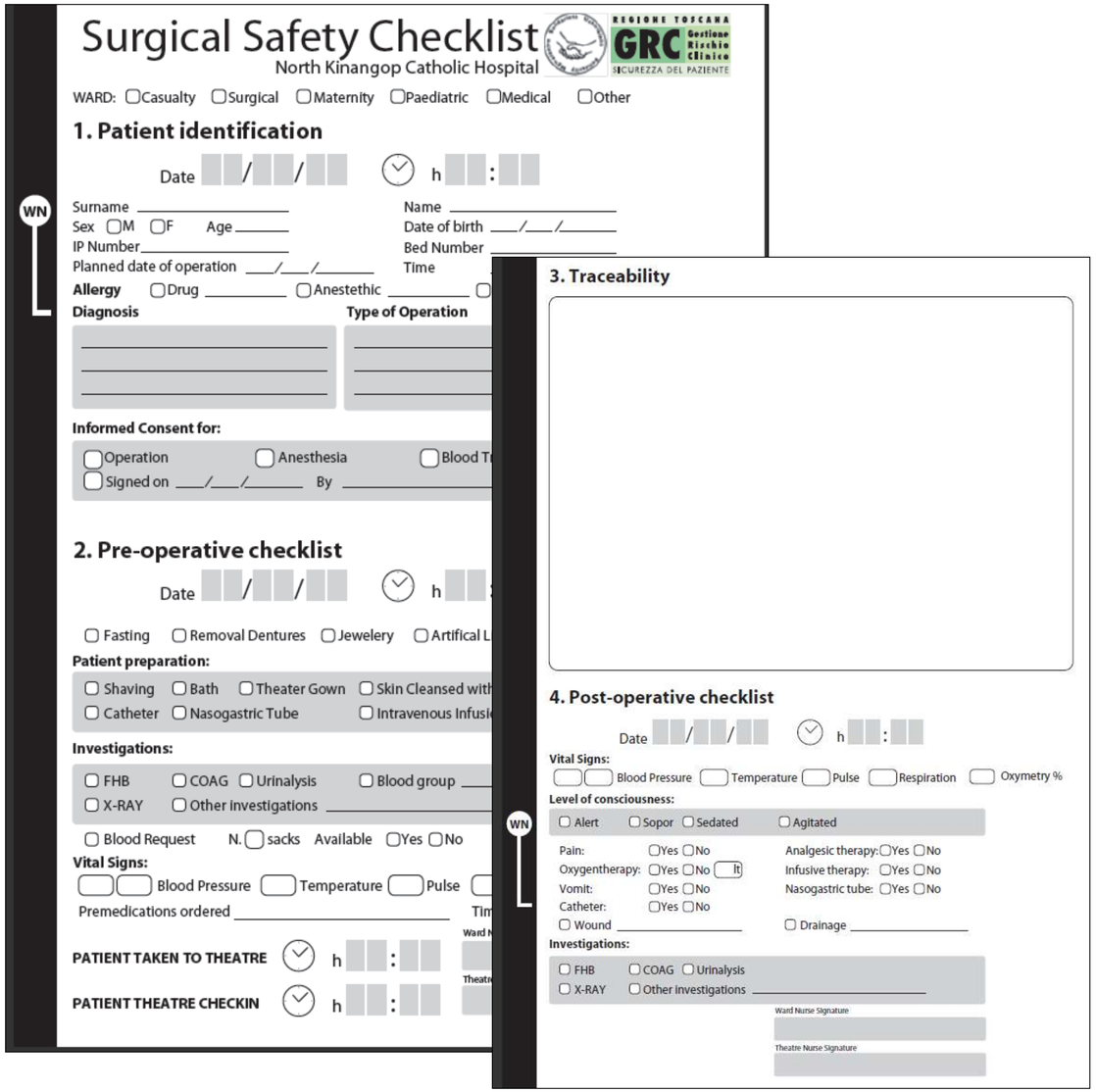
WHO Surgical Safety Checklist and WHO Hand Hygiene Campaign

Action Planning

- Customization of the tools
- Coaching
- Piloting of the tools
- Monitoring and evaluation
- Re-Customization
- Launch

NEXT STEPS

Customization of the WHO Surgical Safety Checklist



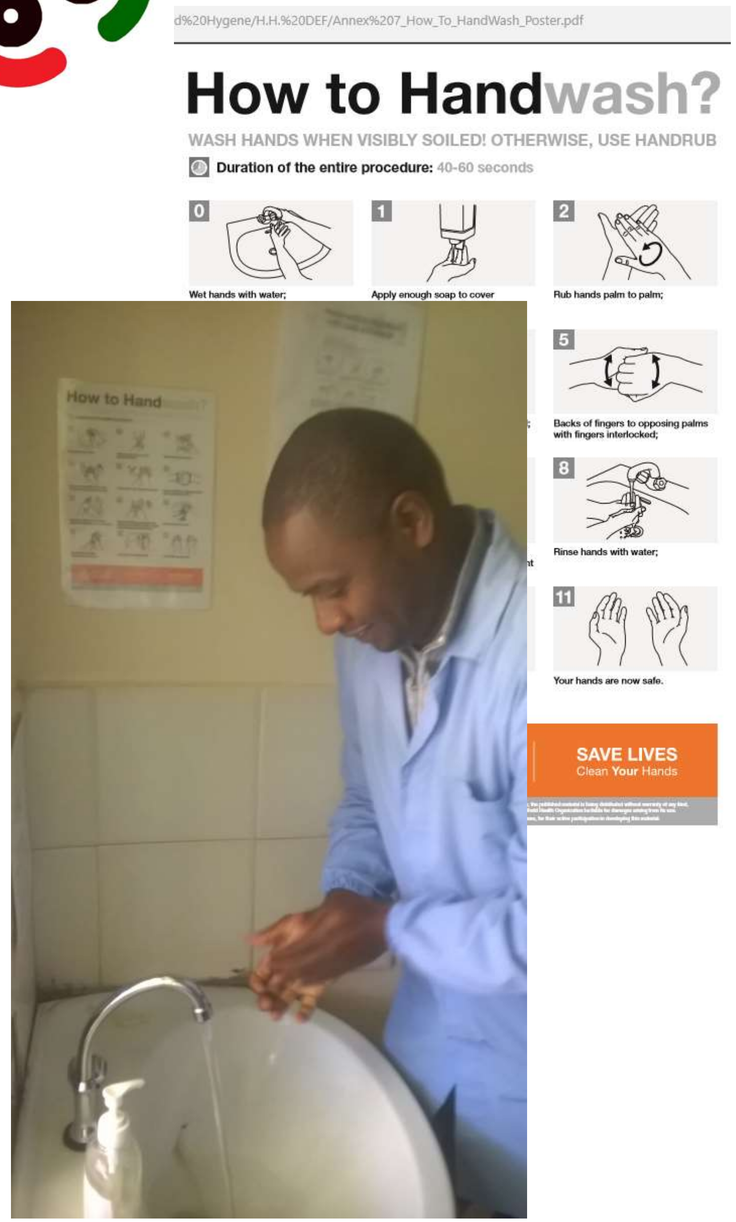
DONE

- **Customization of the tool**
- **Coaching the coachers** to a group of surgeons and nurses

TO DO

- **Cascade coaching** to the others surgeons and nurses
- **Pilot of the tool**
- **Monitoring and evaluation**
  - Prospective pre and post-intervention clinical record review
  - Direct observation to evaluate the compliance to the tools

WHO Hand Wash Campaign

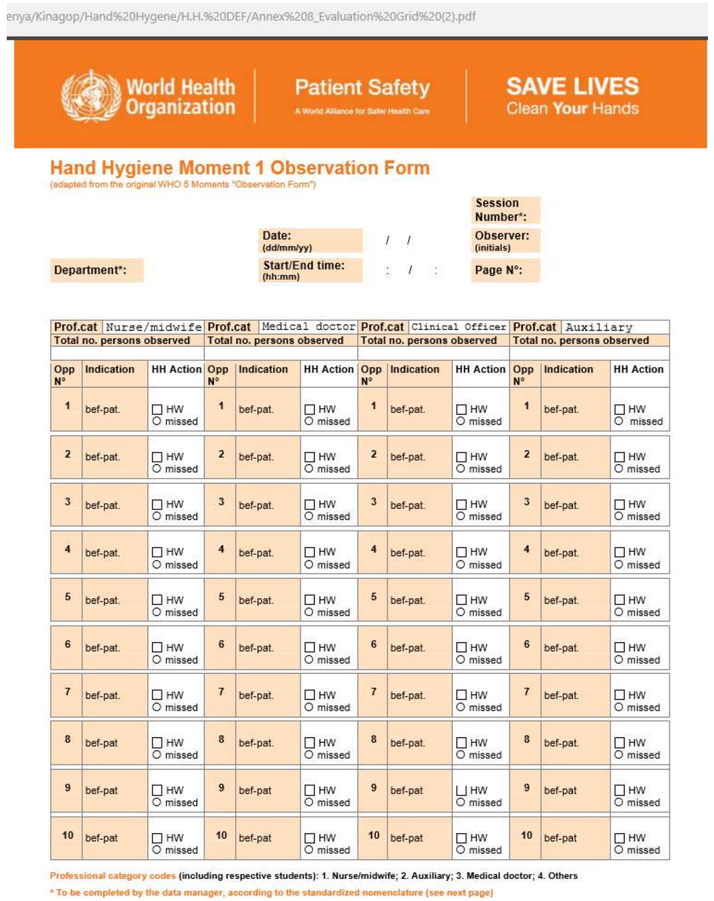


DONE

- **Provided poster** to the surgical department and surgical room
- **Coaching the coachers** to a group of surgeons and nurses

TO DO

- **Cascade coaching** to the others surgeons and nurses
- **Monitor and evaluation**
  - Monitor for 3 months the use of soap (difference between the amount of the soap ordered and the amount consumed)
  - Defined a schedule of observations of the opportunity for HW



Nine "principles" learned from the "developing world“

Don Berwick

1. Simplify everything...complexity is waste.
2. Take teams seriously...uncooperativeness is waste.
3. Be pragmatic about measurement...too much counting is waste.
4. Strip the support system for improvement to a minimum...dependency is a form of waste.
5. Manage the political interface wisely... naivety is waste.
6. Help patients become advocates for change...keeping patients silent is waste.
7. Go quickly, start now...delay is waste.
8. Make spread a system...isolation is waste.

9. **And finally, don't complain...complaint is waste**

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Human interaction is the key force
in overcoming resistance
and speeding change

Atul Gawande, Slow ideas 2013