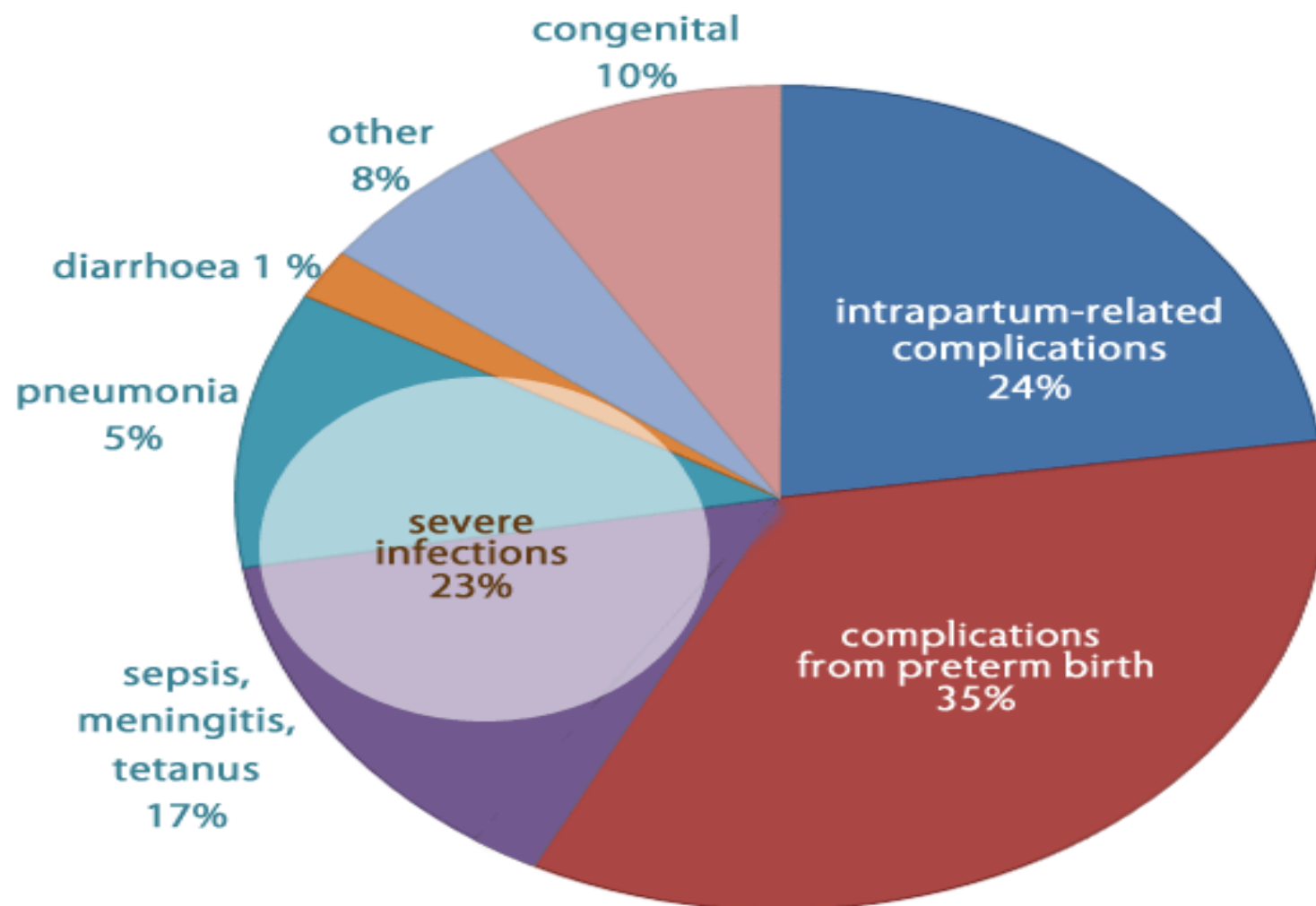




STATISTICAL OVER VIEW

- Emerging pathogen in developed country are predominantly Gram positive
- Of which Gram negative Staphylococcus are the commonest
- Accounting for 45-75% of late onset of BSI
- In the developing country also Gram negative Staphylococcus are predominant
- Increasing of multi resistant organism including Candida sp

Causes of newborn deaths, global data for the year 2013



Source: Liu L et al. 2014. Global, regional, and national causes of child mortality in 2000–2013: an updated systematic analysis. The Lancet.

Prevention of infection in



NUMBER OF INFECTIONS



INFECTION RATE PER
1000 LINE DAYS

isolation

PPE

**Designated
Nurses care**

Hand wash

**In between
Hand rub**

No jewelry

No cosmetics

Nail treatment

No water bath

**Preparation of
Formula**

Minimum articles

Precautions

Role of Nursing in **Infection Control**



NOSOCOMIAL INFECTION

- **UTI**
- **CRBSI**
- **VAP**
- **SSI**
- **RTI (URTI , LRTI)**
- **OCCULAR INFECTIONS**
- **SKIN INFECTION**

Table 1 - Site of nosocomial infections identified between January and December 2010

| Sites of nosocomial infection | N (%) |
|--------------------------------------|--------------|
| Primary bloodstream infection | 121 (78) |
| Pneumonia | 10 (6.4) |
| Meningitis | 8 (5.2) |
| Conjunctivitis | 8 (5.2) |
| Enterocolitis | 6 (3.9) |
| Urinary Tract | 2 (1.3) |
| Total | 155 (100) |



Disease Transmission Precautions

Washing HAND is a –

simple,

economical

&

Effective

**method for preventing
Nosocomial infection in NICU**



WHEN? Your 5 moments for hand hygiene



**Prematurity
LBW feeding**

**Delayed enteral
Formula feeding**

**Invasive device
Intravascular
device**

**Mechanical
ventilation**

**Inadequate
staff**

Over crowding

**Poor
compliance of
Hand washing**

Urinary catheter

**Medications
H2 blockers
steroids**

RISK FACTORS

Contaminated equipments



thermometers



Mobile phones



stethoscope



ventilators

Risk factors

Predisposing factors

Knowledge
Attitudes
Beliefs

Enabling factors

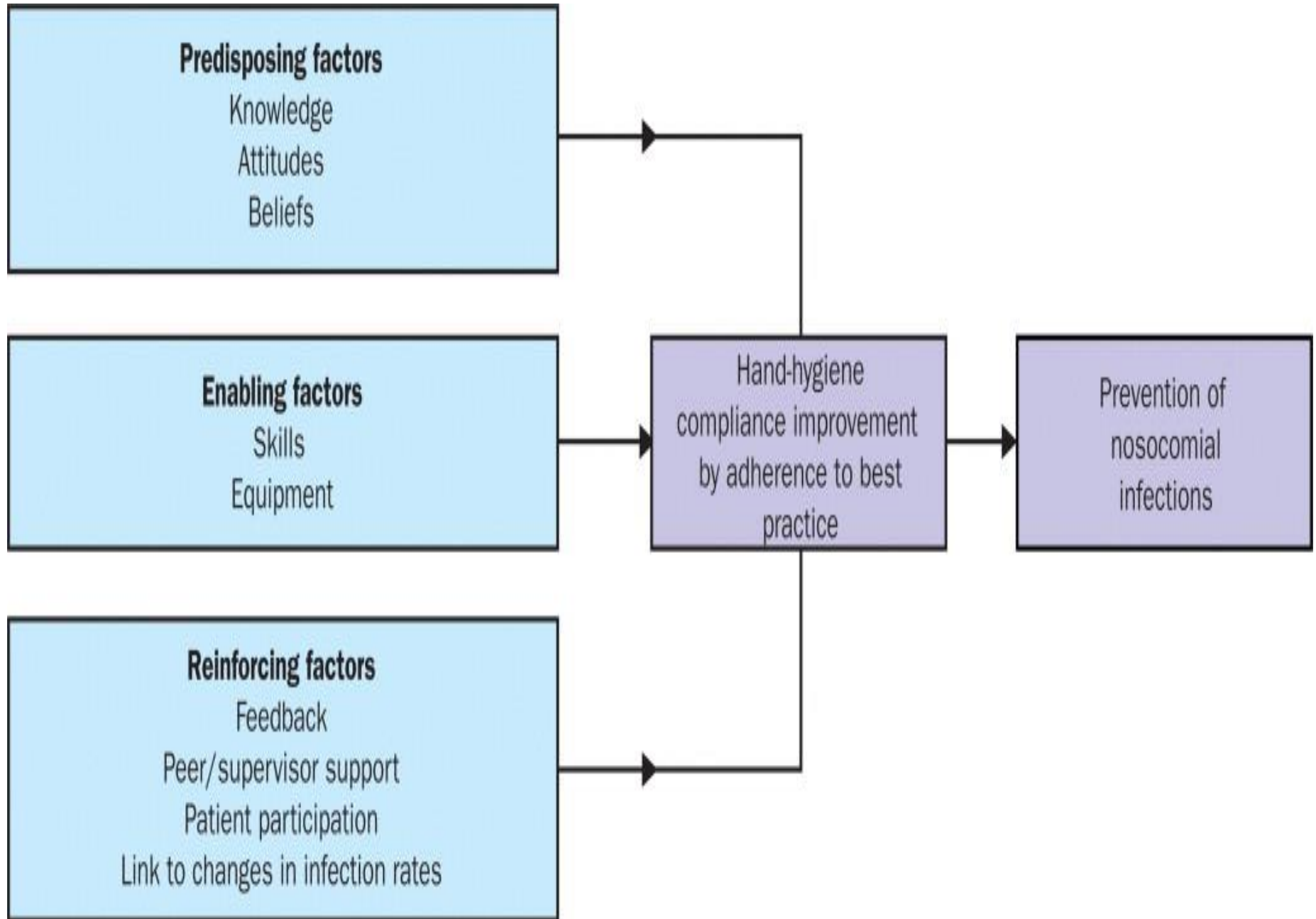
Skills
Equipment

Reinforcing factors

Feedback
Peer/supervisor support
Patient participation
Link to changes in infection rates

Hand-hygiene
compliance improvement
by adherence to best
practice

Prevention of
nosocomial
infections



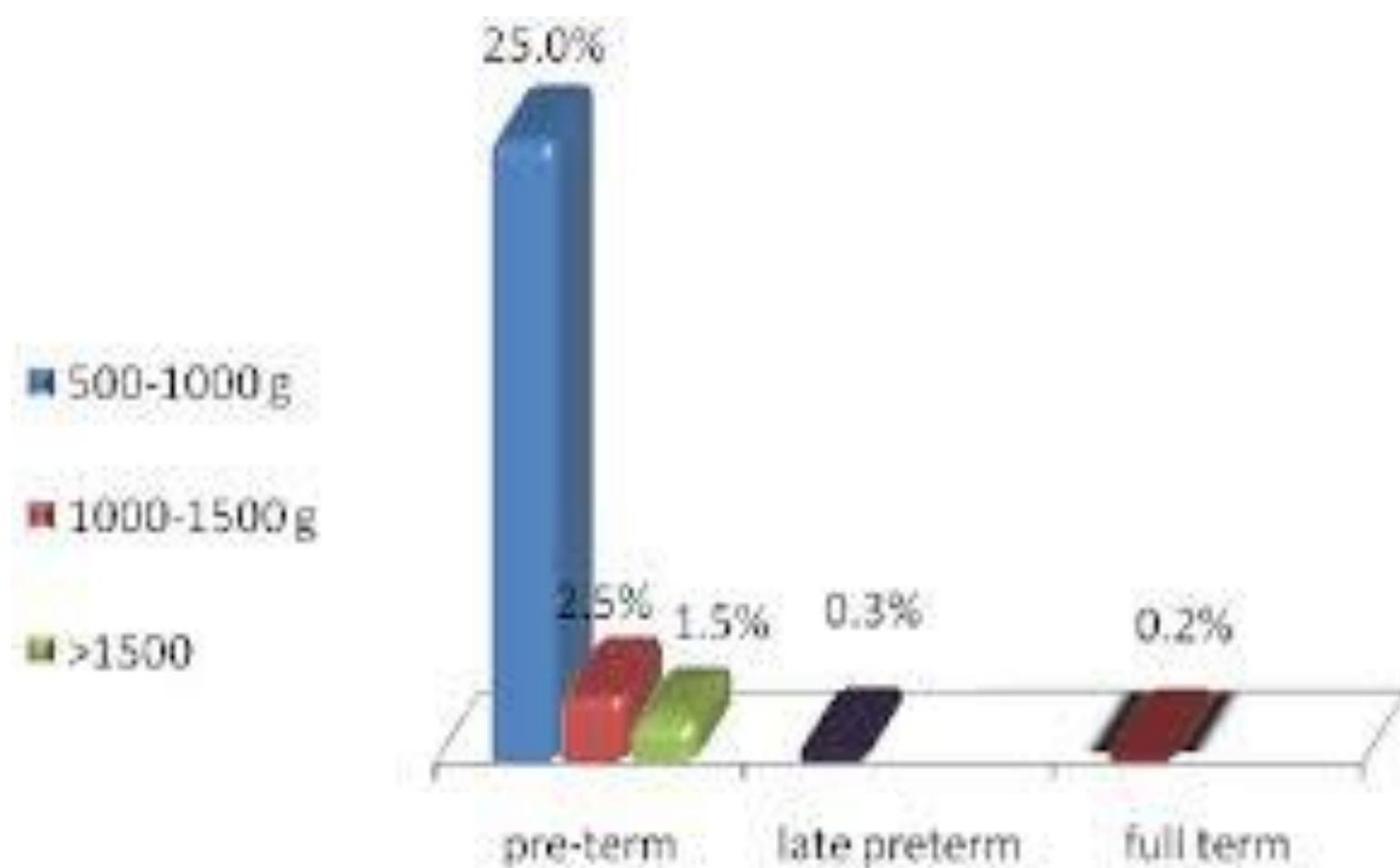


Table 1 - Percentage of children with nosocomial sepsis, with at least one positive blood culture, among 6,215 newborns < 1,500 g, according to weight and gestational age

| Weight at term (g) | Frequency (%) infection | Gestational age (weeks) | Frequency (%) infection |
|-----------------------------------|--|--|--|
| 401-750 | 43 | < 25 | 46 |
| 751-1,000 | 28 | 25-28 | 29 |
| 1,001-1,250 | 15 | 29-32 | 10 |
| 1,251-1,500 | 7 | > 32 | 2 |

Stoll et al.²

MODES OF CONTACT

- **Direct & Indirect**
- **Droplet---**

airborne

vehicles

vectors

The Chain of Infection



Two aspects of nosocomial infections in Neonatology



- Infection control at the unit
- Prevention and treatment of infections in the individual case

Prevention of Nosocomial Infections

- HANDWASHING
- HANDWASHING
- Universal precautions
- Limit use devices and catheters
- Minimize catheter manipulation
- Nursery design
- Meticulous skin care
- Education

General house keeping

Cleaning should be started from---

patient area



accessory area

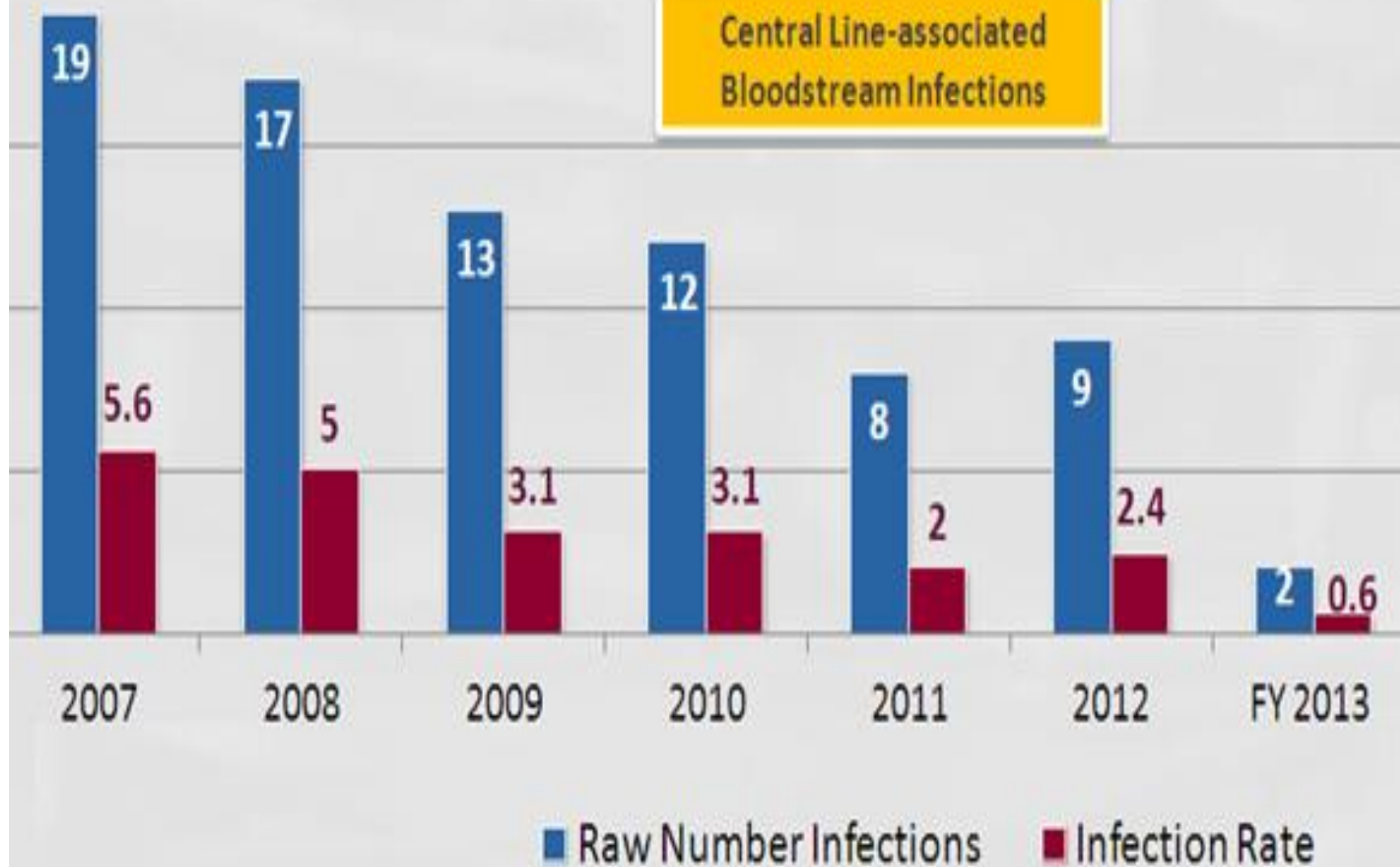


the adjacent halls

General housekeeping

- ❖ **No dust**
- ❖ **Mopping with a disinfectant**
- ❖ **Cabinet surface cleaning with a disinfectant cloth**
- ❖ **Walls , windows shelves should be cleaned periodically with disinfectant**
- ❖ **Sink should be clean with a detergent daily**

Central Line-associated
Bloodstream Infections



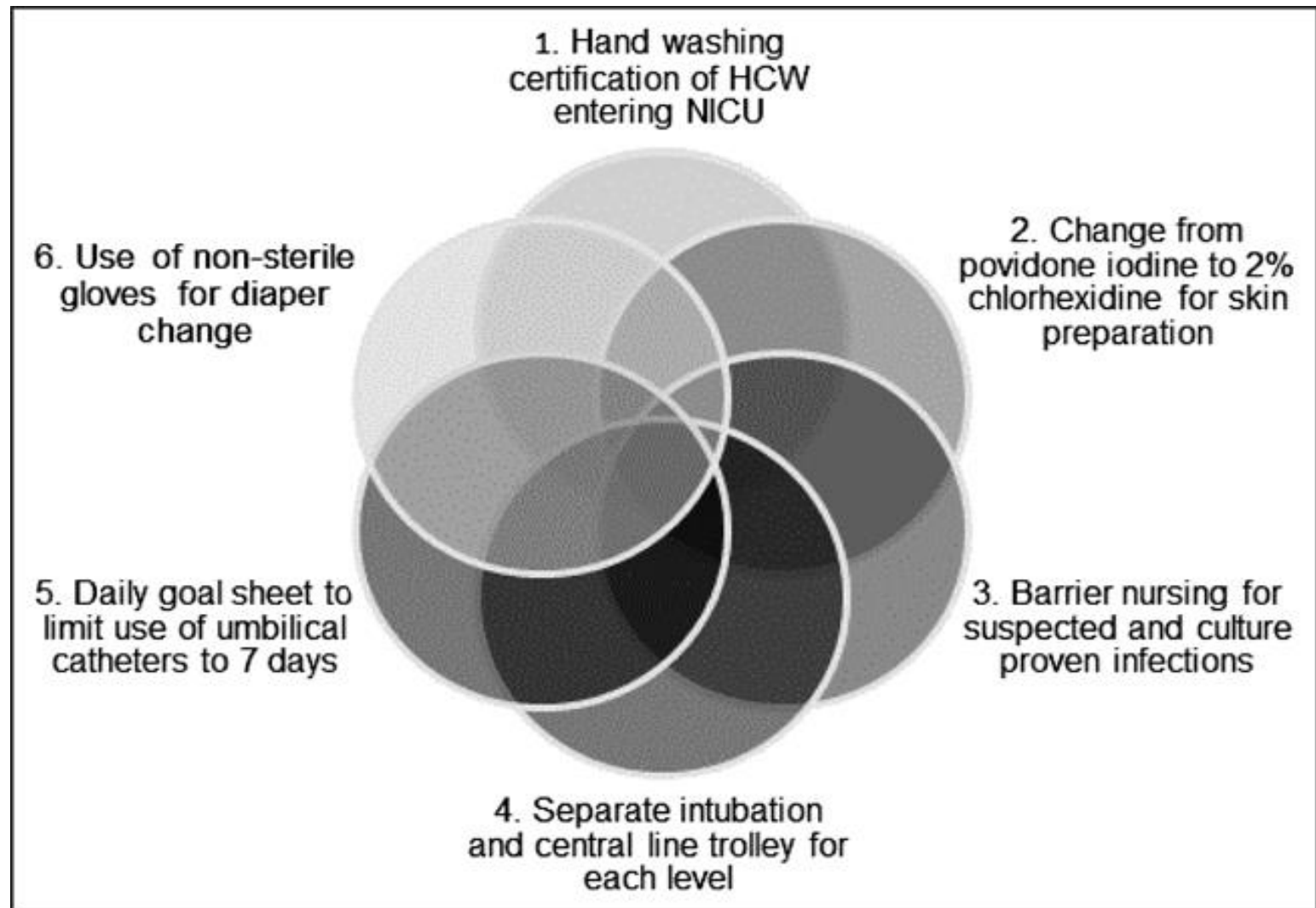


Figure-1: Strategies adopted to reduce the rate of nosocomial blood stream infection within the NICU.

HAIs: Central Line Associated Bloodstream Infections Basic Prevention Practices

■ CVL General Infection Prevention

- Perform hand hygiene prior to any line manipulation, entry or dressing change.
- Cleanse site with a chlorhexidine based antiseptic
- Disinfect access port/hubs for at least 15 seconds prior to each line access
- Minimize line entries as much as possible
- Place chlorhexidine based sponge dressing at the insertion site.



**The HAND,
Perfect
Germ Farm**





**WASH YOUR
HANDS**

7 Steps of Handwashing with Soap and Water



Palm to palm



Between fingers



Back of hands



Base of thumbs



Back of fingers



Fingernails



Wrists



Rinse and wipe dry

Cultures of environmental specimens

- **Tap water , sink drain**
- **Liquid medications , respiratory equipment**
- **Hand soap , cream**
- **Moist & dry environmental surfaces**
- **Cultures of hands of health care providers**
- **Cultures of water used to heat formula**

Table 2. ICU Nosocomial Infection Reduction Initiative

Four Cornerstones of the ICU Nosocomial Infection Reduction Initiative

| | |
|-------------------------------|---|
| Accountability | ICUs accept ownership for health care–associated infections. |
| Cross-cutting standardization | Multidisciplinary collaboration among ICUs with standardization of practices. |
| Ongoing monitoring | Regular review of infection data and interventions. |
| Partnership | Collaboration with and support from Infection Control, Program for Patient Safety and Quality, and hospital leadership. |

- ☐ Blood Borne Pathogens (BBP)
- ☐ Standard Precautions
- ☐ Hand Hygiene
- ☐ Transmission Based Precautions
- ☐ Prevention of Healthcare Associated Infections

Safety & Annual Basics 2012-2013
Part 2

Prevention of Nosocomial Infections

- Each unit has a baseline rate of infection due to inherent modifiable risk factors
- Effective strategy focus on *modifiable* risk factors
 - Strategic nursery design – space, sinks, soaps, paper towel
 - Adequate staffing
 - Hand hygiene compliance
 - Minimization of catheter days
 - Sterile preparation of all fluids to be administered
 - Promoting enteral feeding esp. with EBM/breastfeeding
 - Monitoring/ surveillance of nosocomial infection
 - Education and frequent feedback from staff



More Susceptible



STANDARD PRECAUTIONS

A simple, consistent and effective approach to infection control



Minimise contact with blood and body substances by utilising safe work practices and protective barriers.

STANDARD PRECAUTIONS APPLY TO ALL PATIENTS

❖ **Vigorous training of the STAFF is utmost important**

❖ **To be more vigilant to detect the incidence of common organism**

❖ **Feed back from the staff is also important**





CONCLUSION

CONCLUSIONS :

STRATEGY FOR INFECTION PREVENTION

- Strict attention to Hand hygiene
- Prudent Antibiotic use
- Aseptic technique
- Disinfection/Sterilization of items and equipment
- Education of staff infection control awareness
- Keep Environment Clean, Dry and dust free
- Surveillance of nosocomial infection to identify problems areas & set priorities

Children



**Most responsible
citizen for tomorrow**

Neonatal Nurses:
Warriors of love who fight
along side our
babies...leading the battle
to keep babies alive.



Nails should be **clean**
and **short**.

Artificial nails and
nail varnish **must not**
be worn.

Only **plain band**
wedding rings may
be worn.

Any cuts and
abrasions should be
covered by
waterproof plasters.



NICU Nurses
have
the heart of a lion
and
the touch of an angel

Neonatal Nurse Day, September 15

handpickedmiracle.wordpress.com



VOICE OF NICU NURSE

- Sometimes it is difficult even to wash our hand as we have to do every thing first as there is complication for the baby.
- **It is difficult when we have to take care of two infants , one in isolation and the other in NICU**
- **Many medical students still have the mal practice of wearing jewelry and not having hand washings**

Thank You Notes to NICU Staff



Thank You From Baby Boy Jones

I have gone 136 days without a
bloodstream infection. Keep up the
good work! My Mom left some
"kisses" for you! XOXOX



Vanderbilt Infection Control & Prevention

