Anaesthesia Assistant Follow-up 2012

Isolated health-worker

- few get ongoing support, advice and professional development

- Daily decision making is vulnerable

- ongoing confidence and ability diminishes

- providing a robust system of support, education and connection with senior staff outside their hospital is vital to maintain their skill, confidence and even presence

- Other AA surveys

- Follow-up (FEP) AA method

- Demographics and caseload

- Skills assessment

- Factors affecting skills

- Enabling environment assessment

- Barriers, confidence, supervision

- OTs that work

- Competence

- Recommendations

Previous surveys

- NSMP 2004
  - 20 hospitals visited, 13 AA assessed, no coaching
  - Regularly used skills were adequate
  - Facilities could be improved
  - Hindering factors : supervision, surgeon respect
  - Improved training and follow-up recommended

- NSI 2008 (to inform AAC development)
  - Wide variety of practice
  - Ketamine and spinal key skills
  - Refreshers and follow-up wanted

CEOC readiness survey

- 0.4% CS rates

- AA vital in OT team: few or solo

- GA available 4/18 hospitals

- Training and on site support

- Treating complications vital to prevent hospital deaths

FEP enables us to

- Find out what AAs do, what they know and whether their environment helps them deliver safe anaesthesia

- Deliver on site coaching

- improve their competency, training, and ability to deliver safe anaesthesia

AA FEP objectives

- Individual on-site encouragement and coaching in core clinical skills

- A documented evaluation of the practice, knowledge & clinical skills, confidence and work environment of the AAs

- An insight into anaesthesia at differing hospitals: pointers of success and inadequacy in anaesthetic/OT provision.

- Development of a robust, sustainable assessment and support tool (FEP) for AAs

- Establishment of an effective feedback system to AA stakeholders

- Establishment of a Continuous Education programme and QI tools for working AAs and OTs

- FEP is not
  - A complete assessment of anaesthesia in any district
  - Likely to change practice itself
    - it sows a seed
    - subsequent CPD vital

Development of AA FEP tool

- NSI FEP tools and team

- AA trainers: forum + emails

- Source: NAMS AA 12 month curriculum, AART and Basic Anaesthesia Training Manual (6 month)

- International anaesthesia and OT standards

- Previous AA surveys

- Pilots: Gorkha, Anandaban

FEP tool components

A. Knowledge test -with coaching and re-test

B. Skills assessment by checklists-with coaching to competent standard

   Case discussion anaesthesia emergencies (with coaching to competent standard)

C. Enabling environment (OT facility and staff, drugs and equipment

D. OT record, practical experience

E. Participant interview: confidence, barriers and self-learning

F. Supervisor interview

G. Review of provisional CPD-QI materials

H. Participant evaluation

skills

- Knowledge test 40 T/F

- Skills
  - Pre-anaesthesia check
  - Airway (+LMA)
  - Rapid sequence induction +intubation
  - Spinal

- Case discussions: emergencies
  - High spinal
  - Shock: Post-partum haemorrhage
  - Hypoxia under GA
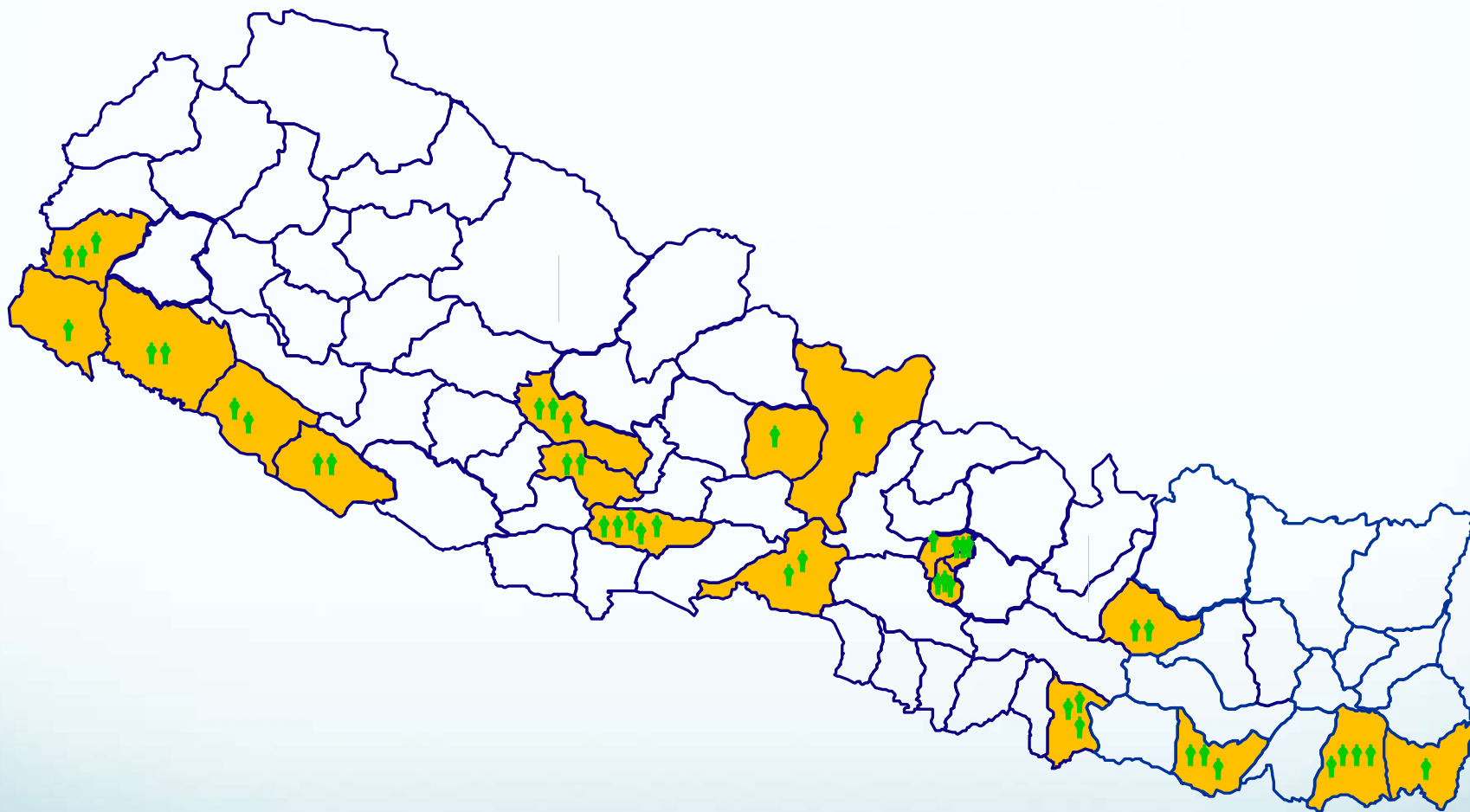 - Regurgitation under ketamine

- Coaching vital part: Spiral assessments and learning, senior coaches

- Skills
    - same for each AA
    - no clinical assessment (inconsistent across sites)

- Enabling environment checklists

- in Nepali or English with Nepali
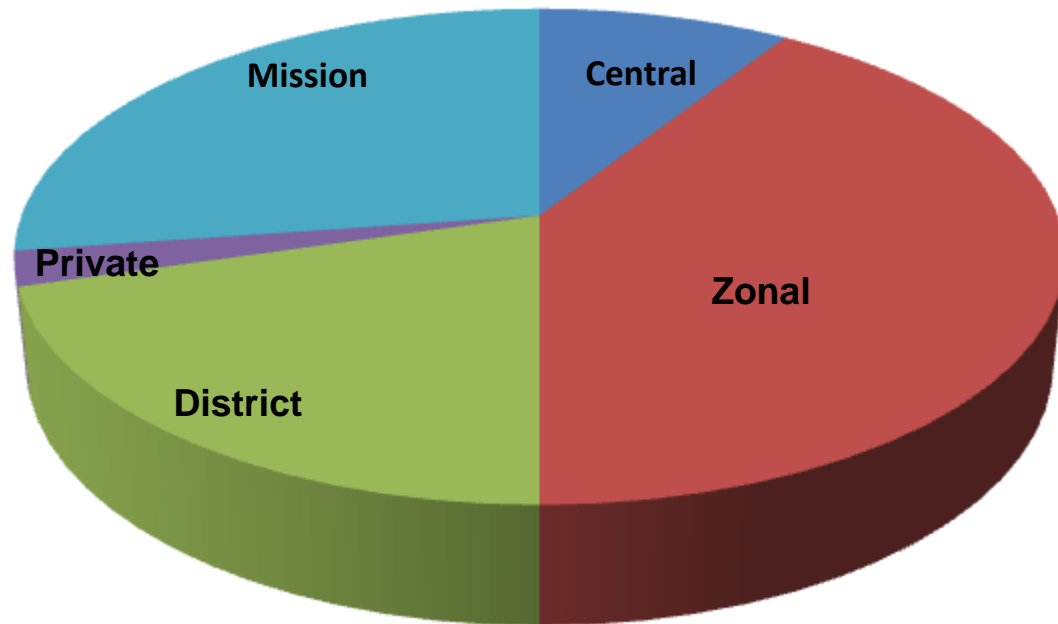
- Minimum 1-2 days at each facility

AA selection

- 6-month trained AAs
  - 94 trained (2002-2010)

  - 55 currently working

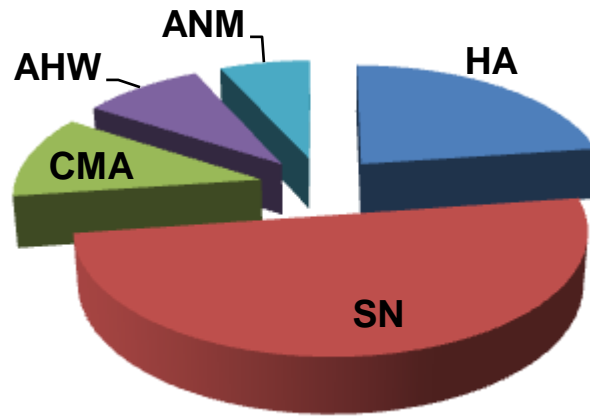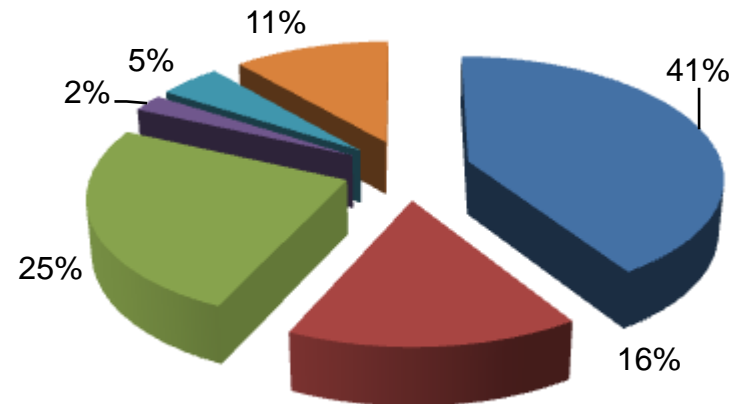 - 38 FEP (+6 other AAs)=44 total
- 21 hospitals in 18 districts

Name of Facility	No. of non-doctor anaesthesia providers	Total Cases	C/S	Total Case per AA	C/S Case per AA
Koshi Zonal Hospital	7	3612	2040	516	291
Okhaldhunga	2	688	56	344	28
Sagarmatha Zonal Hospital	3	624	600	208	200
Bhaktapur Hospital	1	264	24	264	24
Bharatpur Hospital	5	4196	1440	839	288
Janakpur Zonal Hospital	5	1816	1780	363	356
Dhaulagiri Zonal Hospital	3	108	72	36	24
Tamghas Hospital	2	112	112	56	56
Lamjung Community District Hospital	1	260	152	260	152
Gorkha Hospital	1	100	48	100	48
Tansen Mission Hospital	6	3800	484	633	81
Bheri Zonal Hospital	3	920	768	307	256
Gulariya District Hospital	2	12	12	6	6
Dadeldhura District Hospital	1	0	0	0	0
HDCS Team Hospital Dadeldhura	2	156	112	78	56
Seti Zonal Hospital	2	1184	700	592	350
Mahakali Zonal Hospital	1	0	0	0	0

- Janakpur   5 AAs, 1816 cases, 363/AA

- Tamghas   2 AAs, 112, 56/AA

- Gorkha   1 AA, 100 cases, 100/AA

types of cases

- CS, fracture reduction, appendectomy commonest

- Ketamine and spinal>GA

- Many cases described were life-saving events, of very sick patients or the successful management of anaesthetic emergencies

- Data on complications lacking (no logbooks)

- Pre-anaesthesia checks not regularly done

"Non-anaesthetic" work

- Outside responsibility   50%

- Given CPR   86%

- Help with sick patients outside OT   98%

- Had training in care of such patients   41%

- Sick patient protocols available   40%

- Newborn resuscitation in OT   45%

- Trauma patients (emergency department) 30%
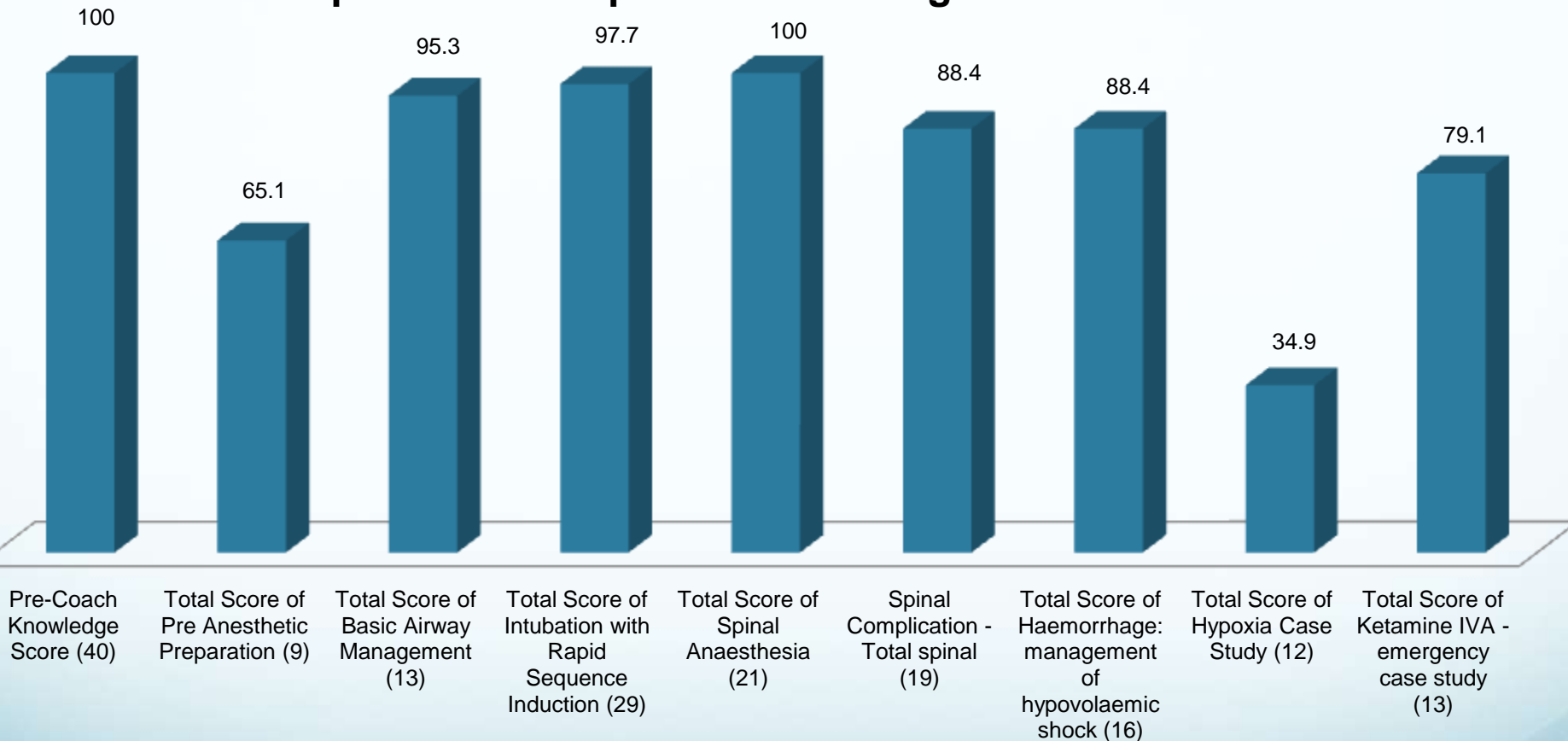
- Snake bites: respiratory support

Knowledge and skills

- Knowledge scores good

- Minimal coaching required

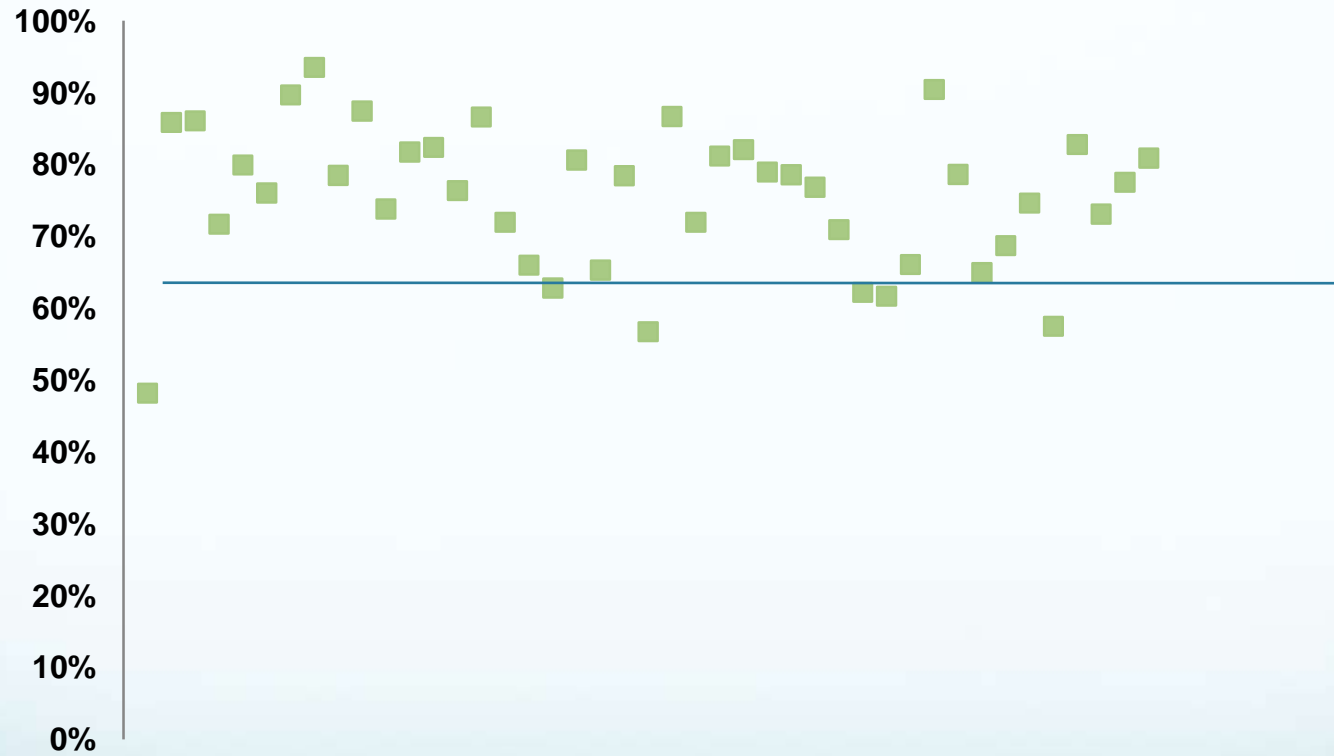- Pre-post comparison

- No gaps across groups
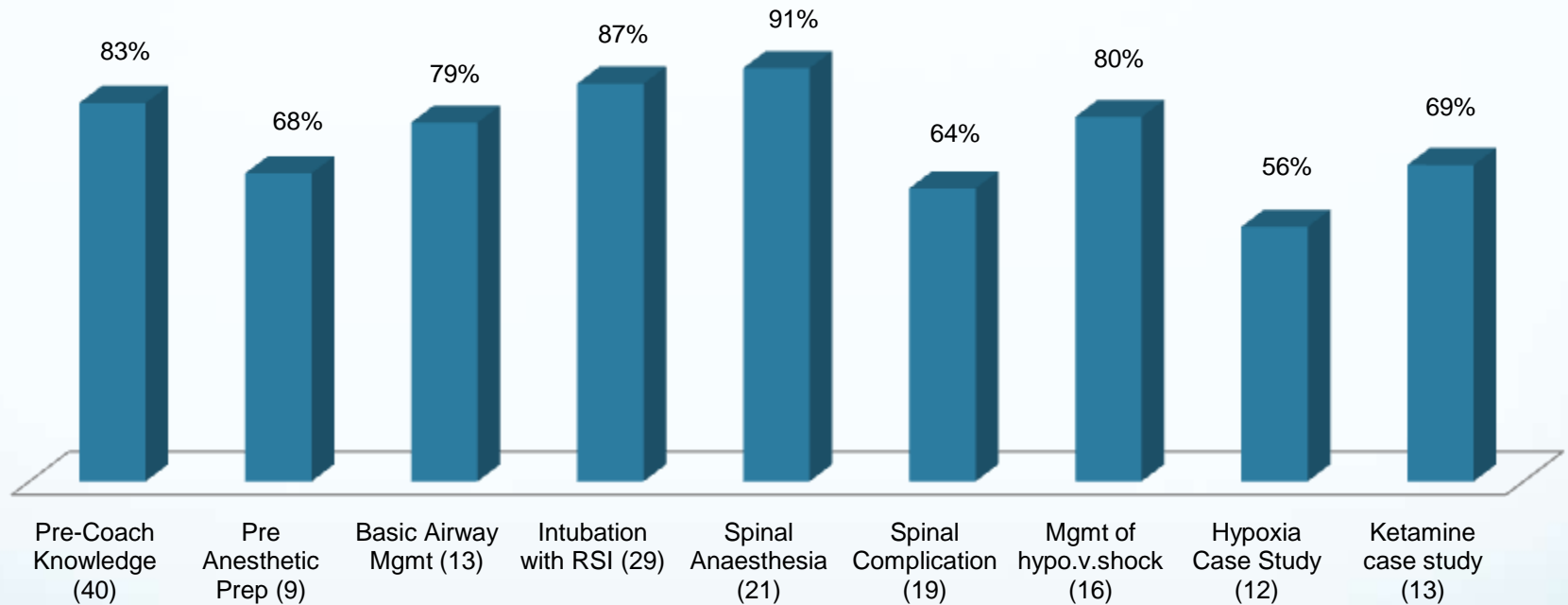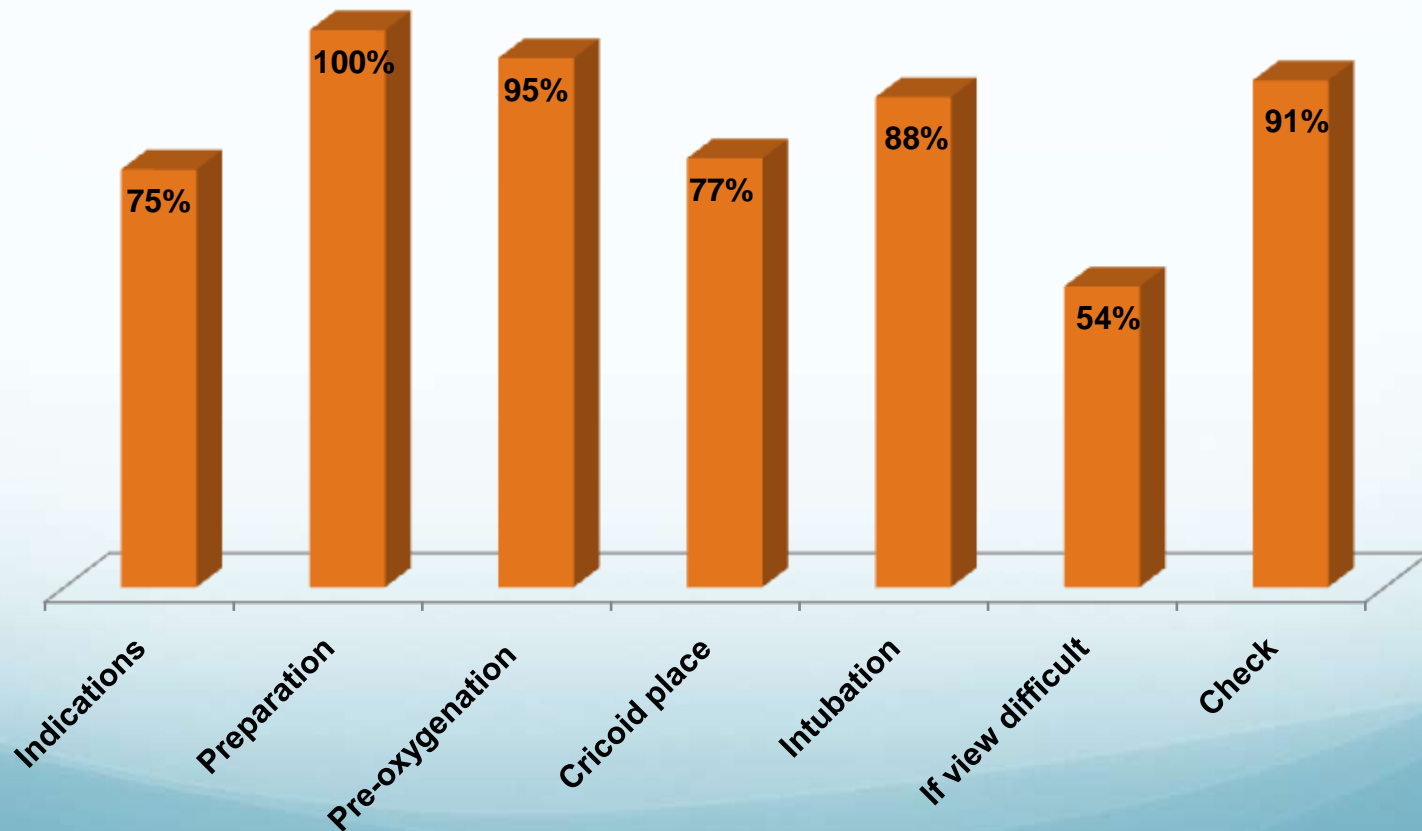
Proportion of Respondents scoring above 60% score

all skills

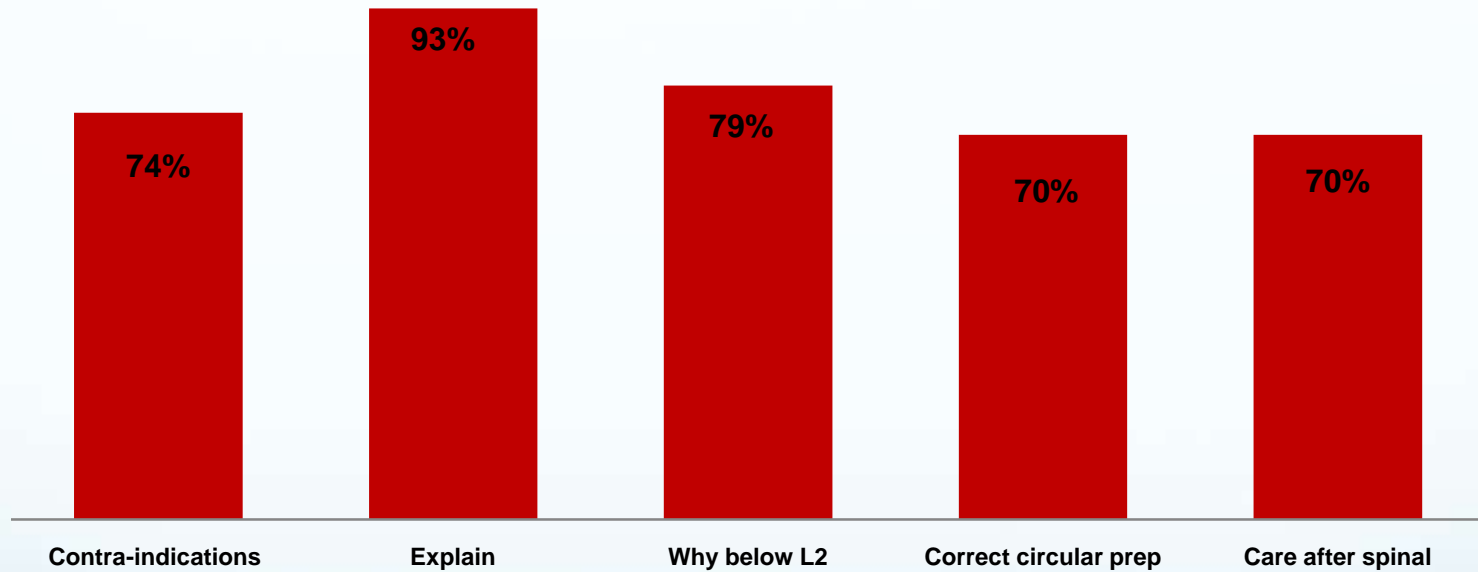# Skill ability: step by step

Scoring of RSI Key Steps

Bar chart values:
- Indications: 75%
- Preparation: 100%
- Pre-oxygenation: 95%
- Cricoid place: 77%
- Intubation: 88%
- If view difficult: 54%
- Check: 91%

Scoring of steps of Spinal Anesthesia

What factors may affect skills?

Factor	Skill tested
HA, SN, AHW, CMA	no effect
Number of cases	no effect
GA facility in hospital	no effect
AA experience	intubation and spinal
Mission hospital	spinal complication
Refresher training	knowledge, airway, intubation, spinal complication
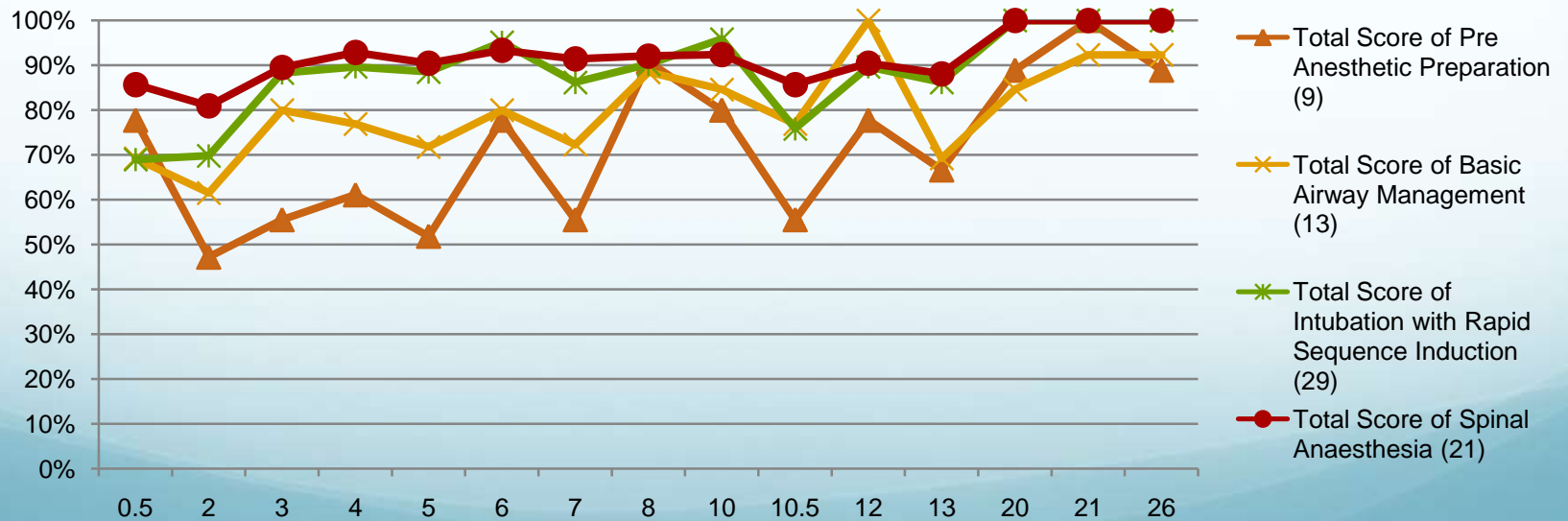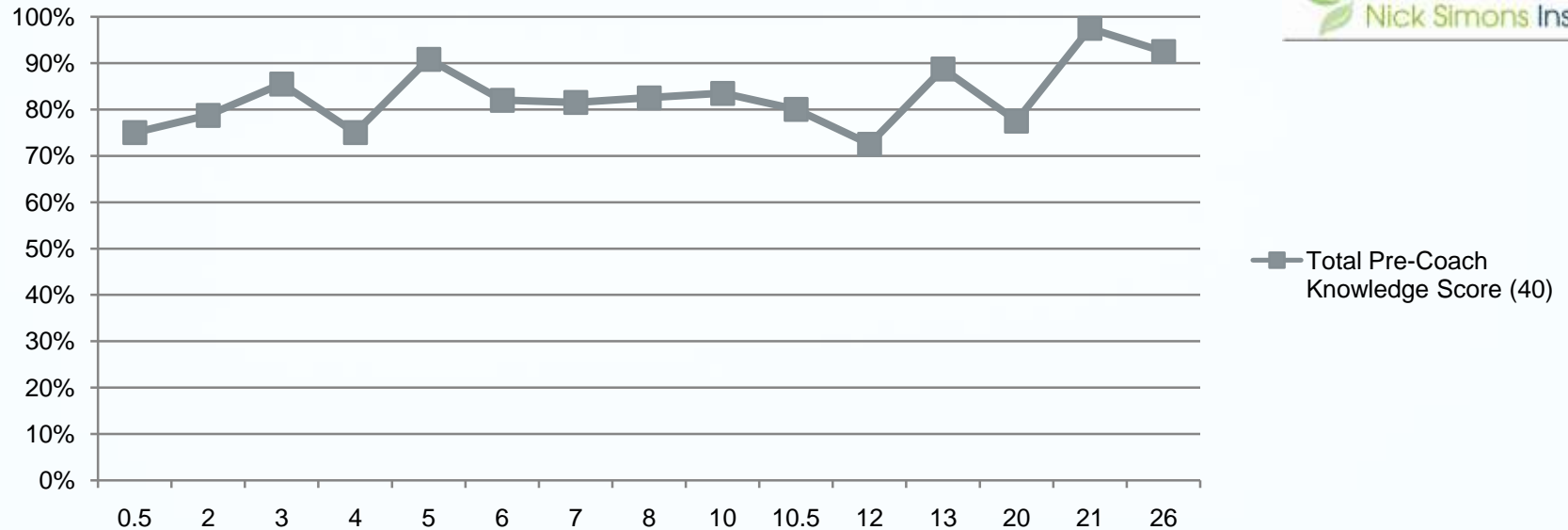
overall: skills=competence?

- most AAs above 60% cut-off

- Spinal skills better

- weak areas identifiable within each skill

- Decision making and emergencies need to be strengthened:
  - ABC
  - none work truly alone

- Experience seems to influence skills

SpO$_2$

67%

HR

42

Alarm!!

Battery - charging
||||||||||||| Full
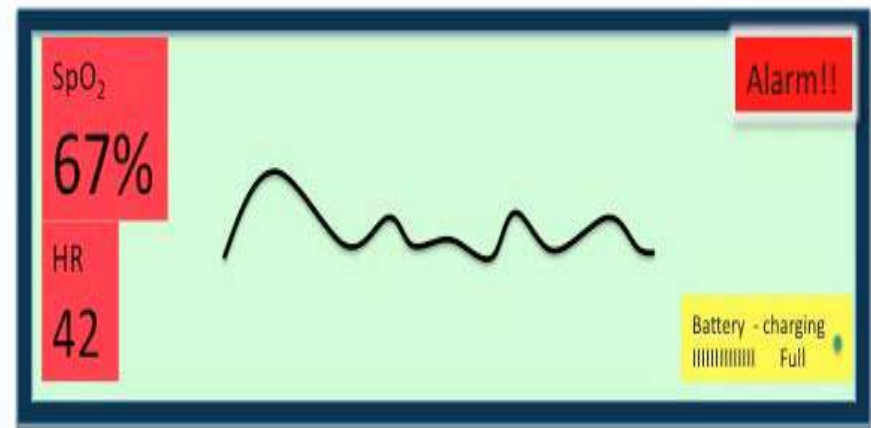
- On –site Coaching is more important than the assessment

- Few needed much coaching to get to the standard

Enabling environment

Enabling environment

- Four government district hospitals and three zonal hospitals had no functional GA service. A further zonal hospital had very outdated GA equipment.

- Some hospitals clearly have enough equipment to provide good GA anaesthesia

- many however were far from this standard and some were poor and unsafe.

- Of particular concern are zonal hospitals as current referral hospitals
  - high turnovers with inadequate equipment and drugs, and poor hospital support

- Post-operative recovery was virtually non-existent
  - space and staff were the primary limitations
  - significant safety concern, particularly for sick mothers and busy hospitals

- Several hospitals across the country reported spinal bupivicaine failure despite good spinal technique
  - no actual case documentation
  - clearly a significant drug quality problem

WHO facility score

- IMEESC

- WFSA 2010 guidelines

- Level 1 or level 2 (CS capable)

- Nepal specific
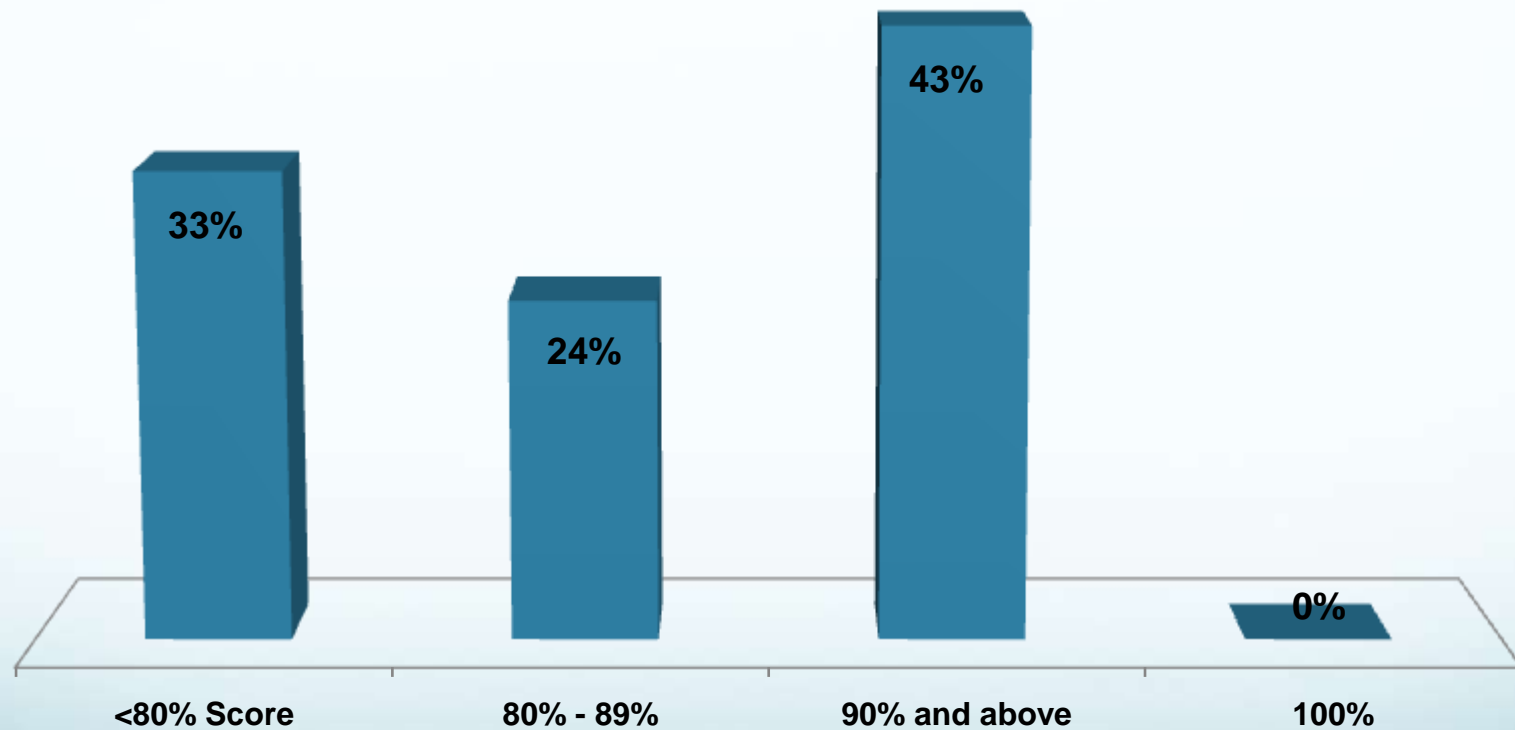
WHO Facility by hospital type
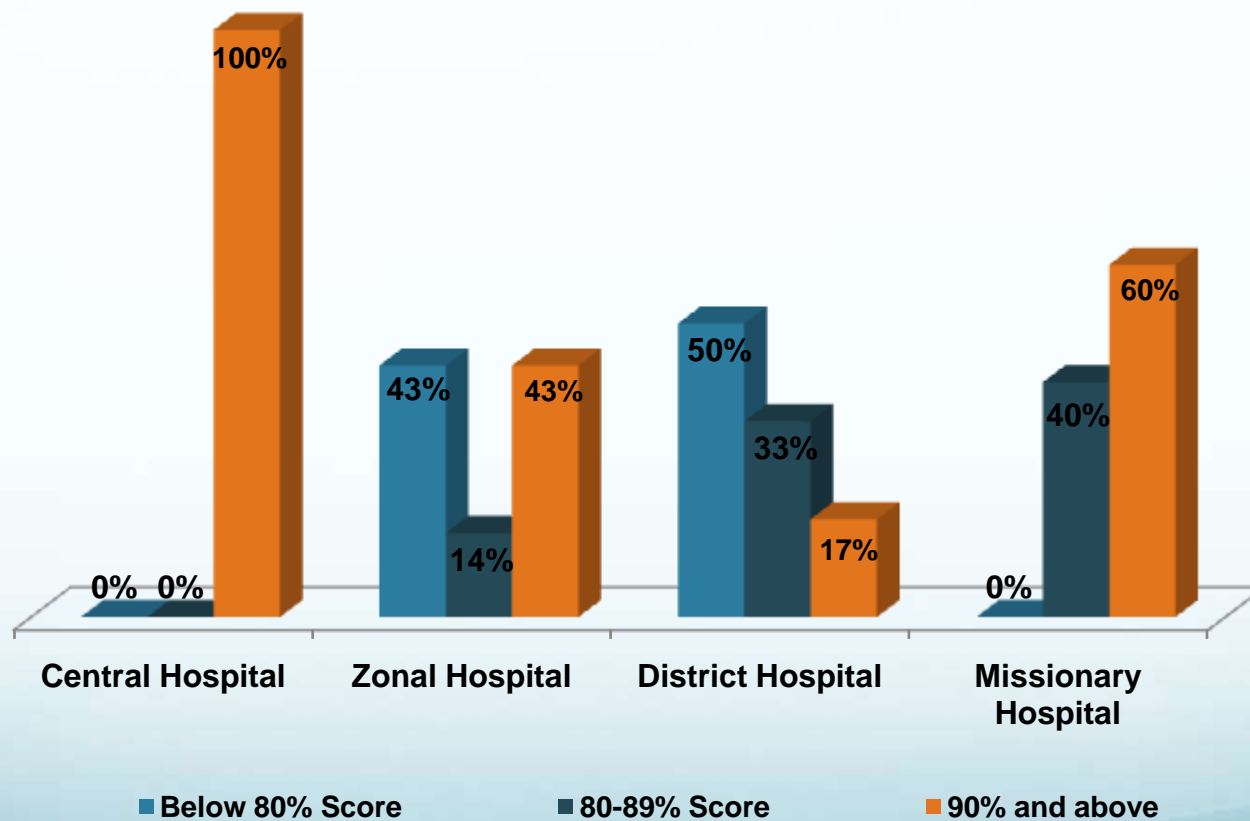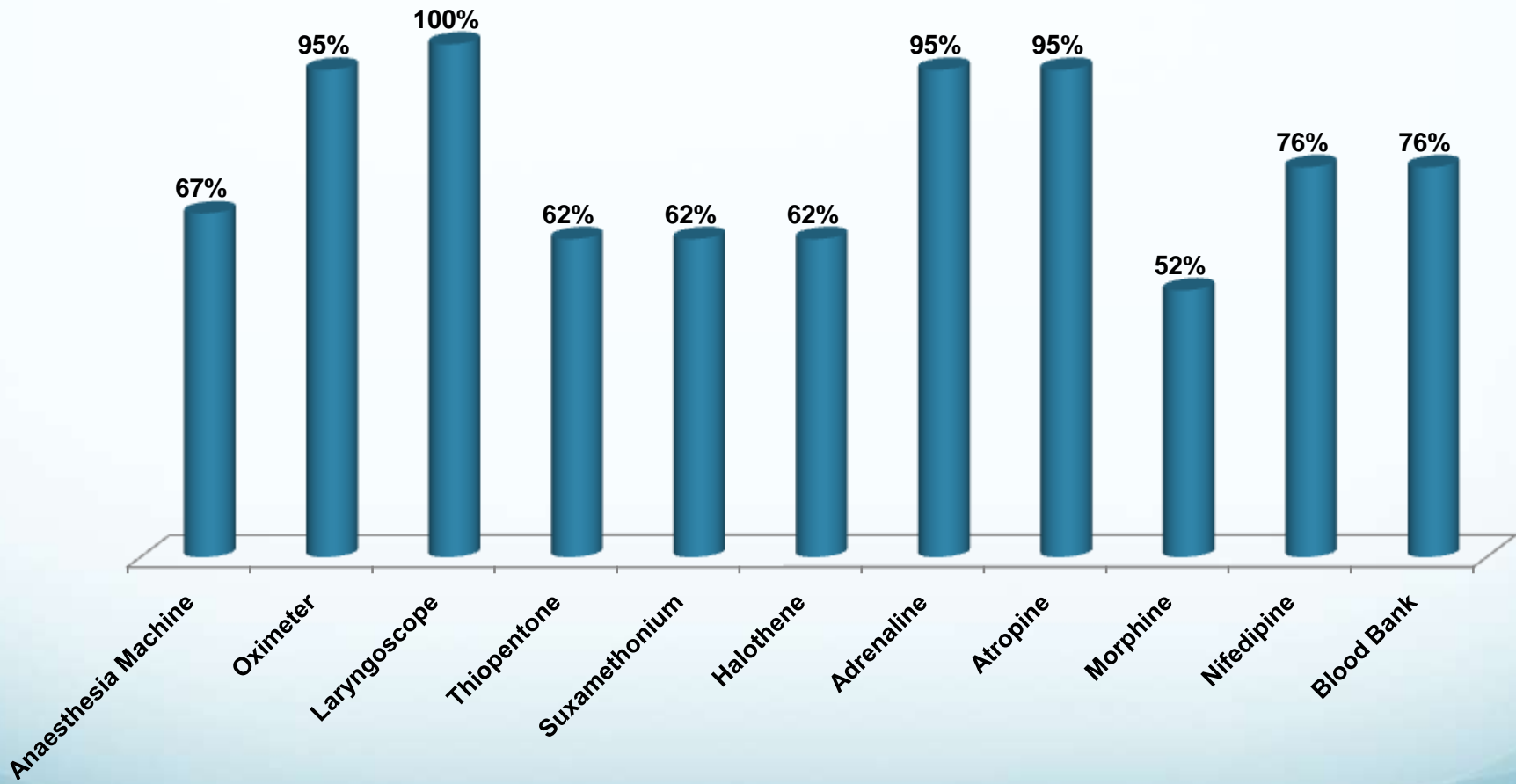
Enabled environment-whose problem is this?

- Are standards defined?

- CEOC only focus?

- in face of disinterested or obstructive management

- leadership

- AA personal responsibility

- Help with standards and focus

Barriers
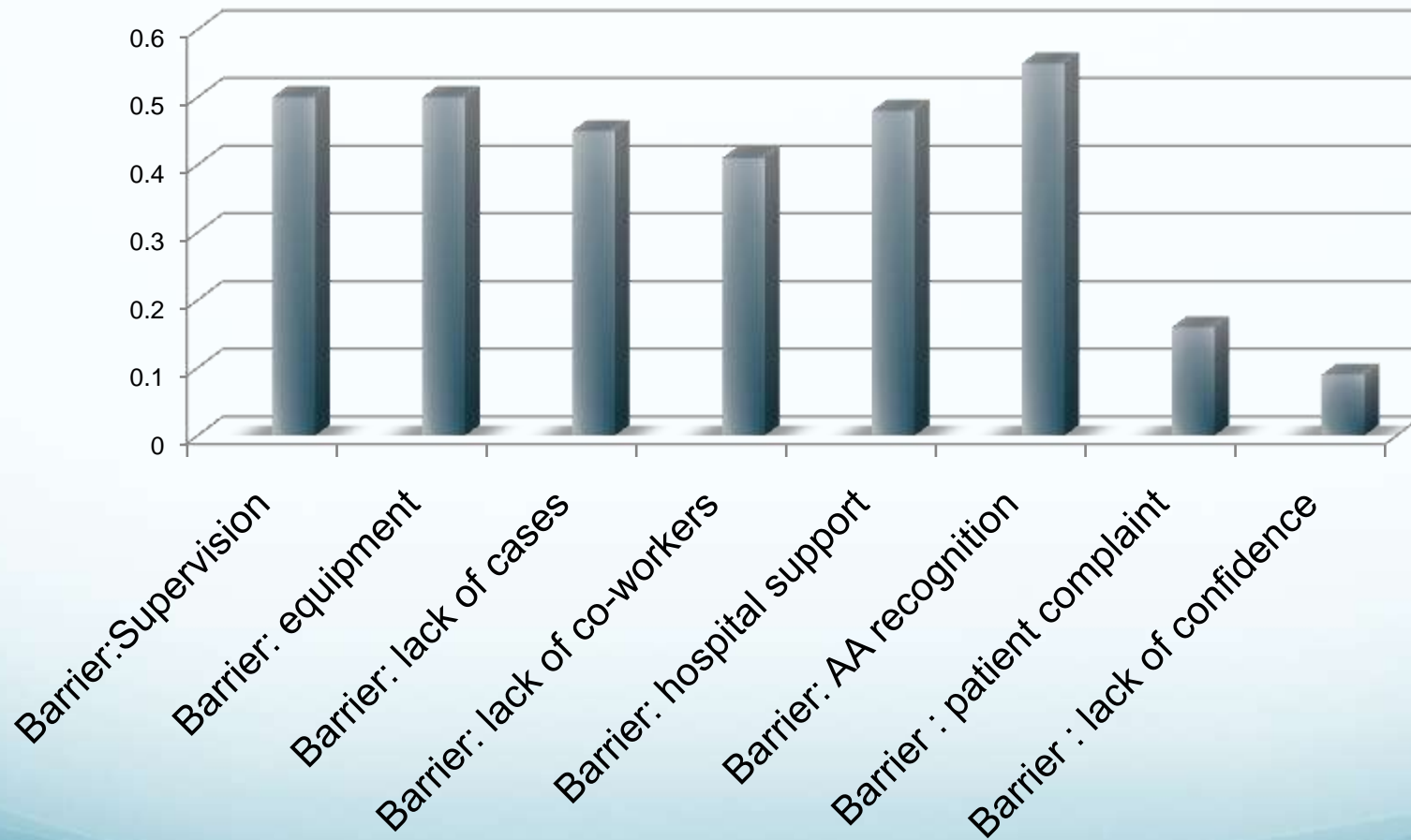
challenges and frustrations

- "AAs are not recognized as important members of the OT team"

- "AAs are not valued in this hospital"

- "surgeons are always in a hurry"

- "this is Nepal" (on the poor conditions in one zonal hospital)
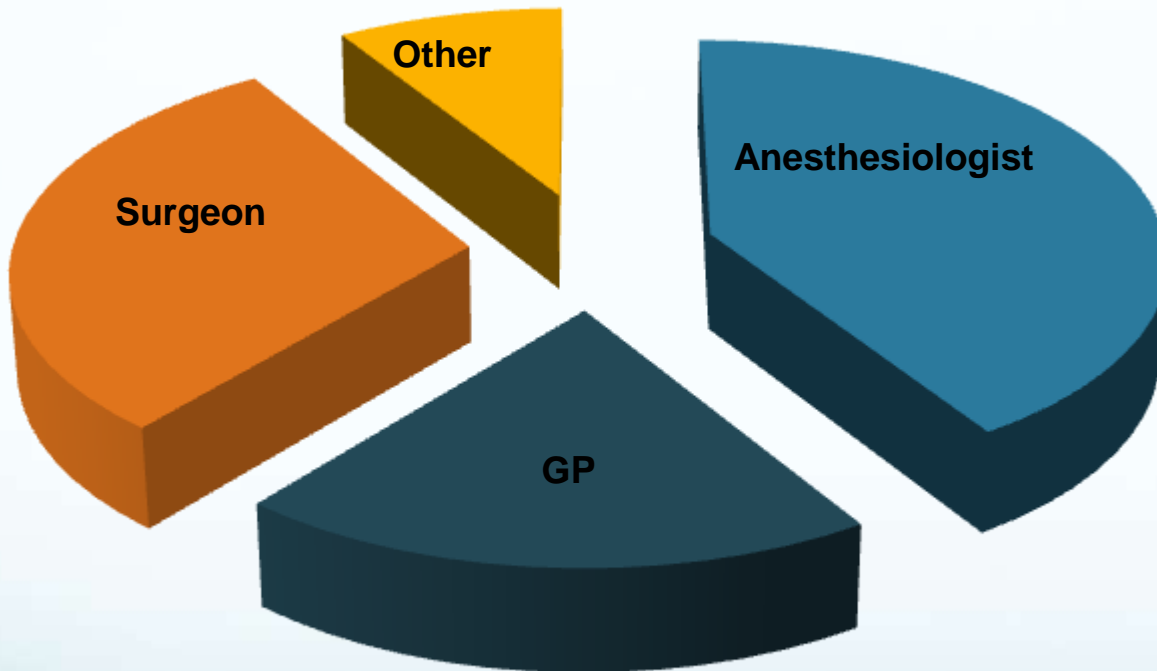
supervisors

- Very few anaesthesiologists outside Kathmandu

- AAs work in isolation: educationally and physically
  - many feel undervalued, and unsupported

- Models of support exist

- Supervisor anaesthetic skills

Positive comments

- *What is the best thing about anaesthesia here*?

"saving the life of two patients (mother and child) in a good safe environment" (Sagarmatha AA)

- *Why is surgery/anaesthesia good here*?

"consistent team in the OT, nurse in charge, co-operative doctors, management and AAs over years" (Nepalgunj AA)

Functional OTs

- Consistent long-term Team

- Enabled environment

- Regular cases including general surgical

- Leadership and management support

- Outside support

OT teamwork

Surgical Safety Checklist

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

Before induction of anaesthesia	Before skin incision	Before patient leaves operating room
(with at least nurse and anaesthetist)	(with nurse, anaesthetist and surgeon)	(with nurse, anaesthetist and surgeon)

Before induction of anaesthesia

Has the patient confirmed his/her identity, site, procedure, and consent?
☐ Yes

Is the site marked?
☐ Yes
☐ Not applicable

Is the anaesthesia machine and medication check complete?
☐ Yes

Is the pulse oximeter on the patient and functioning?
☐ Yes

Does the patient have a:

Known allergy?
☐ No
☐ Yes

Difficult airway or aspiration risk?
☐ No
☐ Yes, and equipment/assistance available

Risk of >500ml blood loss (7ml/kg in children)?
☐ No
☐ Yes, and two IVs/central access and fluids planned

Before skin incision

☐ **Confirm all team members have introduced themselves by name and role.**

☐ **Confirm the patient's name, procedure, and where the incision will be made.**

Has antibiotic prophylaxis been given within the last 60 minutes?
☐ Yes
☐ Not applicable

Anticipated Critical Events

To Surgeon:
☐ What are the critical or non-routine steps?
☐ How long will the case take?
☐ What is the anticipated blood loss?

To Anaesthetist:
☐ Are there any patient-specific concerns?

To Nursing Team:
☐ Has sterility (including indicator results) been confirmed?
☐ Are there equipment issues or any concerns?

Is essential imaging displayed?
☐ Yes
☐ Not applicable

Before patient leaves operating room

Nurse Verbally Confirms:
☐ The name of the procedure
☐ Completion of instrument, sponge and needle counts
☐ Specimen labelling (read specimen labels aloud, including patient name)
☐ Whether there are any equipment problems to be addressed

To Surgeon, Anaesthetist and Nurse:
☐ What are the key concerns for recovery and management of this patient?

This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged. Revised 1 / 2009 © WHO, 2009

what is a competent AA?

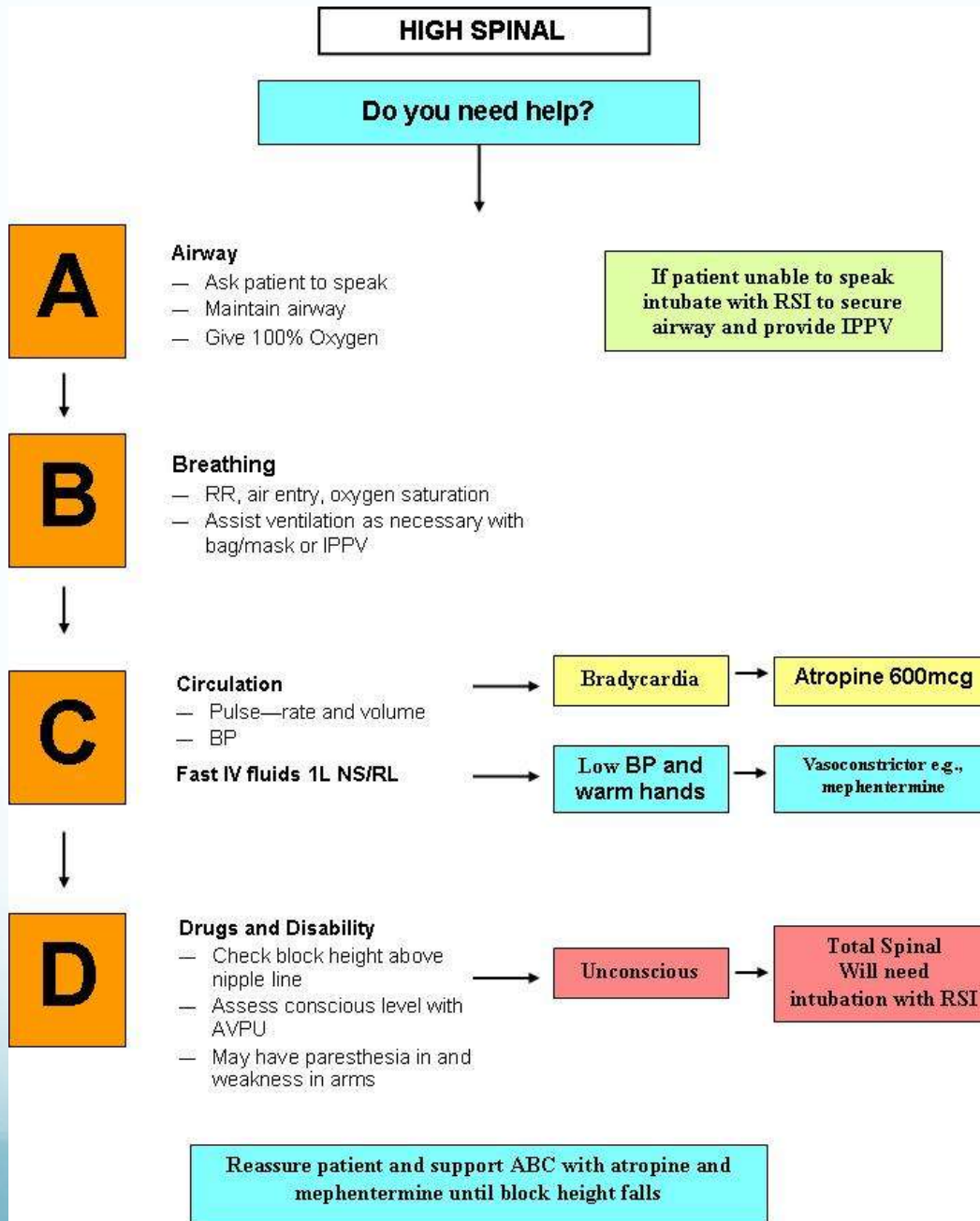- "the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice for the benefit of individuals and communities being served"   American Medical Association 2002

- "responsibility to maintain competency in practice and engage in lifelong, professional educational activities and in continuous quality improvement"

AAC Code of Ethics

Continuous education and QI

- Two-way communication essential

- Aligned with AAC materials

- Address key weak areas

- Logbooks: sent to a centralised database

- QI tools: OT, anaesthesia

- Critical event flow charts, Learning guides

- Textbooks, DVDs, video library

- **Bridge to registration?**

HIGH SPINAL

Do you need help?

Airway
— Ask patient to speak
— Maintain airway
— Give 100% Oxygen

If patient unable to speak intubate with RSI to secure airway and provide IPPV

A

Breathing
— RR, air entry, oxygen saturation
— Assist ventilation as necessary with bag/mask or IPPV

B

Circulation
— Pulse—rate and volume
— BP

Fast IV fluids 1L NS/RL

Bradycardia → Atropine 600mcg

Low BP and warm hands → Vasoconstrictor e.g., mephentermine

C

Drugs and Disability
— Check block height above nipple line
— Assess conscious level with AVPU
— May have paresthesia in and weakness in arms

Unconscious → Total Spinal Will need intubation with RSI

D

Reassure patient and support ABC with atropine and mephentermine until block height falls

NSI
Nick Simons Institute
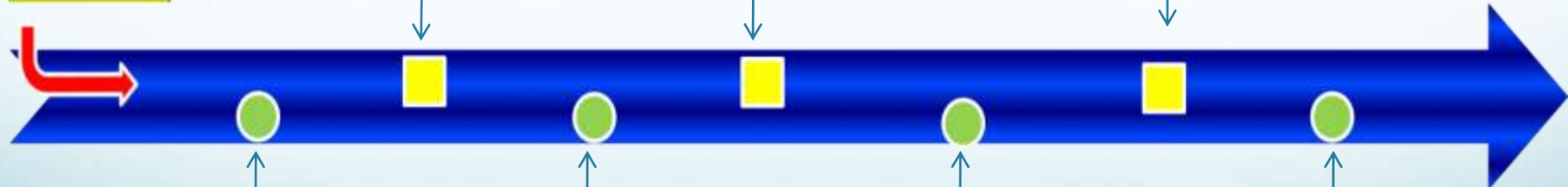
conclusions

- AAs are vital to hospitals across Nepal

- AAs are generally competent

- Areas of skill weakness have been identified and solutions proposed (CPD, QI tools)

- Enabling environment is not good enough, especially zonals

- FEP is an effective tool for assessment and coaching

- Surgery and anaesthesia are neglected public health areas

Recommendations

1. Acknowledge the vital service provided by AAs across Nepal by ensuring

- Continuous AA courses and follow-up
- AA incentives
- AA professional registration and government posts

2. Define and build up a functional surgical and anaesthetic team at each hospital

- Focus on more than CEOC
- Fix the shortages in OT equipment and drugs
- Training, management and use of best practice models
- WHO Safe Surgery Initiative

3. Until district hospitals are ready, urgent attention to zonal hospitals

- high case-load referral hospitals

4. Prioritise safe surgery and anaesthesia in national policy, guidelines and data collection