APPENDIX

SURVEY QUESTIONNAIRE
MAPPING OF ANAESTHESIA SERVICES AND TRAINING OF ANAESTHETISTS
FOR MATERNAL AND CHILD HEALTH IN THE SINDH PROVINCE OF PAKISTAN
**ANNEXURE 1**

**HOSPITAL INFORMATION**

**Name of Hospital:** __________________

**No of total beds** (surgical): _________________

**Average monthly anaesthesia case load** (including regionals)

- Elective _________________
- Emergency _________________
- No information available _________________

**No of operating rooms:** __________________

**Anaesthesia staff:**

- **No of Consultants in department**
  - Higher diploma (FCPS, FRCA, US BOARD or equivalent) _________________
  - MCPS/ DA _________________

- **No of Trainees in department:** _________________

- **No of other Anaesthesia Staff:**
  - No of anaesthesia technicians in department: _________________
  - No of anaesthesia nurses in department: _________________

**Type of hospital**

- Government teaching hospital
- Private teaching hospital

**Availability of ICU facility:**  Yes   No

**Type of ICU where anaesthesia provides services:**

- Mixed (medical & surgical)
- Surgical only

**Type of ICU:** Open  Closed
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Number of surgical beds in ICU</td>
<td></td>
<td></td>
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<tr>
<td>Are paediatric patients admitted to general ICU</td>
<td></td>
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<tr>
<td>Availability of high dependency facility (HDU) surgical or obstetric (Separate from ICU)</td>
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<tr>
<td>Formal Preoperative anaesthesia clinic available</td>
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<tr>
<td>No of days/week the preoperative clinic is run</td>
<td>1</td>
<td></td>
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<tr>
<td>Percentage of surgical patients seen in the preoperative clinic</td>
<td>100%</td>
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**Comments:**

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ANNEXURE 2

PAEDIATRIC ANAESTHESIA

SERVICE AND TRAINING ASSESSMENT OF PAEDIATRIC ANAESTHESIA

I. SET UP: (Select one)
   1. Specialized Centre for Paediatric Services
   2. Multidisciplinary Hospital with Paediatric Services
   3. Attachment to a referral Centre (Specialized centre)

Comments:
__________________________________________________________________________
____________________________________________________________________________________
__________________________________________________________________

II. WORK LOAD:

1. Paediatric Medicine
   1) Number of patients dealt/ week _________________
   2) Number of clinics/week _________________

2. Paediatric Surgical lists
   1) Number of patient dealt/ week _________________
   2) Number of paediatric surgical lists/ week _________________
   3) Number of paediatric surgeries/ week _________________
      a) Elective surgery/wk (number, %)
         i. Simple bread + butter surgery (e.g hernia, circumcision etc)______________
         ii. Complicated/ Prolonged surgeries (e.g laparotomy)______________
         iii. Specialized surgeries (Cardiac, Neuro etc) _________________
      b) Emergency surgery/ week _________________

3. Other specialities dealing with children (eg Urology, ENT etc) (Tick all applicable)
   1) Urology
   2) ENT
   3) Facio Maxillary/ Dental
   4) Plastic surgery
5) Ophthalmic surgery
6) Orthopaedic/Trauma
7) Thoracic surgery
8) Cardiac surgery
9) Neuro surgery

4. Neonatal surgery
   1) Elective
   2) Emergency

5. Availability of in-house referral services. Multidisciplinary team approach (MDT) (Tick all applicable)
   1) Paediatric Cardiologist
   2) Paediatric Neurologist
   3) Paediatric Haematologist

6. Neonatal procedures done/ month _______________________
   List the 3 most common procedures done ________________________________
   ________________________________
   ________________________________

Comments:__________________________________________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________

III. PERSONNEL: (Please V appropriate response)
   1. Consultant anaesthetists (Please tick appropriate response) Numbers
      1) Specially trained in Paeds/Neonatal anaesthesia ______
         (formal training e.g. a fellowship program)
      2) Special interest in paediatric anaesthesia ______
(On job experience)

3) All consultants do paediatric anaesthesia

2. Associates/Registrars/ Fellows
   1) Dedicated to Paeds/ Neonatal anaesthesia
   2) All Registrar do paediatric anaesthesia

3. Post-graduate Trainees
   1) Duration of rotation in paediatrics (months)
   2) Number of rotations during 4 years of residency
   3) Current number of all trainees in program

4. Operating room personnel/ Staff
   1) General staff
   2) Staff with specialized training in paediatrics

5. Recovery Personnel
   1) General staff
   2) Specially trained in paediatrics

6. PALS. Training. What percentage of staff has PALS certification?

Comments:__________________________________________________________________________
____________________________________________________________________________________
__________________________________________________________________

IV. SUPPORT SERVICES ON SITE/OFF SITE:

   1. Laboratory available
   2. Point of care testing in OR suite- Hb, Glucose, Calcium available
   3. Radiology available
      a) Plain X-ray
      b) CT Scan
      c) MRI
   4. Blood Transfusion Services available
   5. Pharmacy services

   Yes  No
V. (a) PRE-OP SERVICES:

1. Clinic
   1) General Clinic
   2) Specialized Paediatric Clinic

2. Conducted by
   1) Consultant
   2) Registrar/fellow
   3) PG Trainee

3. Number of pre-operative Clinics/Week

4. Pre-op forms/ Documentation
   1) General
   2) Special (paeds)

5. Pre-op nursing staff available in clinic

6. Pre-op Clinic equipment
   1) Special Children friendly environment
   2) Paediatric/ Neonatal Scales available
   3) Monitoring- (Paediatric NIBP cuff etc)

Comments:__________________________________________________________________________
____________________________________________________________________________________
__________________________________________________________________

V. (b) PREMEDICATION PRACTICES:

1. Is premedication routinely used in all admitted paediatric patients
2. Is premedication used on discretion of anaesthetist

3. Is premedication routinely used in all day care patients

4. What drugs and routes are commonly used?

______________________________________________________________________________
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______________________________________________________________________________

Comments:_____________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

VI. O.R. FACILITIES:

1. Special dedicated OR which is child friendly
   1) Temperature control of OR available

2. Warming Devices available
   1) Bair Hugger
   2) Foil
   3) Cotton

3. Fluid Dispensing
   1) Fluids available (names)

2) Cannulae sizes available (give paediatric sizes)

3) Paediatric Burettes
   Yes

4) Syringe pumps
   Yes

5) Intra osseus needles
   Yes
Comments:

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4. Anaesthesia Machine/ Ventilator

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<tr>
<th>Number of anaesthesia machine/ventilation</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>1) Anaesthesia machine with provision of paediatric/neonatal ventilation</td>
<td></td>
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<tr>
<td>2) Paediatric Modes availability (pressure controlled)</td>
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<td>3) Paediatric Circuits</td>
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Comments:

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5. Anaesthesia Sundries

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<tr>
<td>Special Masks (for Children)</td>
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<tr>
<td>Rendel Baker masks</td>
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<td>Anatomical Masks</td>
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<tr>
<td>Paediatric breathing filters availability</td>
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<tr>
<td>Range of Airway Adjuncts</td>
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<tr>
<td>Endotracheal Tubes availability</td>
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<tr>
<td>Size 2.5</td>
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<td>Size 3.0</td>
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<tr>
<td>Size</td>
<td>Yes</td>
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<td>6.0</td>
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<td>6.5</td>
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Are paediatric cuffed tubes available? [ ] No [ ]

Are the paediatric cuffed tubes used? [ ] No [ ]

b) LMA classic availability

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<th>Size</th>
<th>Yes</th>
<th>No</th>
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Are other types of LMA (e.g.) available in paediatric sizes? [ ]

c) I-gel availability

Sizes available [ ]

d) Paediatric Videolaryngoscope [ ] No [ ]

e) Paediatric fibreoptic scope [ ] No [ ]

Sizes available [ ]

f) Guedel Airways [ ] No [ ]

g) Paediatric Bougies [ ] No [ ]
h) Laryngoscope blades paediatric [ ] No [ ]
  - Macintosh [ ] No [ ]
6. Anaesthetic Medications (Availability of)

Which of the anaesthetic medications in the WHO essential medication list are NOT available to you. List the name of the drug/drugs and reason of non-availability.

Comments:

7. Monitoring: (Availability of)

1) Oxygenation
   a) $F_1O_2$ Analyzer
   b) Oximeter with special paediatric probes

2) Ventilation
   a) Main stream $E_T CO_2$
   b) Tidal Volume ($V_T$), Airway pressure (AWP)

3) Circulation
   a) NIBP cuff sizes ______________
   b) ECG Electrodes (paediatric size)
   c) Paediatric central lines
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<td>4) Temperature</td>
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<td>a) Paediatric probes</td>
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<td>Oesophageal &amp;/or rectal</td>
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<td>5) Peripheral Nerve stimulator</td>
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<td>6) BIS monitor- paediatric electrodes</td>
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<td>7) Special paediatric sizes of Folys catheter</td>
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<tr>
<td>Comments:</td>
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<tr>
<td>8. Regional Anaesthesia</td>
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<tr>
<td>1) Epidural needles paediatric sizes</td>
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<td>2) Caudal needles</td>
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<tr>
<td>3) Intrathecal needles</td>
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<td>4) Peripheral nerve block (PNB) needles</td>
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<td>9. Pain relief methods availability</td>
<td></td>
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<tr>
<td>1) Multimodal analgesia</td>
<td>Yes</td>
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<td>a) Rectal suppository</td>
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<td>b) Nasal sprays</td>
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<td>c) Regional block (Caudal)</td>
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<td>d) Oral analgesics</td>
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<td>e) Transdermal patch</td>
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<td>2) PCA/NCA</td>
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<tr>
<td>Patient Controlled Analgesia (PCA)</td>
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</table>
Nurse Controlled Analgesia (NCA)

3) Monitoring/ Documentation of postoperative pain

4) Acute pain services for paediatrics
   a) Availability of protocol document for pain relief in children
   b) Dedicated Nursing Staff for paediatric pain services
   c) Practices and pain scoring tools used (please name)

______________________________
______________________________
______________________________

Comments:

____________________________________________________________

____________________________________________________________

____________________________________________________________

10. Parental Presence in OR allowed

   Yes [ ]
   No [ ]

Comments:

____________________________________________________________

____________________________________________________________

____________________________________________________________

VII. POST-OPERATIVE RECOVERY AREA:

1. Nurses
   a) General [ ]
   b) Special [ ]

2. Equipment
   a) General [ ]
   b) Special [ ]

3. PG Trainee
   a) General trainee present [ ]
   b) Dedicated to Paeds services [ ]
4. Paediatric Pain Scales displayed in recovery  
   Yes ☐ No ☐

   Comments:__________________________________________________________________________ 
   ___________________________________________________________________________________ 
   ___________________________________________________________________________________

VIII. TRANSFER FACILITY:  
   1. General ☐ ☐

   2. Specialized service with specialized monitors for paediatrics ☐ ☐

   3. Specialized service with specialized monitors for neonates for e.g: incubators  Yes ☐ No ☐

   Comments:__________________________________________________________________________ 
   ___________________________________________________________________________________ 
   ___________________________________________________________________________________

IX. HDU/PICU/NICU/SICU: (more detail here)

   Paediatric Intensive Care unit (PICU)  Yes ☐ No ☐
   No. of beds ______________

   Neonatal Intensive Care unit (NICU)  Yes ☐ No ☐
   No of beds ______________

   Mixed adult and paediatric unit  Yes ☐ No ☐
   No of beds ______________

   Percentage of beds occupied by paediatrics/week __________ %
X. PAEDIATRIC DAY CARE SERVICES:
   1. Instruction manual/form(eg Fasting guidelines etc) present
   2. Discharge criteria for paediatric patients present
   3. Re-admission Policy for paediatric patients present

   Percentage of total surgical patient done as daycare/wk __________________________

Comments:__________________________________________________________________________
____________________________________________________________________________________
__________________________________________________________________

XI. DOCUMENTATION-SPECIAL FORMS AVAILABILITY (for paediatrics)

   1. Pre-operative Assessment form
   2. Day Care Instruction form
   3. Intra-operative form
   4. Acute Pain Service (APS) form
   5. PICU/NICU Flow Chart
   6. Critical Incident Form
   7. Pain scale forms/ instrument available e.g: Oucher’s Pain Scale etc
   8. Informed consent form (depending on age)
XII. EMERGENCY PROTOCOLS PRESENT (Specific to paeds)

1. Paediatric Difficult Airway
2. Anaphylaxis management
3. Malignant Hyperthermia management
4. Local Anaesthetic Toxicity management

Comments:_______________________________________________________________
__________________________________________________________________________
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XIII. PRACTICES:

1. Approach to lab testing
   1) Routine (without specific reason) If so which tests are routine. Please name
      __________________________________________________________
      __________________________________________________________
   2) Indicated only (specific to disease)

2. Surgical load/week of type of surgery (%) (Please list the commonest three surgeries done)
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

3. Patient Safety
   Availability of surgical safety checklist (SSCL) specially designed for paeds surgery
   Yes □   No □

4. Referral policy present in department
Comment on which policies

5. M&M meetings
   1) Multidisciplinary
   2) Anaesthesia only
   3) Regular basis

   How frequent ________________________________

6. Pain relief practices followed
   1) Multimodal analgesia
      f) Rectal suppository
      g) Nasal sprays
      h) Regional block (Caudal)
      i) Oral analgesics
      j) Transdermal patch

   2) PCA/NCA
      Patient Controlled Analgesia (PCA)
      Nurse Controlled Analgesia (NCA)

   3) Monitoring/ Documentation of postoperative pain

   4) Acute pain Services for paediatrics
      d) Availability of protocol document for pain relief in children
      e) Dedicated Nursing Staff for paediatric pain services
      f) Practices and pain scoring tools used (please name)
XIV. COMPLICATIONS:

- How are complications handled on the unit

- What is the support available to the trainee if a complication occurs

- What type of complications are discussed in the department and at what level

- Individually with trainee
- In a department meeting

XV. ISSUES IN PAEDIATRIC ANAESTHESIA SERVICE
XVI. ISSUES IN PAEDIATRIC ANAESTHESIA TRAINING

XVII. FURTHER SUGGESTIONS