

Foothills Medical Centre EPIQ Conference QI Updates

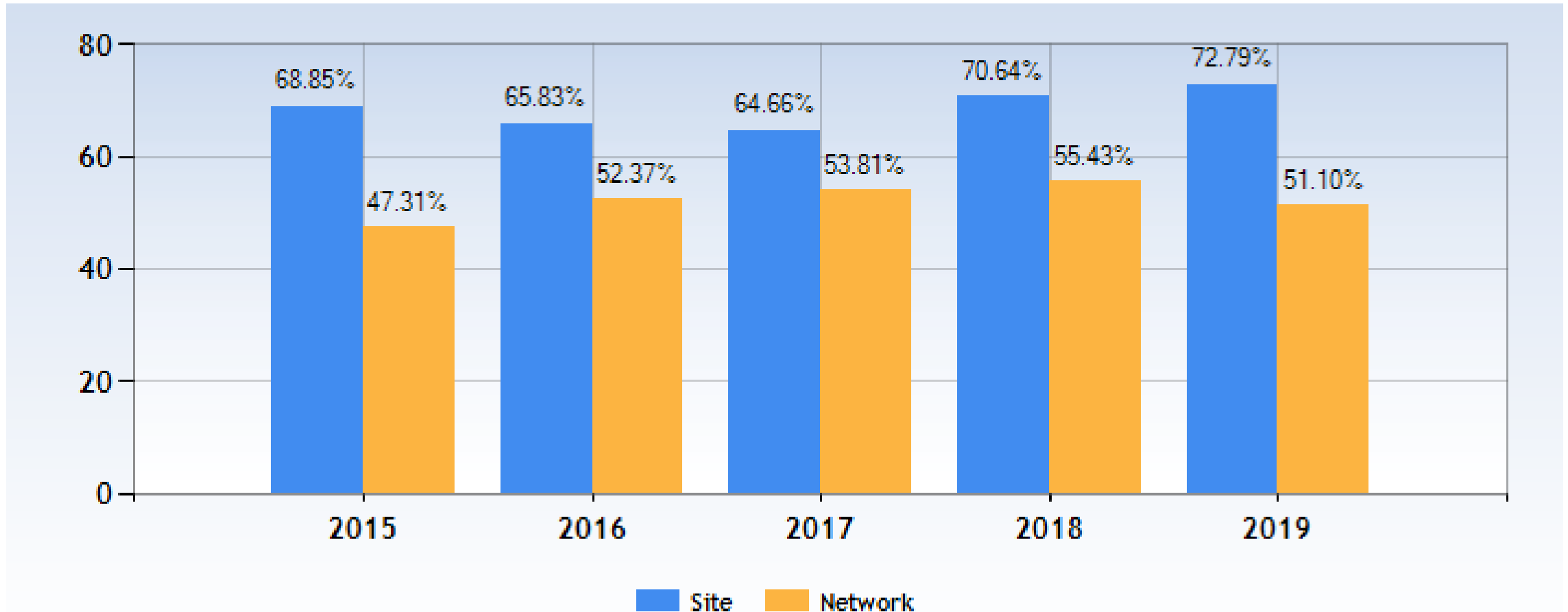
Julie McKanna, RRT

on behalf of Calgary Neonatal Quality
Improvement Committee

2020: What a Year!

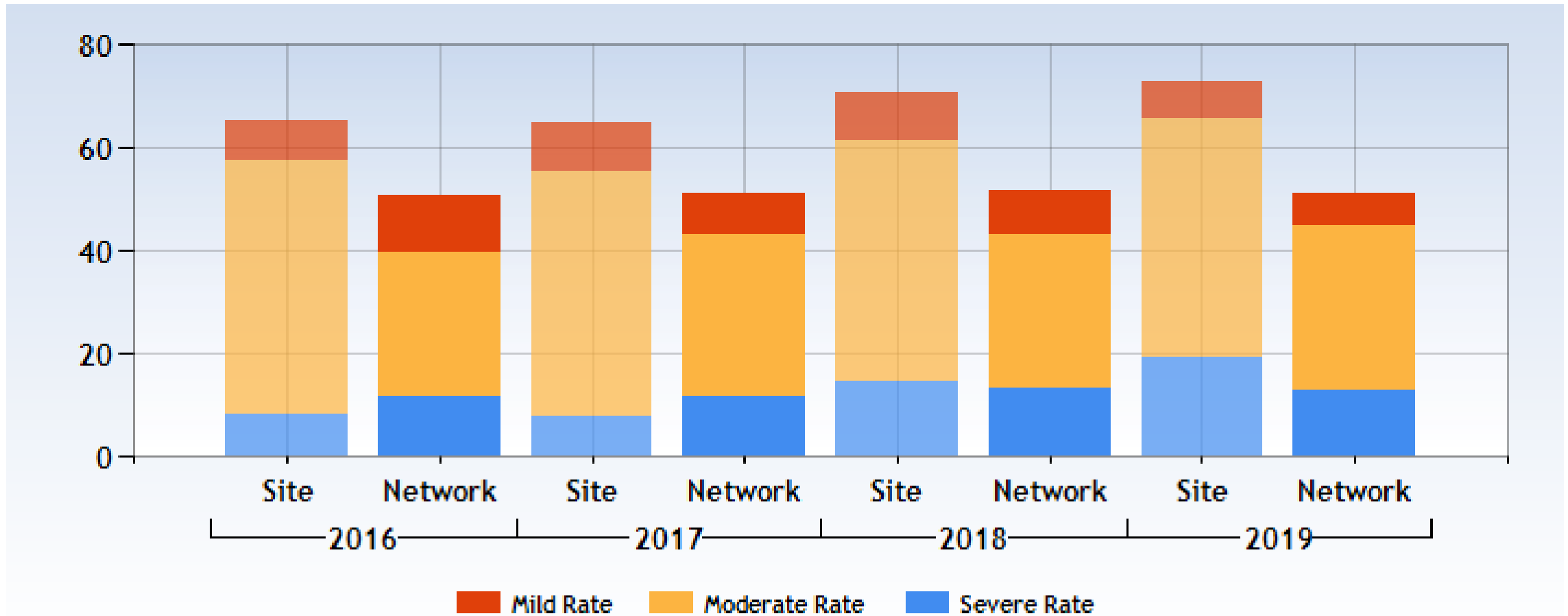
- After last EPIQ meeting in Banff → COVID-19
- COVID-19 guidelines, airway management, etc.
- Refocus on May/June
- BPD Prevention Planning June 15, 2020

FMC BPD Rate (23-28 weeks)



- BPD Rate is defined as Number of infants who had oxygen dependency or respiratory support need (CPAP or Ventilation) at 36 Weeks or at discharge / Number of infants who are alive at 36 weeks or at discharge.

BPD Severity Rates (23-28 weeks)



SMART Goal

- Reduce Moderate to Severe BPD rate from 60-65% to < 50% in infants born at 23 – 28 weeks GA by end of 2022 and maintain sustainability over 2023 – 2024.

Objective #1

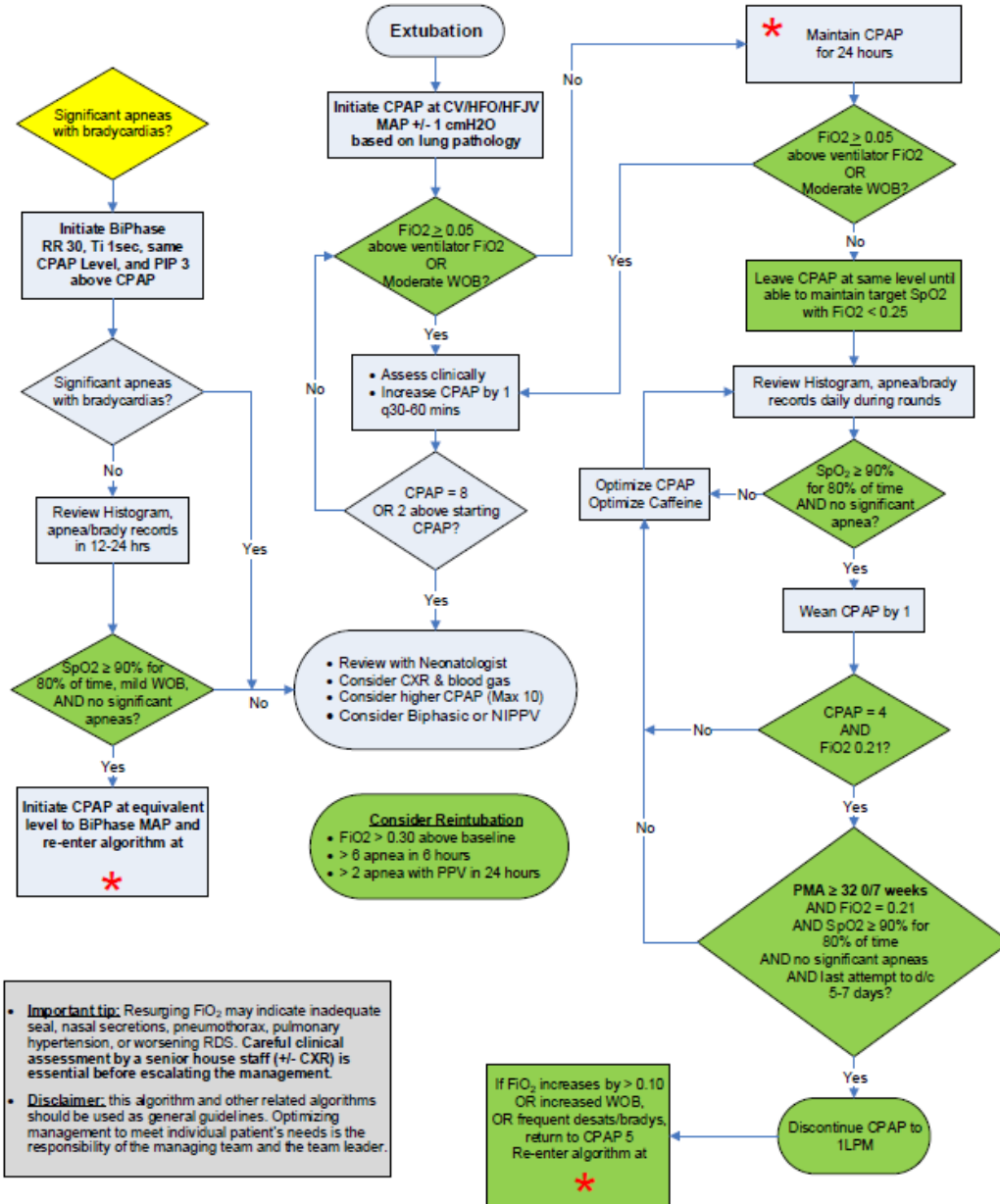
- Develop and implement Consistent Protocol-Driven Ventilation Strategy.
 - Develop ventilation initiation, escalation, and weaning guidelines.
 - Develop appropriate audit tool.

Objective #2

- Develop and implement Early Extubation strategy by end of 2020.
 - Develop Extubation readiness checklist.
 - Develop a post extubation support guidance tool (completed)
 - Develop extubation audit tool.

Post-Extubation CPAP Management Infants < 28 0/7 weeks (First 2 weeks of life)

- Principles:**
- Avoid de-recruitment and over-distention
 - Use histogram data to optimize support
 - Avoid extubation to CPAP in presence of intestinal obstruction, perforation, or active NEC



- **Important tip:** Resurging FIO₂ may indicate inadequate seal, nasal secretions, pneumothorax, pulmonary hypertension, or worsening RDS. Careful clinical assessment by a senior house staff (+/- CXR) is essential before escalating the management.
- **Disclaimer:** this algorithm and other related algorithms should be used as general guidelines. Optimizing management to meet individual patient's needs is the responsibility of the managing team and the team leader.

Objective #3

- Develop and implement Minimally Invasive Surfactant Therapy (MIST) by end of 2020
 - Develop MIST protocol and training material.
 - Team education.
 - Launched in December 2020.



MIST – Cycle 1

- Inclusion Criteria: As of December 1, 2020
 - 29^{+0/7}-32^{+6/7} weeks GA
 - Birthweight > 1000g
 - Spontaneously breathing
 - Infant required minimal resuscitation (no intubation, chest compressions, cardiac medications)
 - FiO₂ 0.30-0.59 on CPAP +6cmH₂O
 - If blood gas available: pH > 7.20, PaCO₂ < 60mmHg
- Small group of providers to perform the procedure.

Objective #4

- Implement consistent approach for postnatal Dexamethasone to facilitate extubation:
 - Protocol has been developed.
 - Implementation in 2021.

Future work

- Oxygen reduction test
- Early prophylactic hydrocortisone

Questions



RT QI Lead: Julie McKanna Julie.McKanna@ahs.ca

NQIC Co-Chair: Dani Smith Dani.Smith@ahs.ca

EPIQ Investigator: Dr. Ayman Abou Mehrem

QI Nurse: Claire Hamilton Claire.Hamilton@ahs.ca

ayman.aboumehrem@ahs.ca