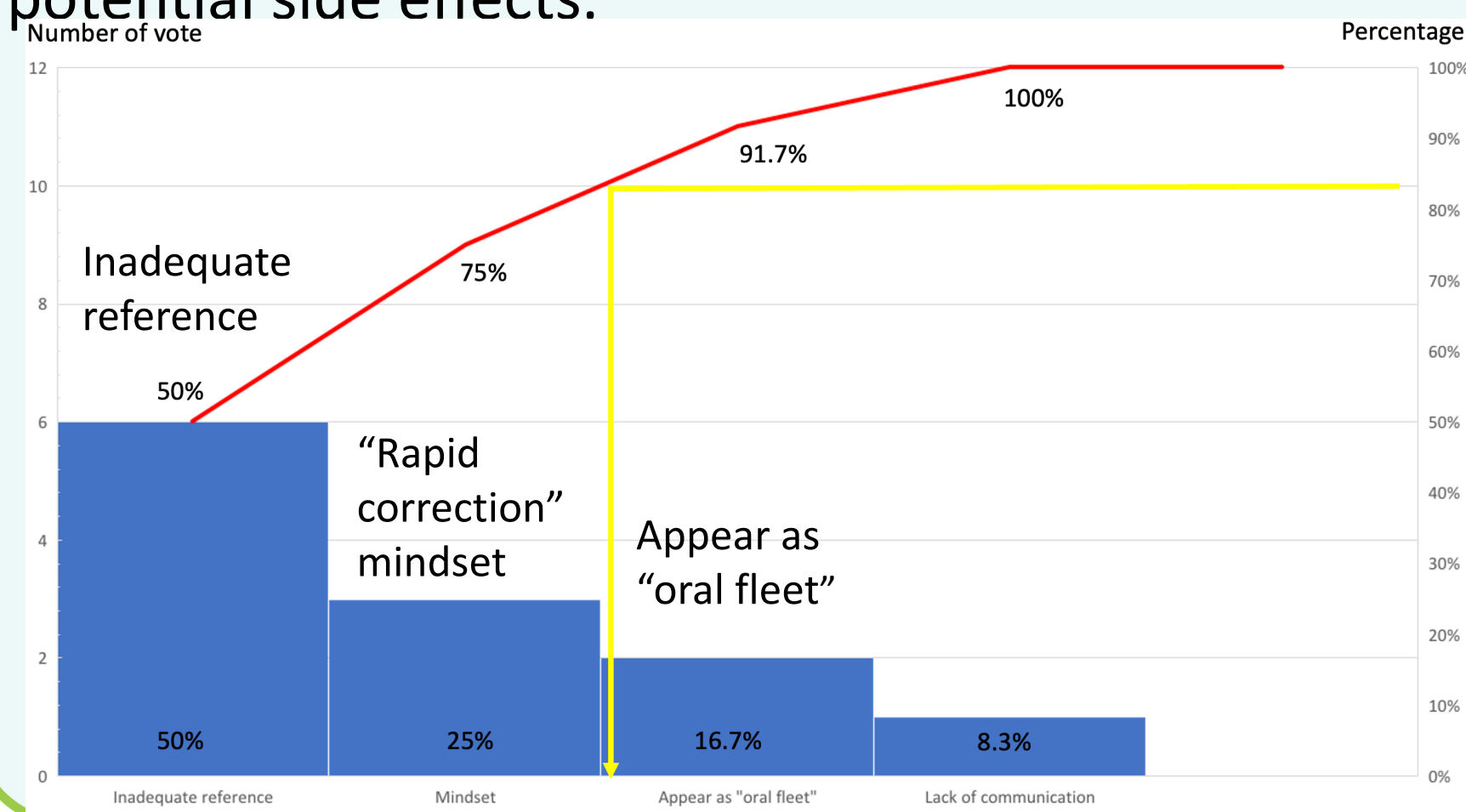


## A Clinical Practice Improvement Project on Inappropriate Intravenous Phosphate Replacement

### Problem Statement

From 2019 February to April, 66% of mild and moderate hypophosphataemia cases were inappropriately given intravenous (IV) phosphate replacement at ward D77 and D88. IV replacement is more costly and carries many potential side effects.



### Project Aim

To reduce the percentage of inappropriate IV phosphate replacement from **66% to 10%** at ward D77 and D88 within 6 months.

Inappropriate IV replacement =  
Mild and moderate hypophosphataemia cases given IV phosphate replacement  
Mild and moderate hypophosphataemia cases

### Lessons Learnt

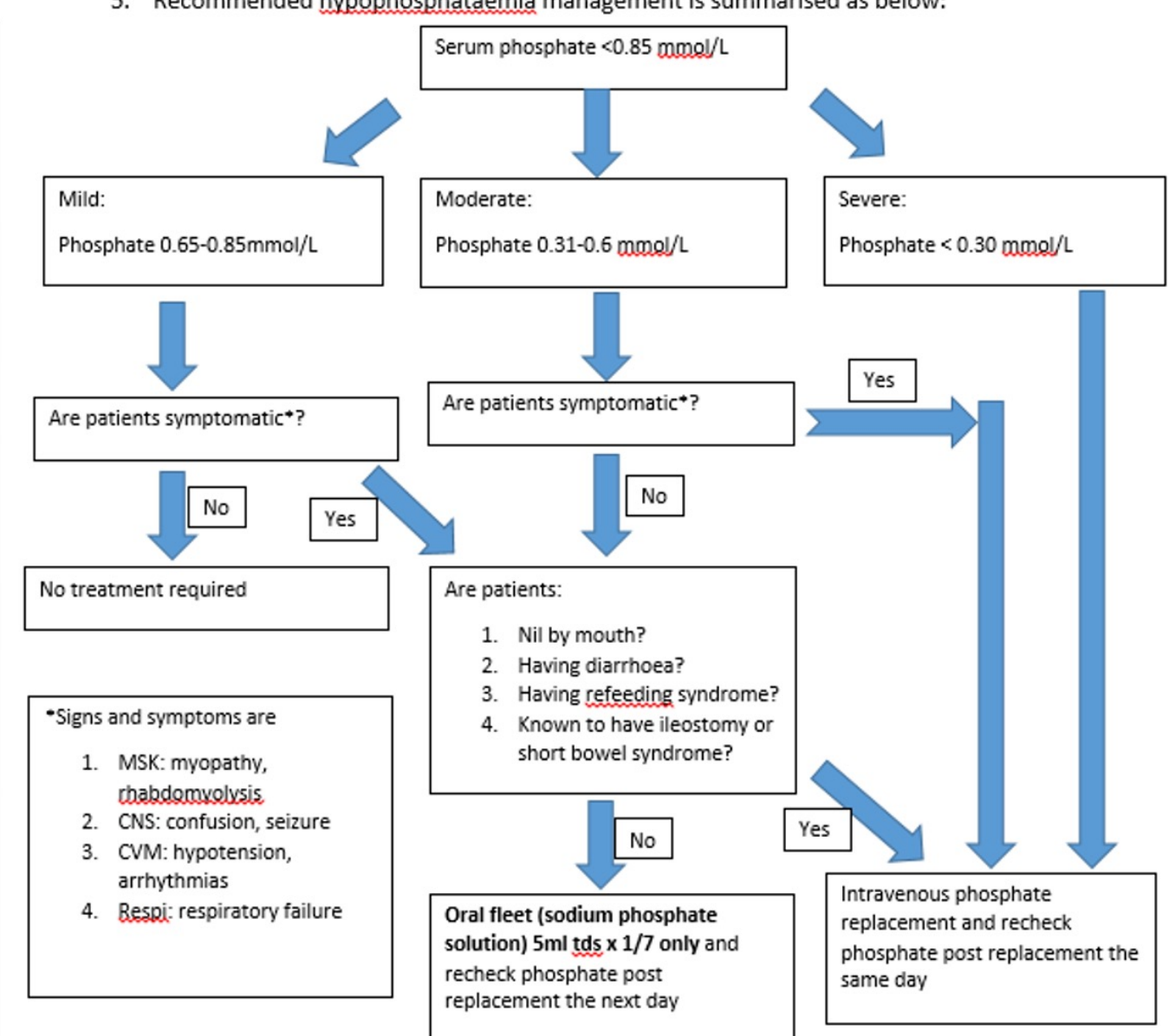
- Teamwork helps uncover the blind spot
- **Let team members speak freely, DO NOT DOMINATE the discussion**
- Discovery of "oral fleet" was the light-bulb moment
- **Be prepared for the unexpected**
- Not just our problem as nesting site doctors also doing night calls at our wards
- Each PDSA cycle may lead to another one
- **Solving an apparently "minor problem" may have great impact**

### Potential Solutions

- Two interventions to target the top three root causes:
1. Poster on hypophosphataemia management and "oral fleet" explanation (from 17/7/2019)
  2. Plenary session to change the "rapid correction" mindset. (20/08/2019)

#### Guideline for Hypophosphataemia Management

1. Mild to moderate hypophosphataemia can generally be managed with oral replacement
2. Oral replacement=ORAL FLEET (sodium phosphate solution), DO NOT order FLEET ENEMA (PR) as replacement
3. Phosphate is renally excreted, please exercise caution in replacing phosphate for patients with chronic kidney disease
4. Symptoms of hypophosphataemia rarely occur when serum phosphate is >0.30 mmol/L
5. Recommended hypophosphataemia management is summarised as below:



### Outcomes & Impacts

IV phosphate SGD 48.7 per dose, oral phosphate solution (45ml) SGD 2.

Cost saved for each inappropriate IV phosphate: 46 SGD. In average, 37 and 6.5 doses of IV phosphate were given every 2 weeks before and after our interventions respectively.

Cost saved: 1403 SGD every 2 weeks (SGD 36478 per year)

Other impacts: nurses' time saved, patients' comfort and less medication error

