

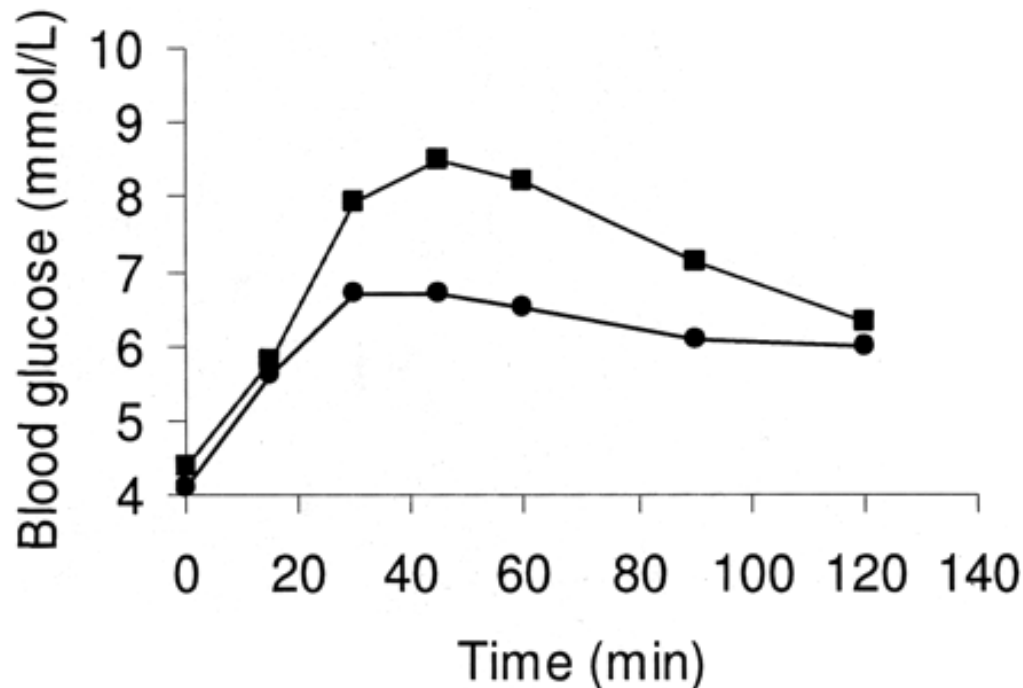
Optimal Glycemic Control for Post CABG Patients with diabetes

Dahlia Idris
Diabetes Nurse Clinician
Nursing Development Unit

Mission Statement

Patient Safety

To achieve optimal 100% glycemic control (<10mmol/l) for post CABG cases with diabetes within 24hrs transferring to ward 56(HD),NHC in 3months.



Team Members & Role

CTS Team (Creative Thinking Squad Team)

- | | |
|------------------------------------|---------------------------------------|
| 1. Dahlia Bte Idris | Diabetes Nurse Clinician -Team Leader |
| 2. Anne Tok | Nurse Clinician Ward 56 - Member |
| 3. Siti Hawa Bte Ramlan | SSN Ward 56 HD -Member |
| 4. Jayarani D/O Paramasivam | SSN Ward 56 A Station- Member |
| 5. Ang Bee Guat Nicole | SN Ward 56 B2 Station- Member |
| 6. Dr Tan Teng Ee | Senior Consultant (CTS)-Member |
| 7. Dr Abel Soh | Registrar (Endocrinologist)-Member |
| 8. Victoria Coleman | Senior Pharmacist –Member |
| 9. Vasantha Gopal/Nurina Khamis | QM Department -Member |
| 10. Nurses from CTS ICU/Ward 56 HD | |

Background

- Standard intravenous insulin infusion protocol has been implemented in the operating theater and cardiothoracic ICU for all post CABG patients with or without diabetes mellitus
- Attaining optimal blood sugar level (BSL) of $<10\text{mmol/l}$ is recommended for hospitalised patients especially those critically ill
(Clinical recommendation from the American Association of Clinical Endocrinologists (AAACE) and the American Diabetes Association (ADA) 2009)
- Current problem encountered is the inconsistency in the transition to pre-op OHAs or insulin therapy after the discontinuation of IV insulin infusion for post CABG patients with diabetes while in CTS ICU

Background

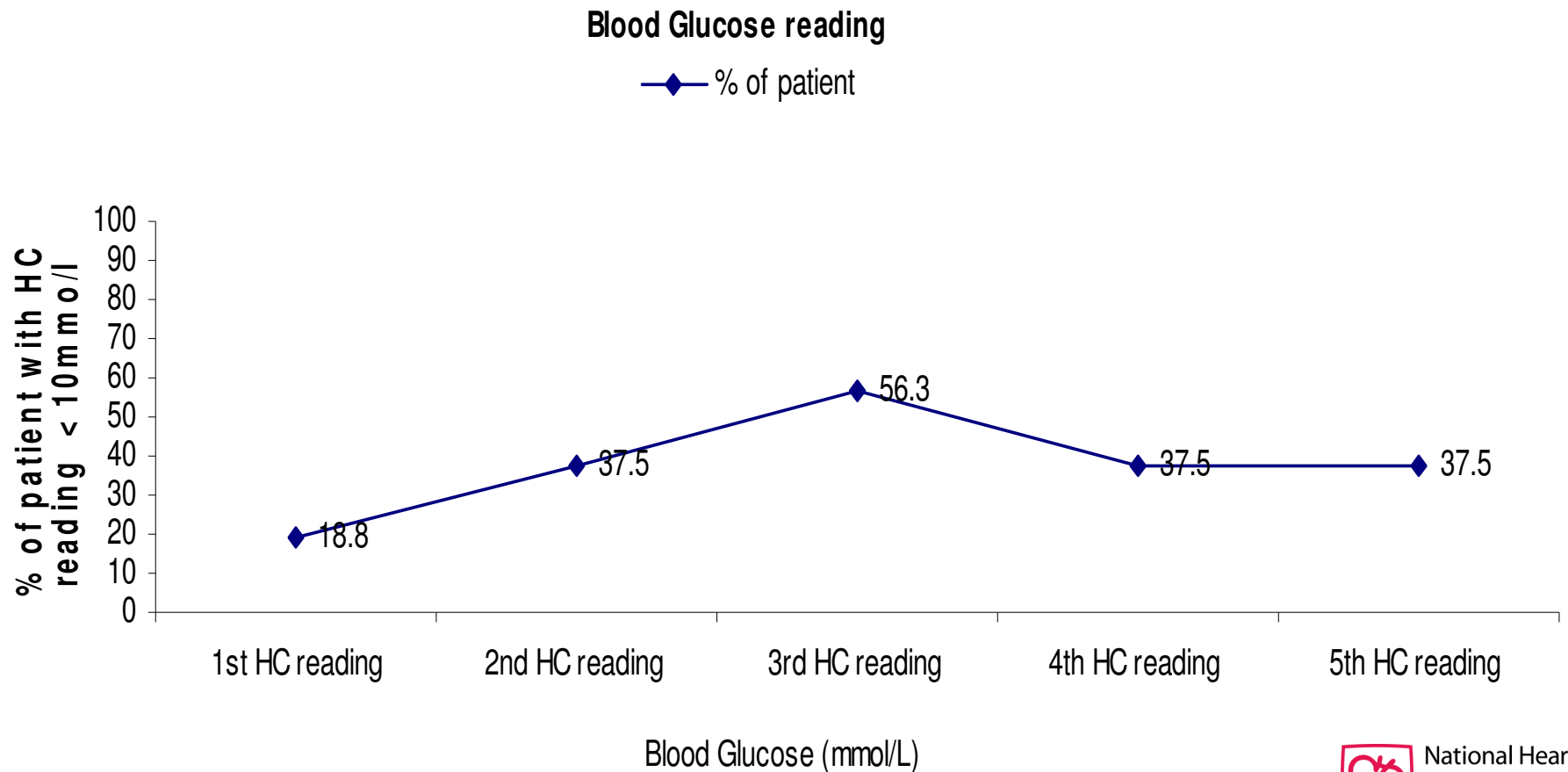
- Hyperglycemia is the common problem faced when these patients are transferred to high dependency area (wd 56)
- Studies have showed that hyperglycemia is associated with wound infection particularly sternum or saphenous vein graft(SVG) after cardiothoracic surgery
- Failure to attain optimal glycemic control during the perioperative phase not only prolong length of stay in hospital as it also incurred higher medical bill

Evidence for there being a problem worth solving

- Baseline data collection was done from April to mid July 2009
- Total of 63 post CABG patients with diabetes were monitored on their glycemic control during their 24hrs stay in high dependency ward 56
- Each patients had five pointers of blood glucose monitoring using the standard glucose meters used in NHC wards
- These patients were either on their preop OHAs / insulin therapy or not started back with any preop diabetes medications post operative

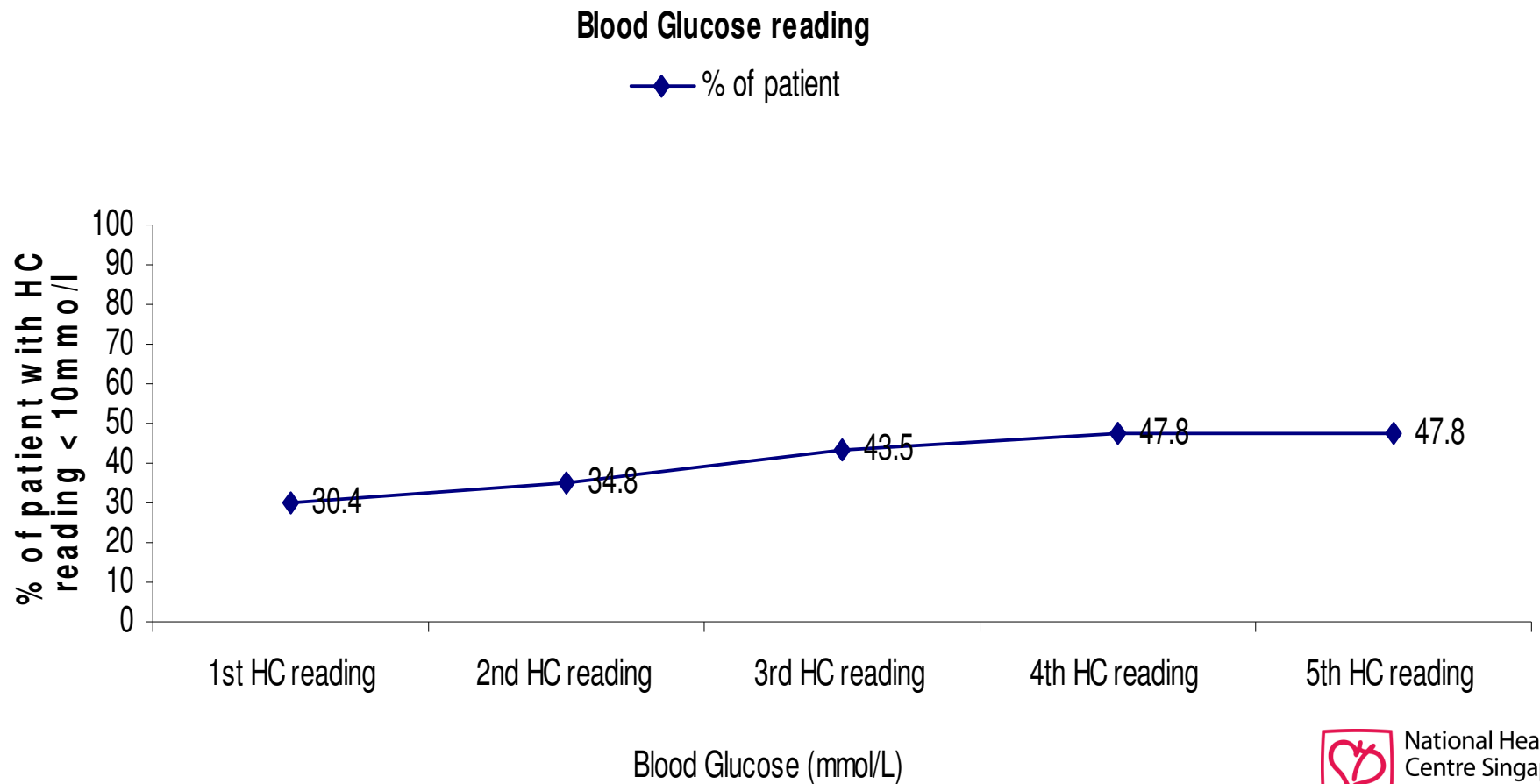
Baseline Data

Findings for month of April 09 (Total 16 patients)



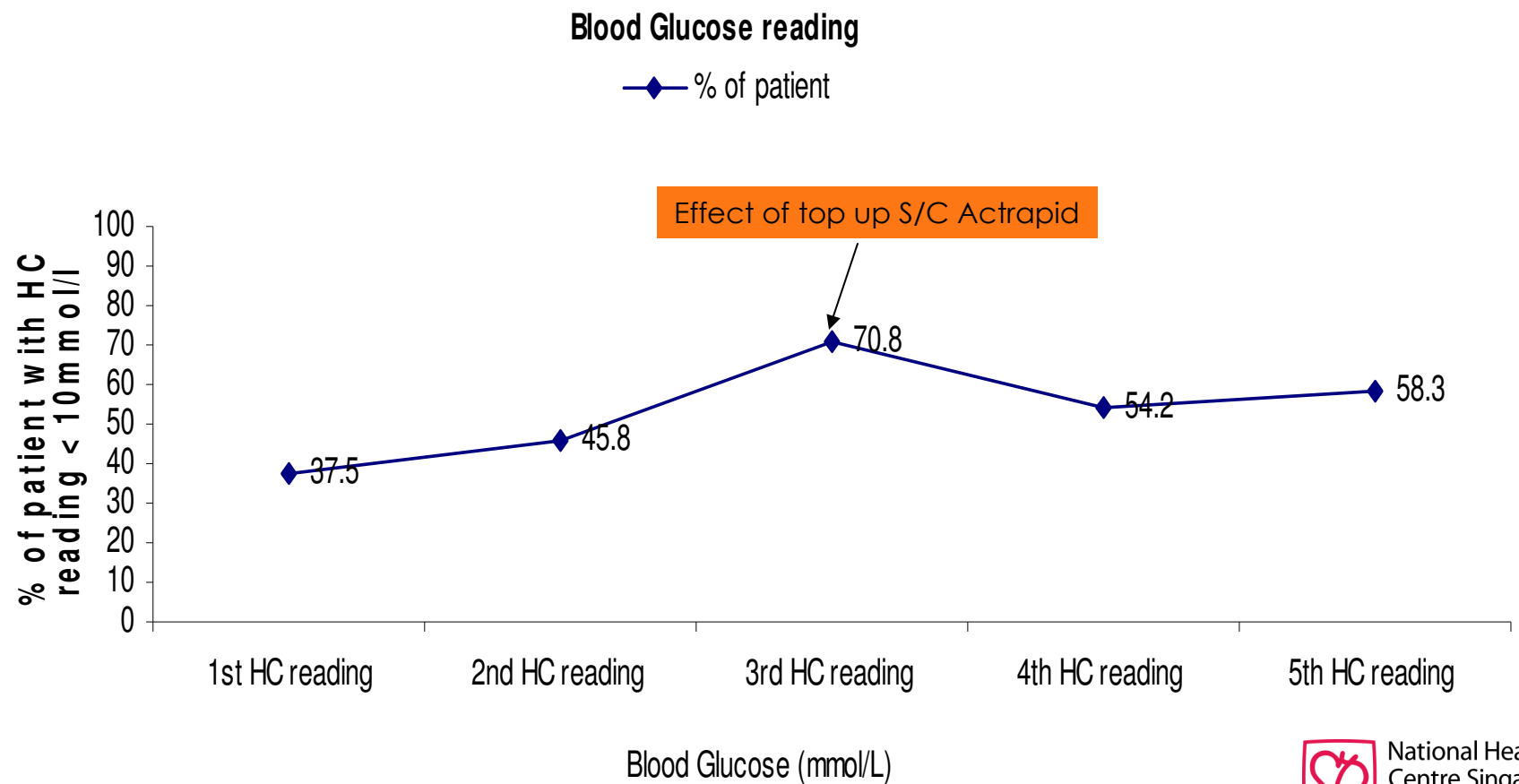
Baseline Data

Findings for month of May 09 (Total 23 patients)



Baseline Data

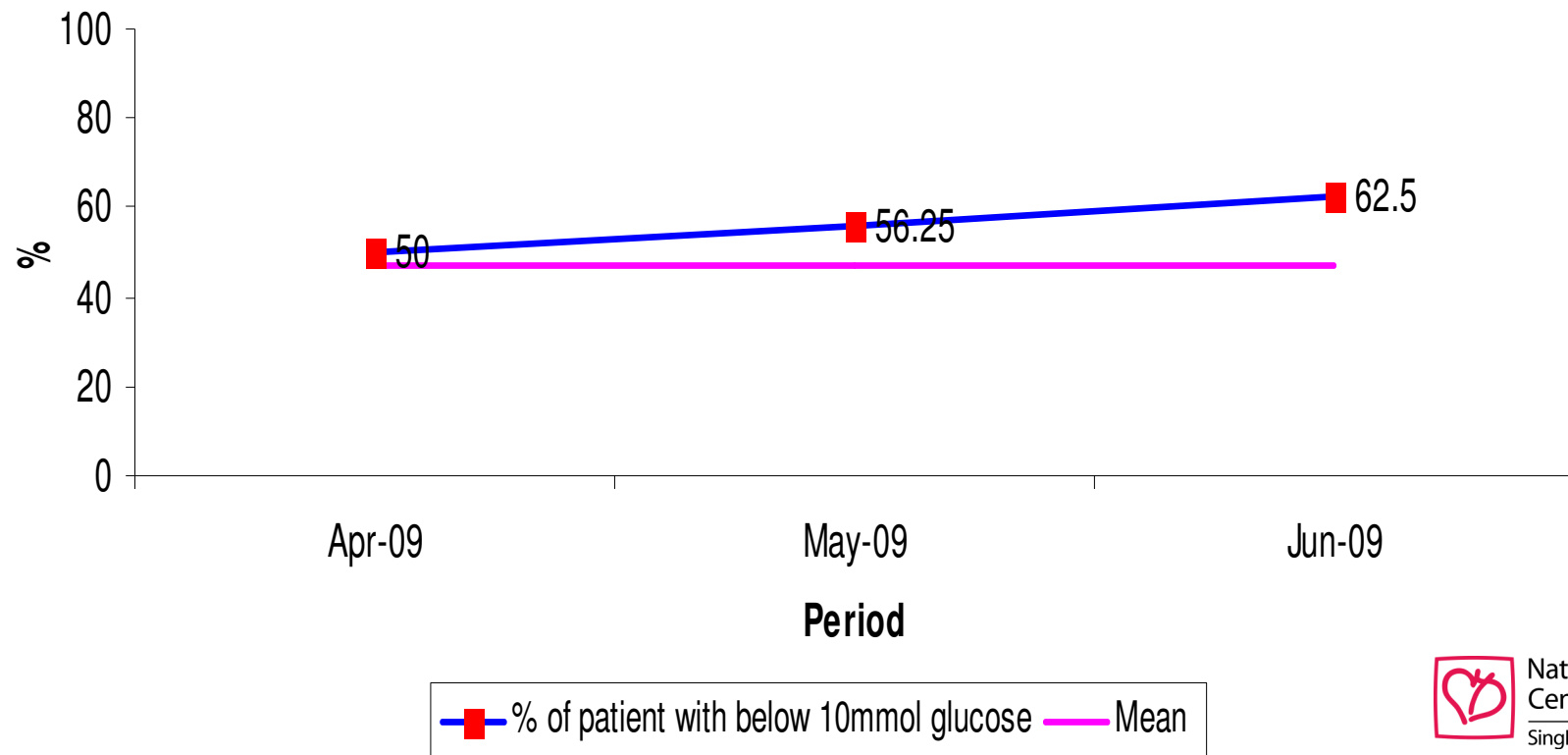
Findings for month of June 09 (Total 24 patients)



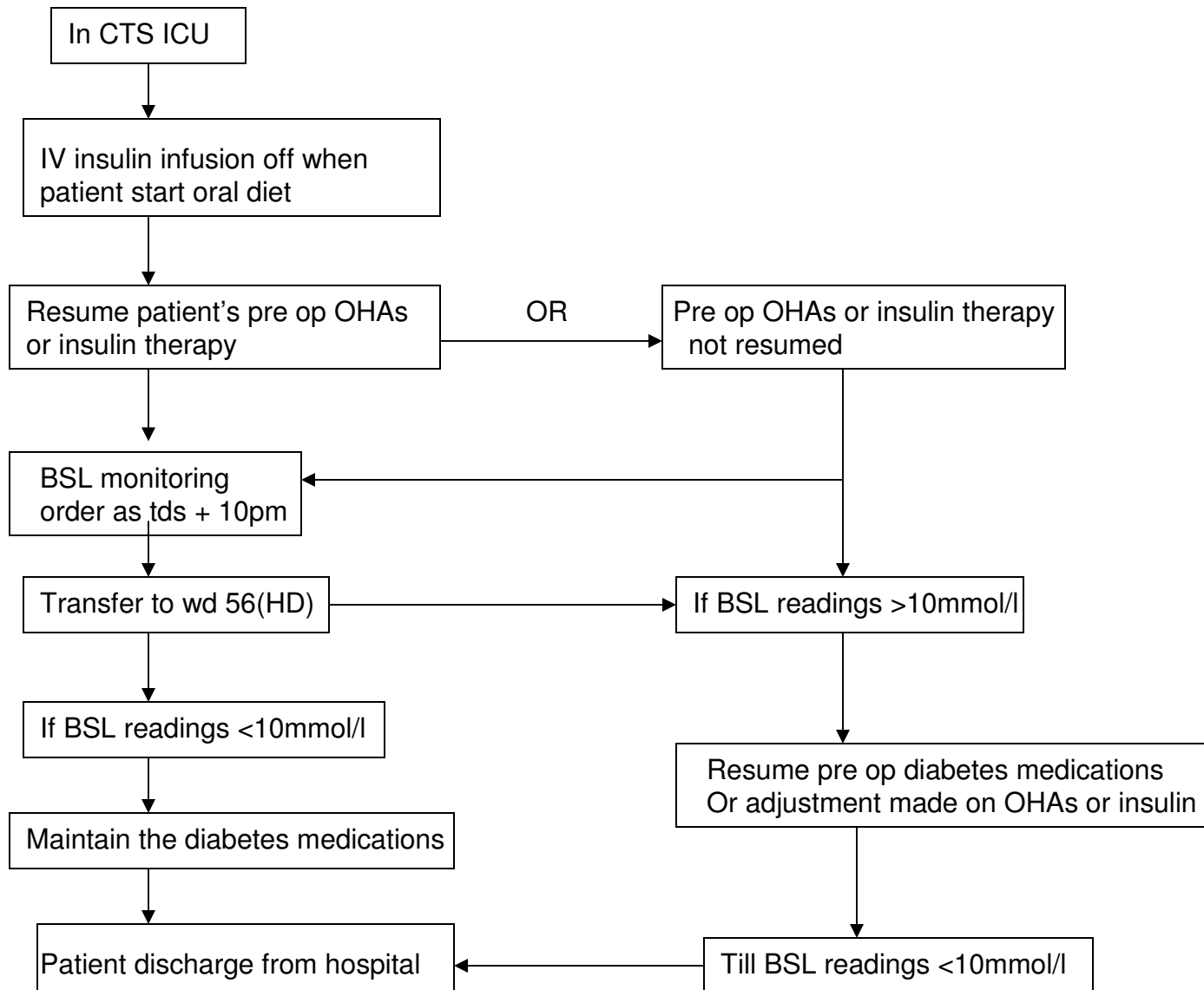
Baseline Data

Findings for month of May to June 09 (Total 63 pts)

Optimal 100% glycemic control < 10mmol/l for post CABG with diabetes within 24hrs transferring to ward 56, NHC



Flow Chart of Process



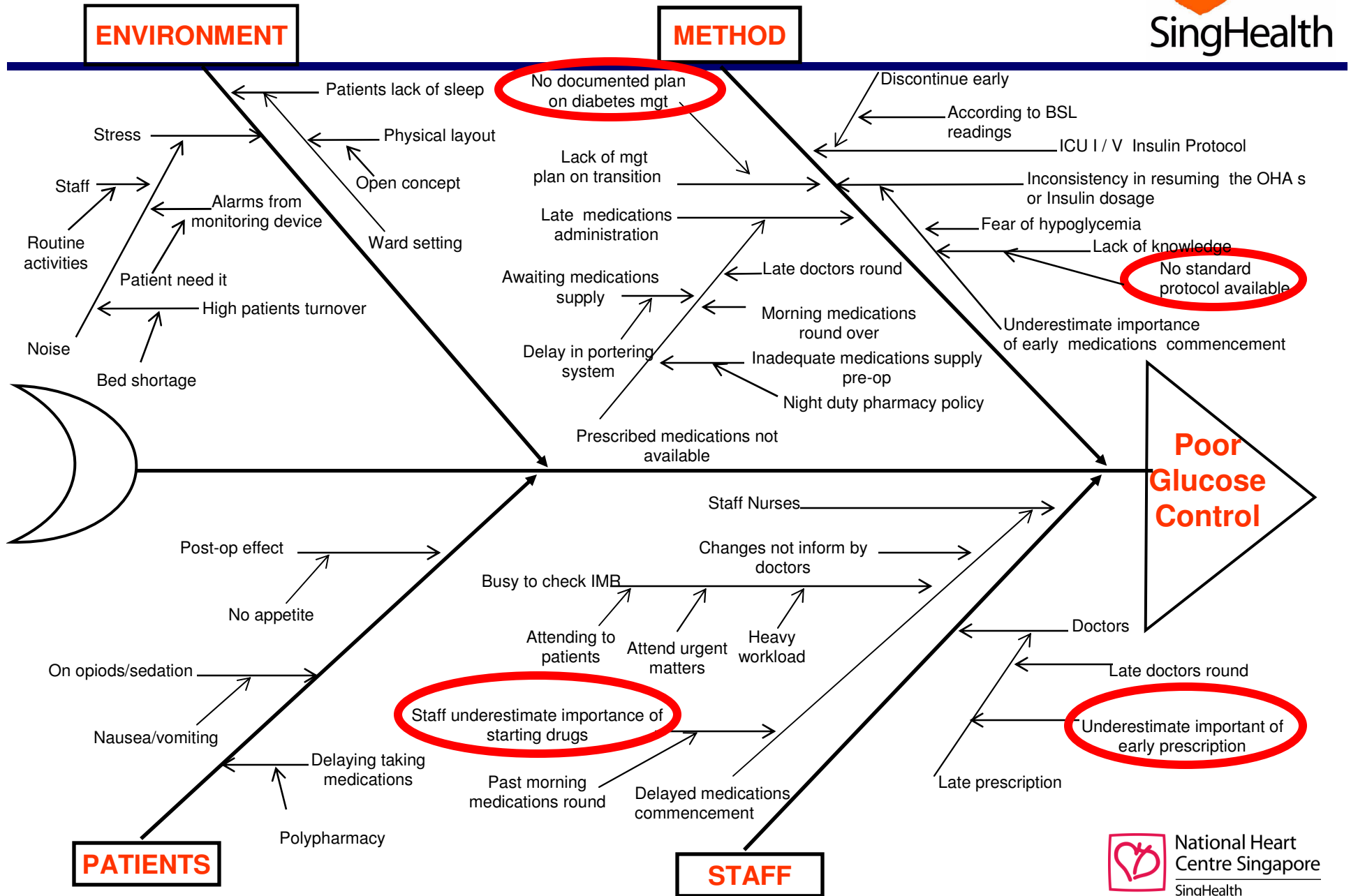
Key Customers

- Patients
- Doctors
- Nurses
- Pharmacists

Customer & Expectations List

- Attaining better glycemic control during the post op phase(target <10mmol/l)
- Minimise or NO cases of post op surgical wound infection such as sternal or SVG wound infection
- Meeting the 6 days length of stay in hospital based on CABG CCP
- Timely discharge also increase bed availability to make way for other cases

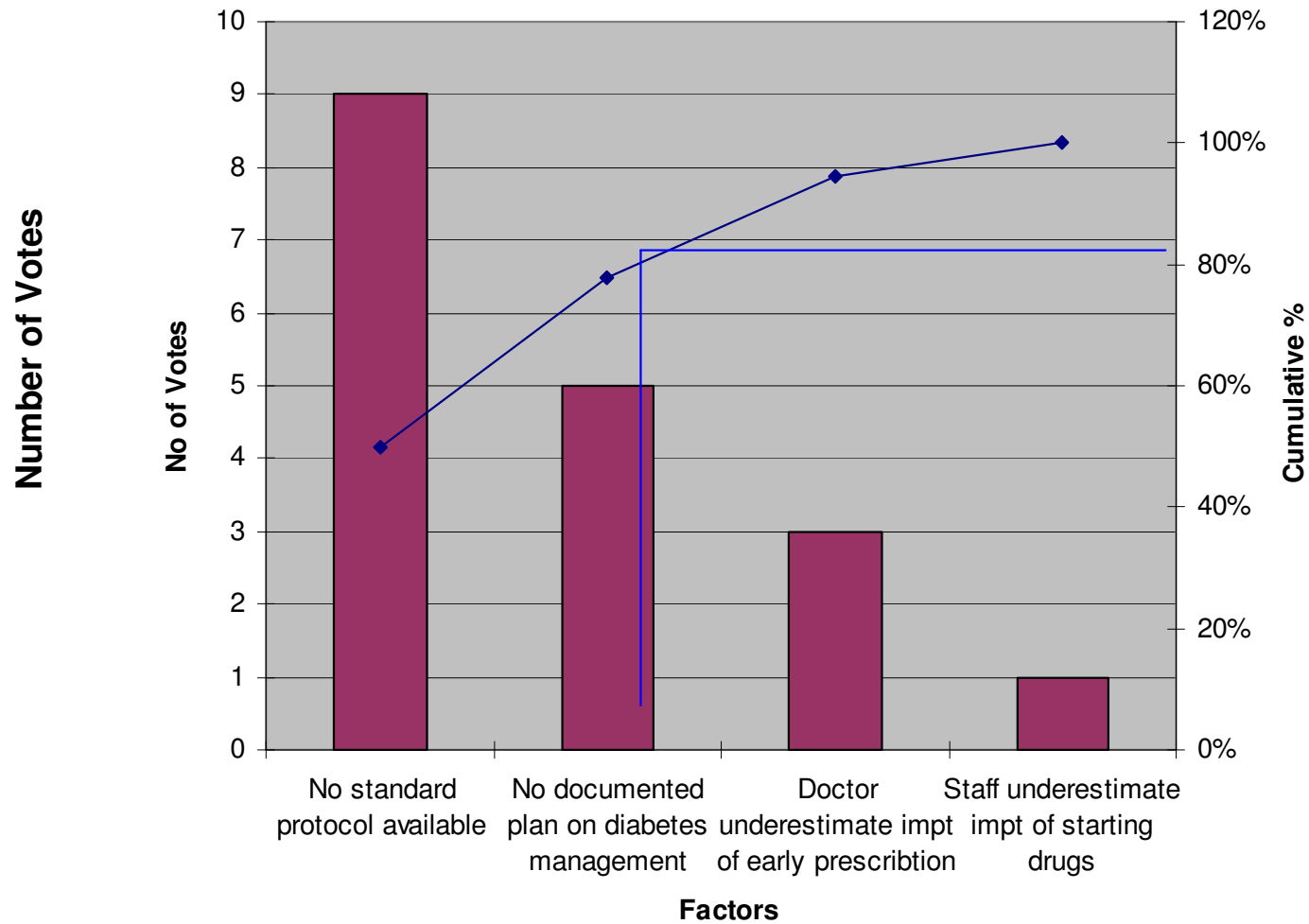
Cause & Effect Diagram



Pareto Chart



Reason for poor glucose control

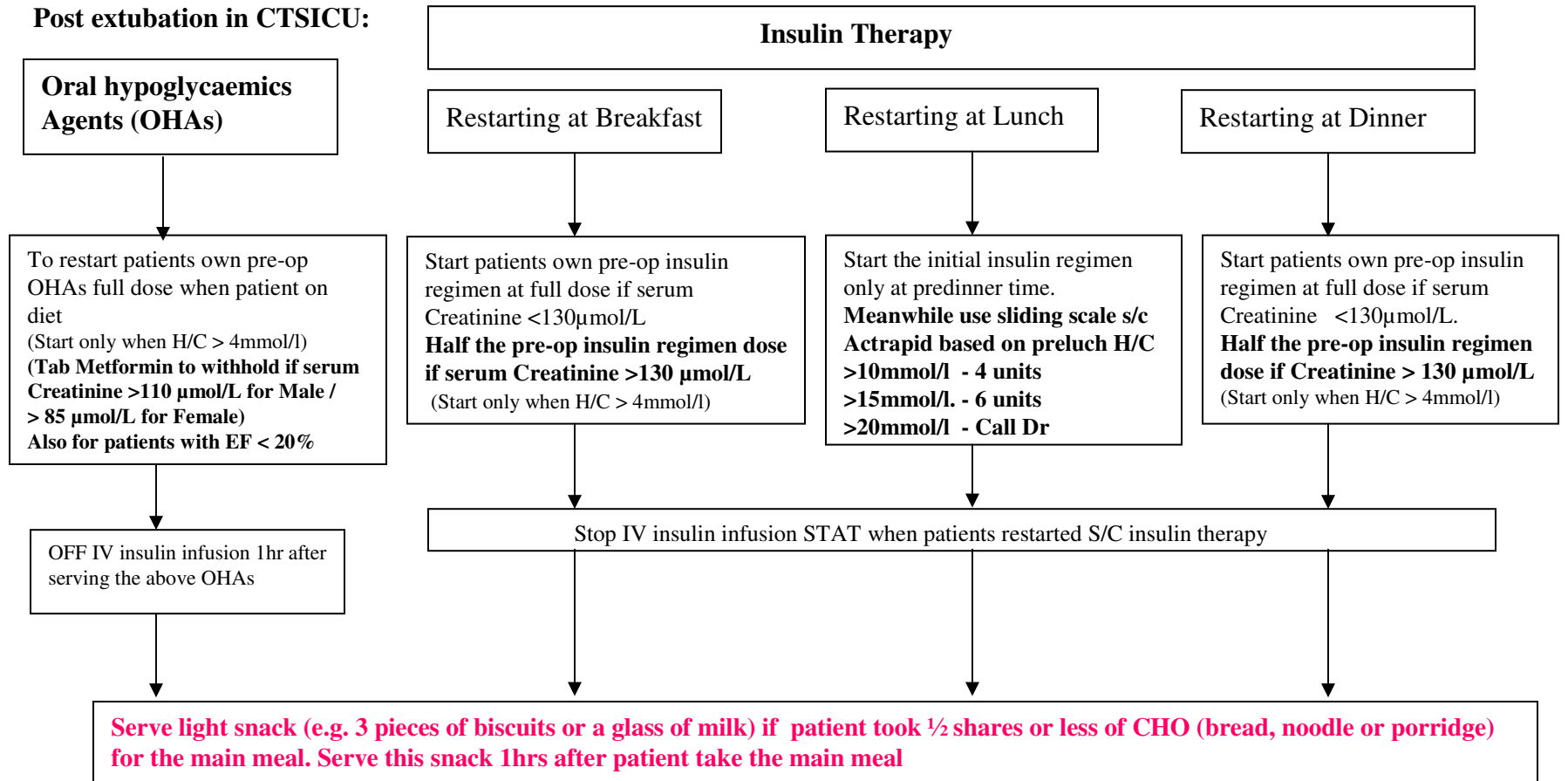


Intervention(s)

- plan, protocol etc

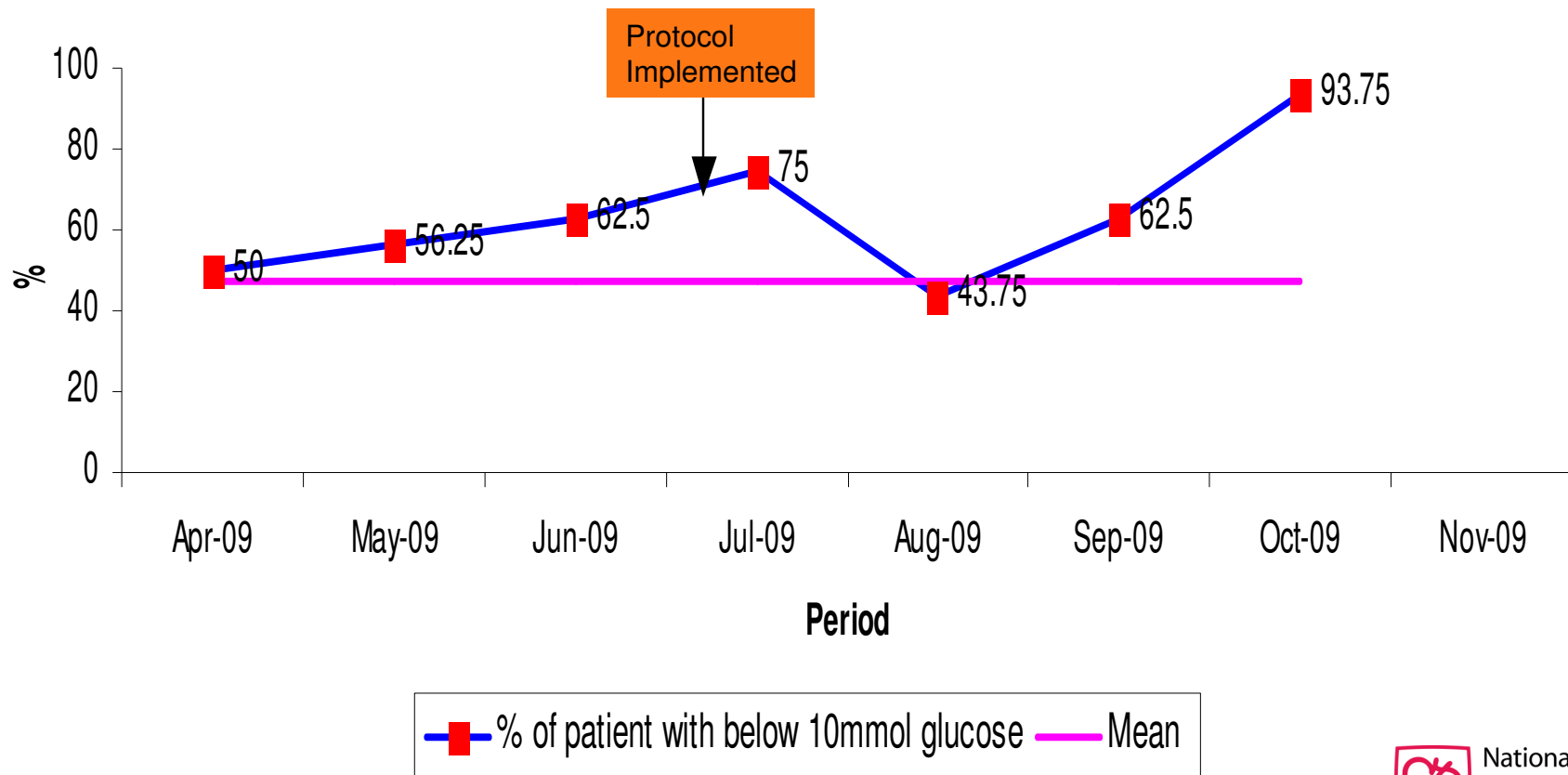
- Team formulated a protocol that provide plan in the transition of preop diabetes therapy for post CABG patients with diabetes
- The protocol provide the users that is the CTS doctors and ICU/HD nurses on the plan for the diabetes management
- Emphasis on providing frequent small meal to these patients is reinforced to the nurses as to prevent hypoglycemia during post op phase
- Criteria on when to stop using tab metformin are also included to prevent lactic acidosis in post op phase

PROTOCOL FOR ORAL HYPOGLYCEMIC AGENTS (OHAs) OR INSULIN REGIMEN FOR POST CABG WITH DIABETES IN CTS ICU (NHC)



RESULTS

Optimal 100% glycemic control < 10mmol/l for post CABG with diabetes within 24hrs transferring to ward 56,NHC



*There were no incidence of hypoglycemia cases reported while using this protocol



SingHealth

Thank You