



**To reduce the incidences of  
aspiration among patients during  
hospitalisation**

**Alexandra Hospital**

March 2010





# Team Members

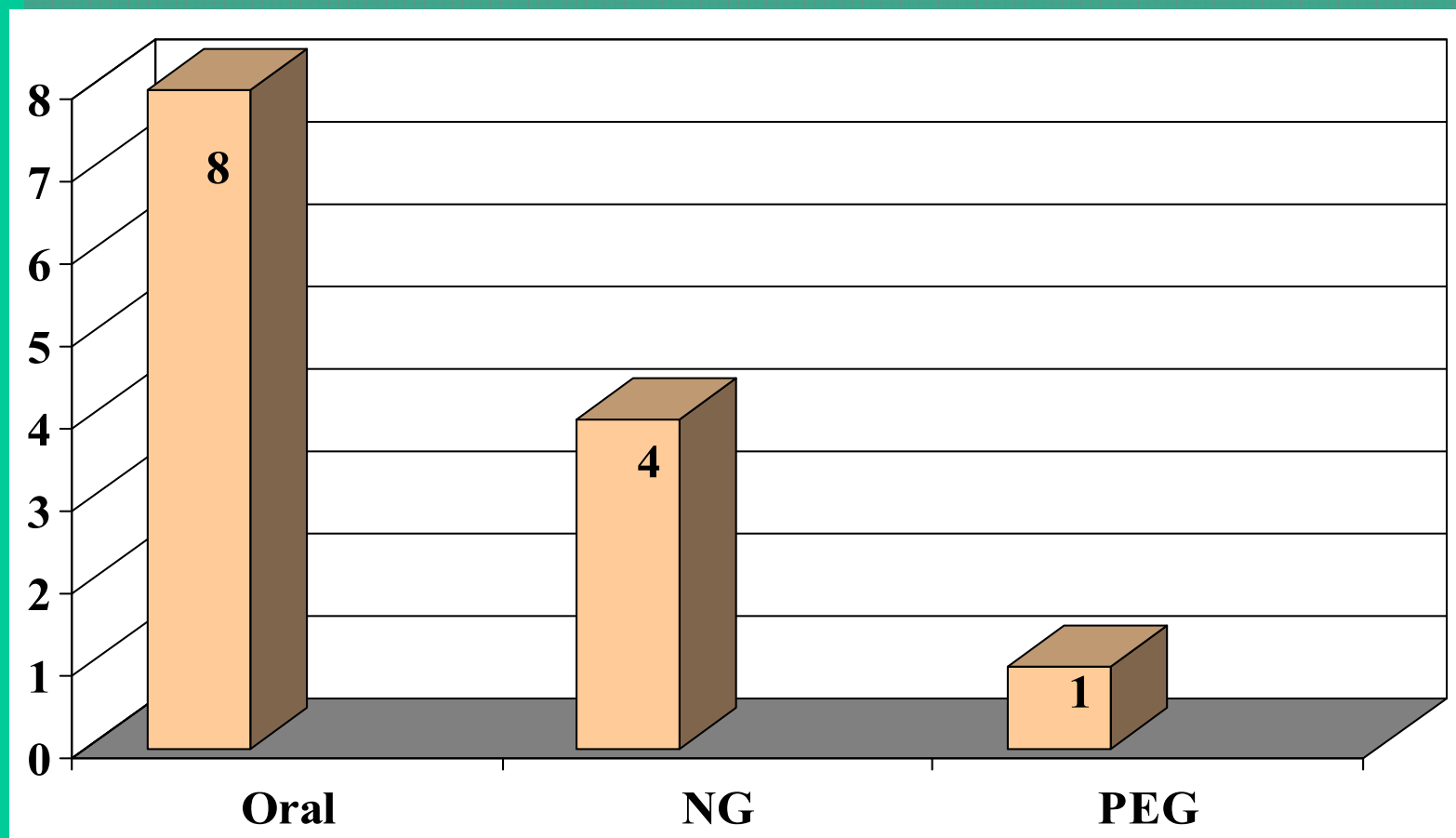
Ms Sujata Rajaram (SNC)	Leader
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Members	
Dr. Lawrence Tan	Ms Karen Perera ( ADN)
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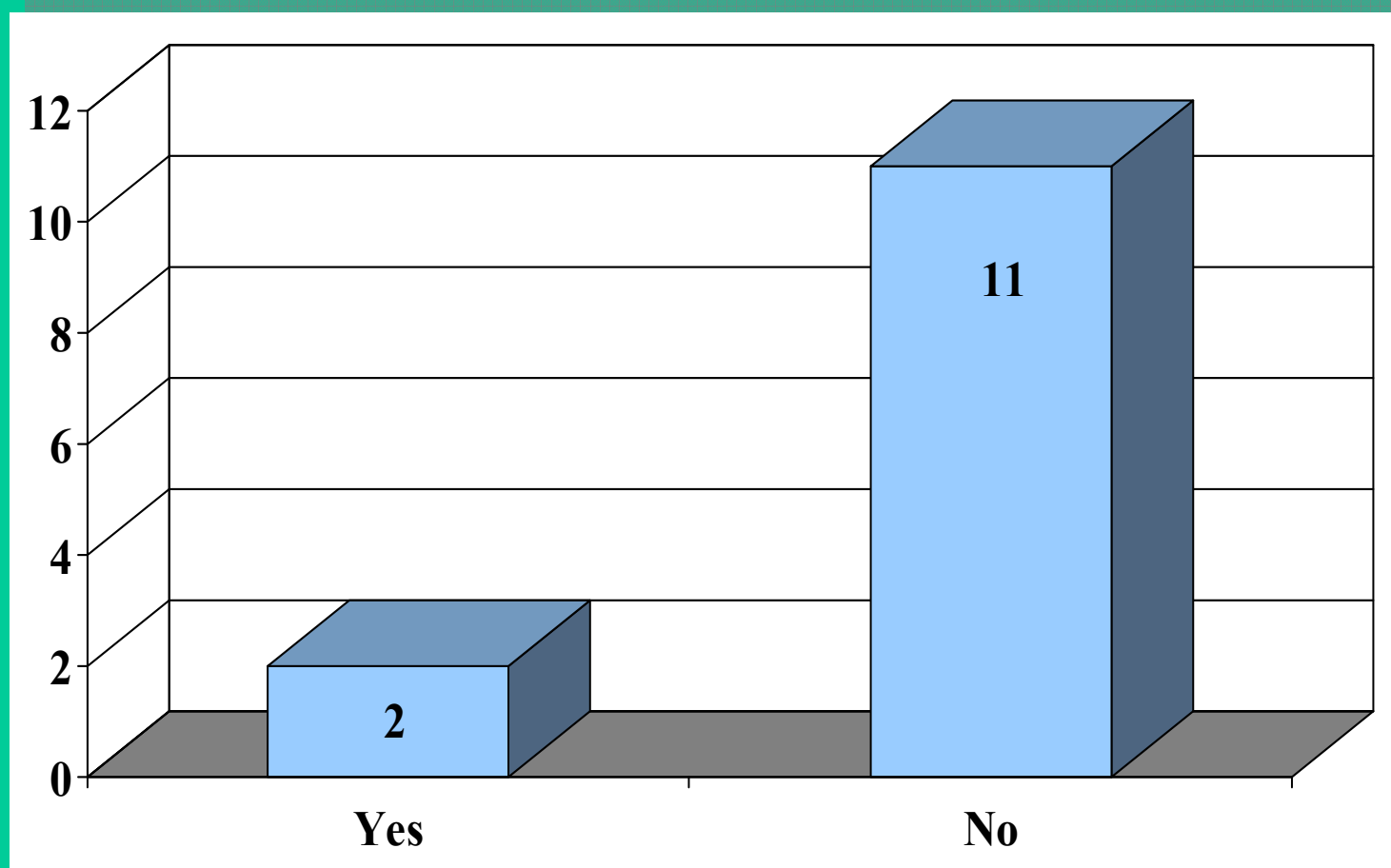
# Introduction

- Data from the Clinical Review Programme revealed that Alexandra Hospital had an average of 5% (13) of the patients developing aspiration in the period of January to June 2005.
- As this findings had serious implications on patient safety, our team was formed to identify and manage the root causes to prevent occurrence of aspiration

# Types of Feeding Leading to Aspiration



# Number of Patients Assessed by Speech Therapist Prior to Incidence



# Objectives

To have 0 incidence of in patient developing aspiration in Ward 5 ( General Medicine) and Ward 3 ( Geriatric Medicine) in Alexandra Hospital within 6 months

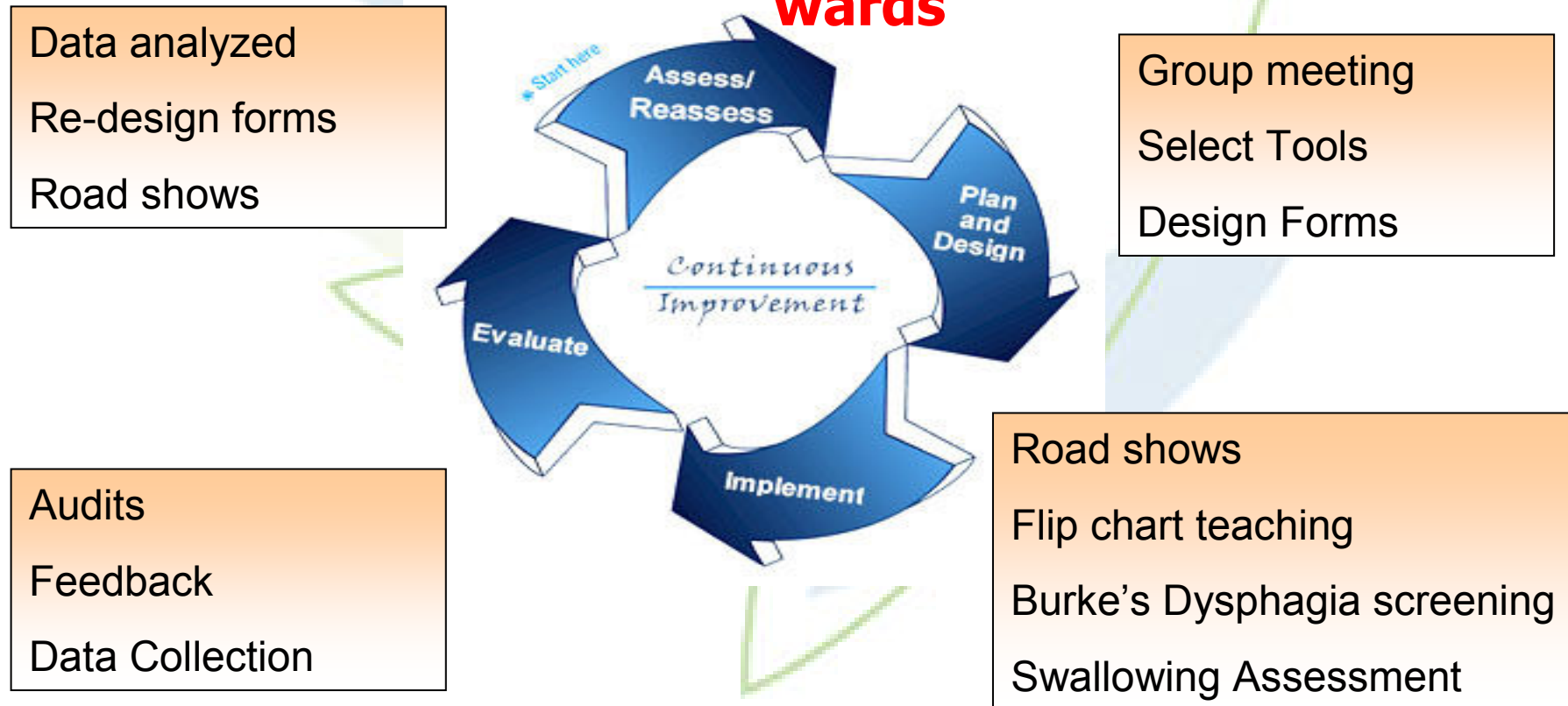
# Methodology

## Design

Using Clinical Practice Improvement Methodology , the team analysed and Assessed the problem using the Cause and Effect Diagram and utilised the **PLAN, DO, STUDY, ACT Cycle**

# PDCA CYCLE (METHODOLOGY)

## Study of Aspiration Pneumonia in 2 wards



# METHODOLOGY

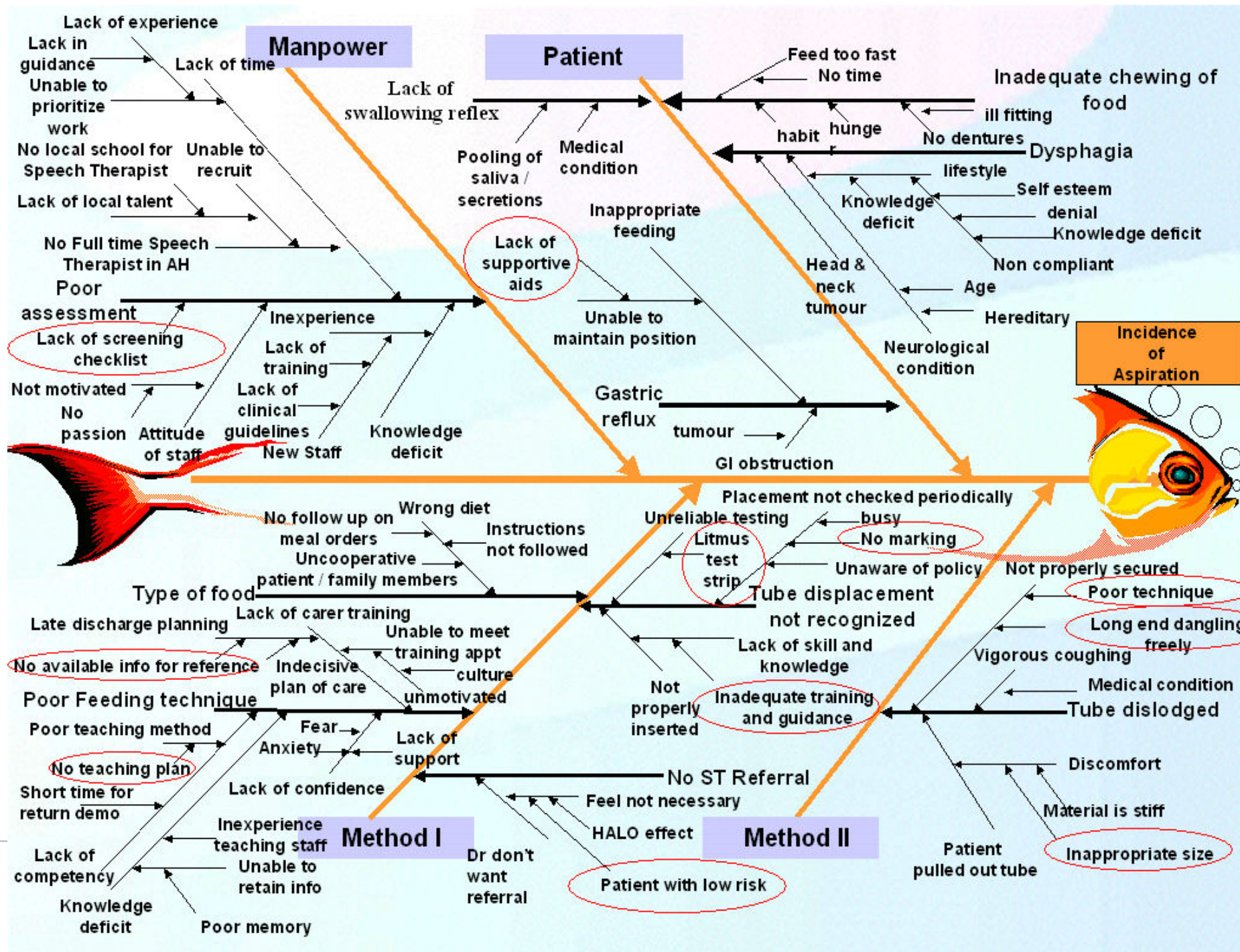
## Target Groups

### Ward 5

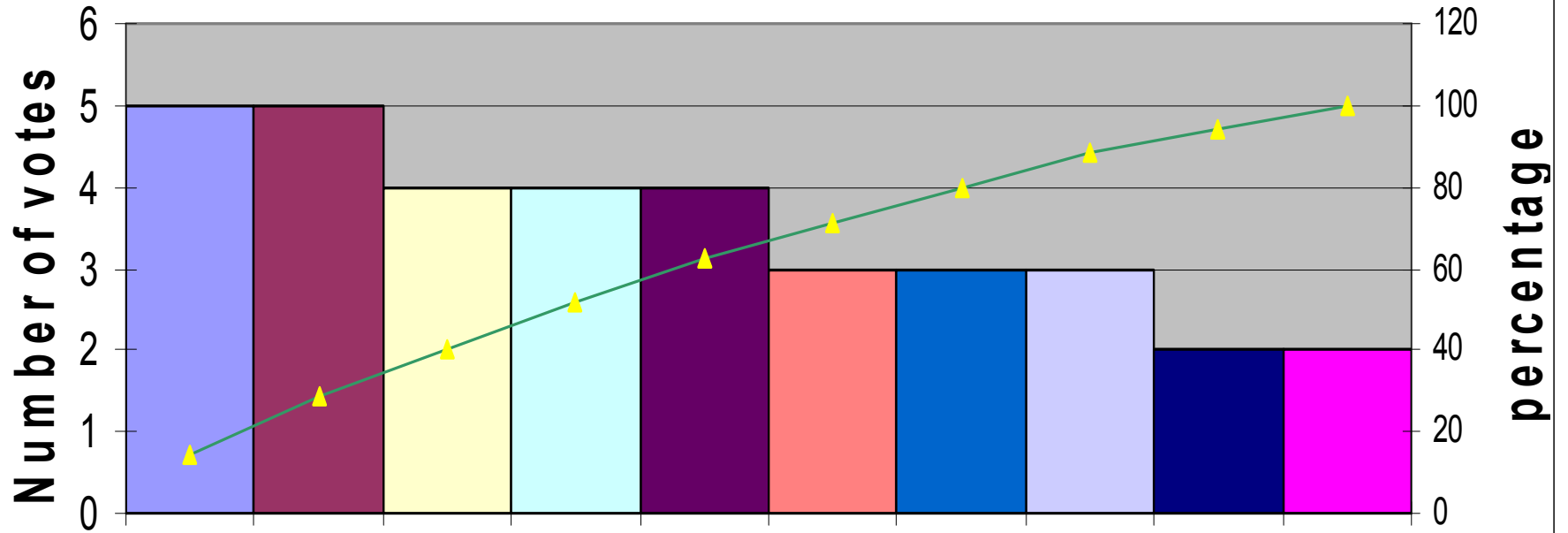
- Medical Ward with the highest group of patients having aspiration.

### Ward 3

- Geriatric Ward with patients who are at a higher risk for aspiration.



# Pareto chart



Lack of competency  
Lack of screening checklist  
No available info for referenr  
Inadequate training & guidanc  
No teaching plan for care  
Poor technique of anchorin  
Long end dangling free!  
Inappropriate NG tube sizr  
Lack of supportive aidr  
Unreliable testing using Litmus test stri

## Main Concerns

SN	ROOT CAUSES	INTERVENTIONS
1	Lack of screening assessment	Introduced the process of identifying patient with Dysphagia by using: <ul style="list-style-type: none"> <li>• Modified Burke Dysphagia Screening Tool</li> <li>• Swallowing Assessment</li> </ul>
2	No available information for reference	Developed the following: <ul style="list-style-type: none"> <li>• SMART' kit</li> <li>• Bedside educational Flip chart</li> </ul>
3	No teaching plan for carer	<ul style="list-style-type: none"> <li>• Revised the 'Patient Family Education' to include carer competency checklist</li> <li>• Developed PowerPoint slides / video clip on proper feeding techniques</li> </ul>
4.	Inadequate training and guidance for nurses	<ul style="list-style-type: none"> <li>• Revised and introduced nurses' competency assessment</li> <li>• Developed PowerPoint slides on proper feeding techniques and insertion of nasogastric tube</li> <li>• Incorporated teaching in the nursing induction programme</li> </ul>
5	Poor technique to secure nasogastric tube	<ul style="list-style-type: none"> <li>• Implemented the following technique:Anchor naso gastric tube using 'Bolster' and 'S' methodMark position of naso gastric tube prior to taping</li> </ul>

# Intervention(1)

- Revise the process of identifying patient with dysphagia using
  - a. Modified Burke's Dysphagia screening test
  - b. Swallowing Assessment
- Revise Nursing Competency Checklist for Insertion of NG / NG feeding/ PEG feeding / Oral feeding.
- Revise \_for NG / PEG / Oral feeding

# ANCHORING USING 'BOLSTER' & 'S' METHOD



# Intervention(2)

- Provide visual aids for better understanding & retaining of information (**Flip chart / swallowing tips / nasogastric tube feeding ppt**)
- Introduce marking of NG tube prior to taping of NG tube
- Introduce taping of NG tube using '**bolster method & s method**'
- Provide the family with the '**SMART feeding kit**'

# 'SMART' FEEDING KIT



**'Smart' kit consist of**


- 1. 20cc syringe**
- 2. 60cc catheter-tip syringe**
- 3. Hypoallergenic tape**

# **Intervention(3)**

## **Administration of Oral Contrast**

- **Out-patients and in-patients with no difficulty with oral intake, will take 600mls of Contrast at 2 doses of 300mls at one hour interval**
- **In-patients on naso-gastric feeding tube, diluted contrast of 400mls to be administered slowly over 4 hours**

# Dysphagia Screening Tool



Patient's sticky label

## MODIFIED BURKE DYSPHAGIA SCREENING TOOL

Dysphagia Risk Score	Assessment of Risk Factors		Present	Absent
	Stroke History	1	Bilateral stroke	
2		Brainstem stroke		
3		Pneumonia / acute stroke phase		
4		Cough associated with feeding		
5		Prolonged time required for feeding / swallowing		

Tick in the boxes as appropriate

### NOTE: Exclusion Criteria for Swallowing Assessment

**≥ One risk factor:**

No need to do swallowing assesment.     No difficulty in swallowing

Refer Speech Therapist.                     Able to take 2 or more meals without difficulty

**No Risk Factors:**

Patient on Stroke Pathway


Patient on NBM / PEG / NG tube

Check exclusion criteria

Swallowing Assessment

Swallowing Assessment not required

# Swallowing Assessment



Patient's sticky label

## SWALLOWING ASSESSMENT

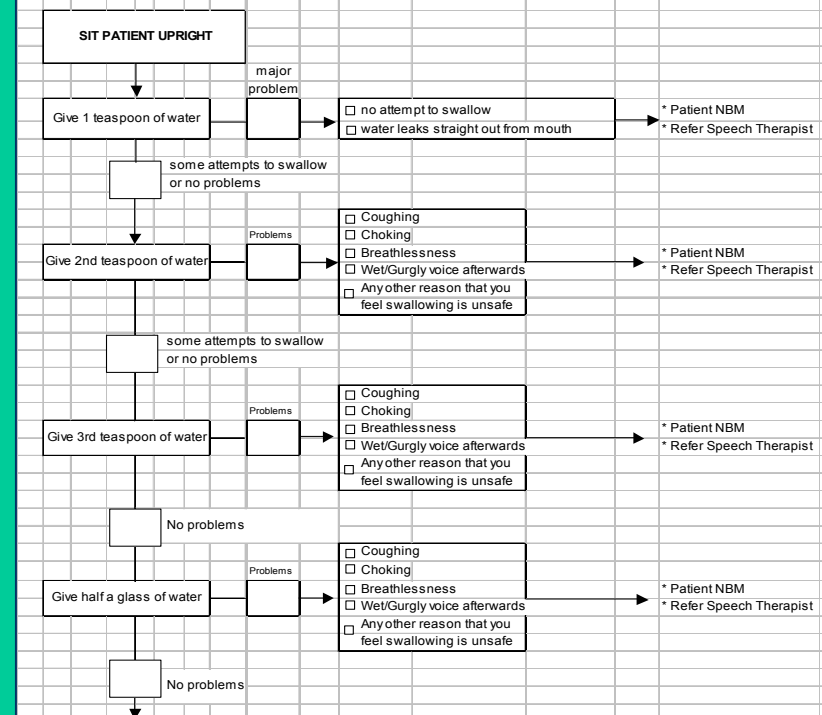
### INSTRUCTIONS FOR ASSESSMENT

- Failing the Burke Dysphagia Screening Tool (BDST)

### EXCLUSION CRITERIA

- No difficulty in swallowing
- Able to take 2 or more meals without difficulty
- Patient on Stroke Pathway
- Patient on NBM / PEG / NG tube

Tick in the appropriate Box



# Results

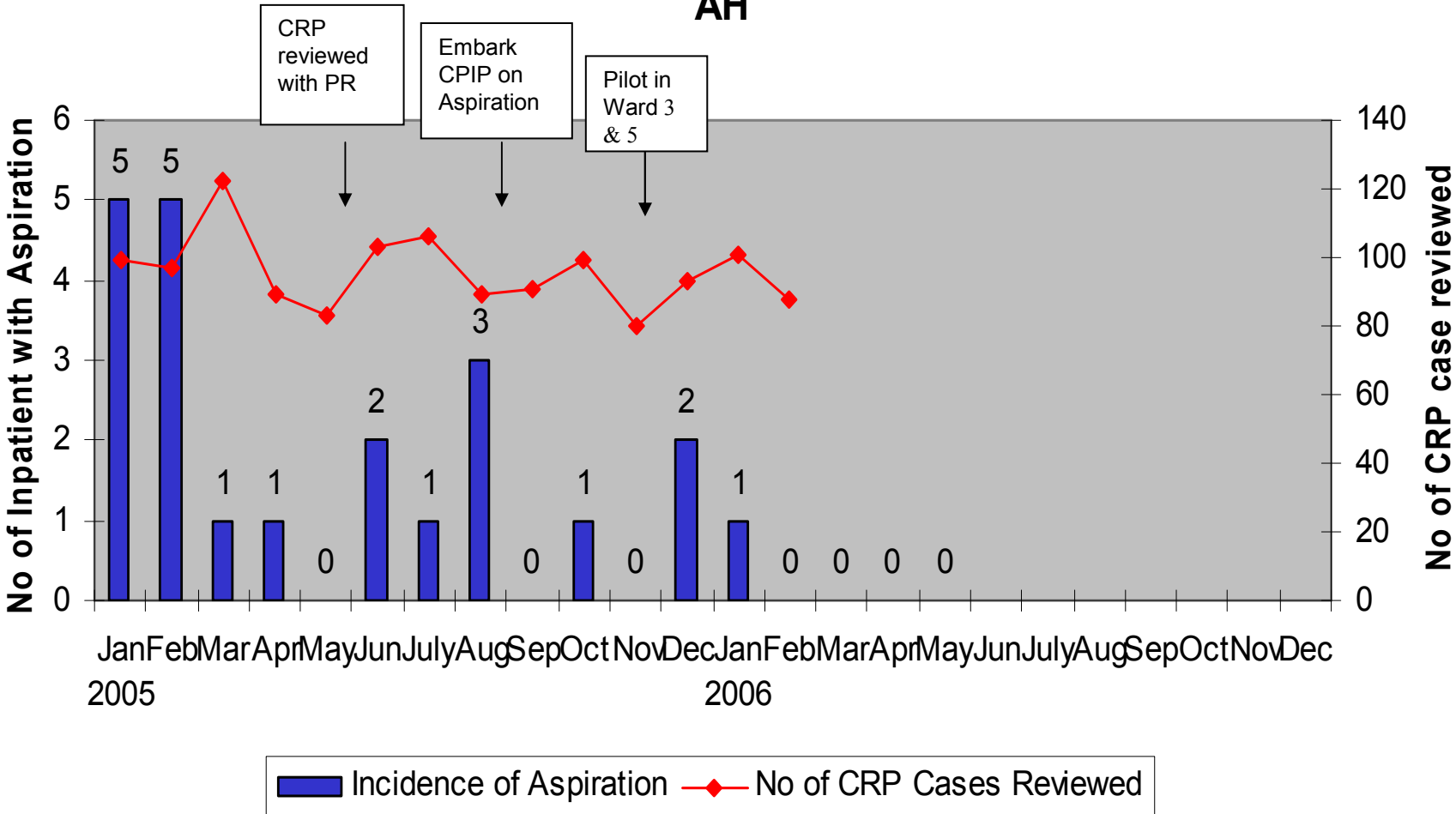
- Interventions were piloted in ward 3 and 5. There were no incidences of patient having aspiration from November 2005.
- Nursing assessment has improved and nurses confidently initiates referral to Speech Therapists.
- Interventions were rolled out to all in patient wards after road shows.
- The educational materials were rolled out to all inpatient wards after road shows.
- The educational materials were uploaded into the Hospital Educational Hub for reference.

# Validity of the Dysphagia Screening Tool & the Swallowing Assessment

- After the dysphagia screening tool and the swallowing assessment were introduced the number of patients who aspirated greatly reduced.
- In 2007 and 2008 there were two patients who had aspirated. In both these incidences the carers of the patients force fed them, even though they were told not to.
- In 2009, there was one incident of a patient aspirating. In 2010 till to date there have been no cases of aspiration.

# Run Chart

**Number of CRP case reviewed with inpatient having aspiration in AH**



## Number of CRP Cases Reviewed With Inpatient Having Aspiration Year 2005 - 2009

	2005	2006	2007	2008	2009
<b>Incidence of Aspiration</b>	<b>21</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>No of CRP Cases Reviewed</b>	<b>1151</b>	<b>1041</b>	<b>1053</b>	<b>1094</b>	<b>1041</b>
<b>Percentage of inpatient have aspiration in AH</b>	<b>1.8%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>

# Strategies for Spreading

- **Conduct road shows on prevention of aspiration to increase awareness among nurses.**
- **Training of new staff during orientation.**
- **To upload teaching materials into the Education Hub.**
- **Share with senior management on and clinical departments on the progress of the interventions.**
- **Present project at cluster meetings for sharing and learning.**

# Strategies for Sustaining

- **Empower team members to conduct audits in their own department and other departments.**
- **Conduct random audits for 6 months.**
- **Encourage feedback and suggestions from staff to make improvements where necessary.**

# Lessons Learnt

- **Communication is vital for success.**
- **Teamwork is essential.**
- **Training does not necessarily result in total conformance.**
- **Change can only be effective when there is a believe and understanding in the rationale of the interventions.**
- **Perseverance for continuous improvement is important to achieve 0 aspiration.**

A stylized graphic of overlapping leaves in shades of light blue and light green, with thin green outlines, centered behind the text.

**Thank You**