

2010 Military Health System Conference

Quality First; Cost Will Follow: Understanding Clinical Variation

Sharing Knowledge: Achieving Breakthrough Performance

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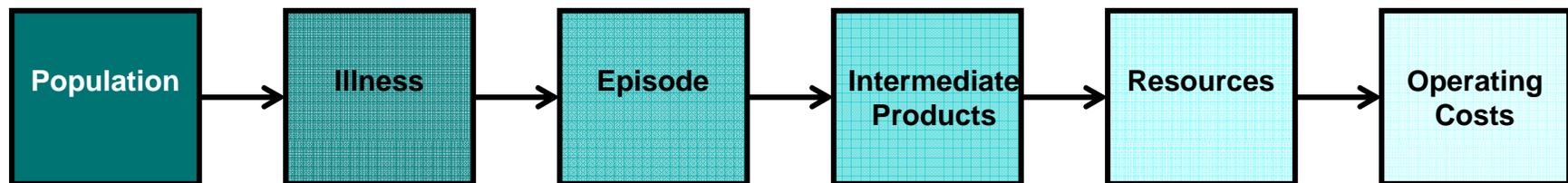
Bureau of Medicine and Surgery

Purpose



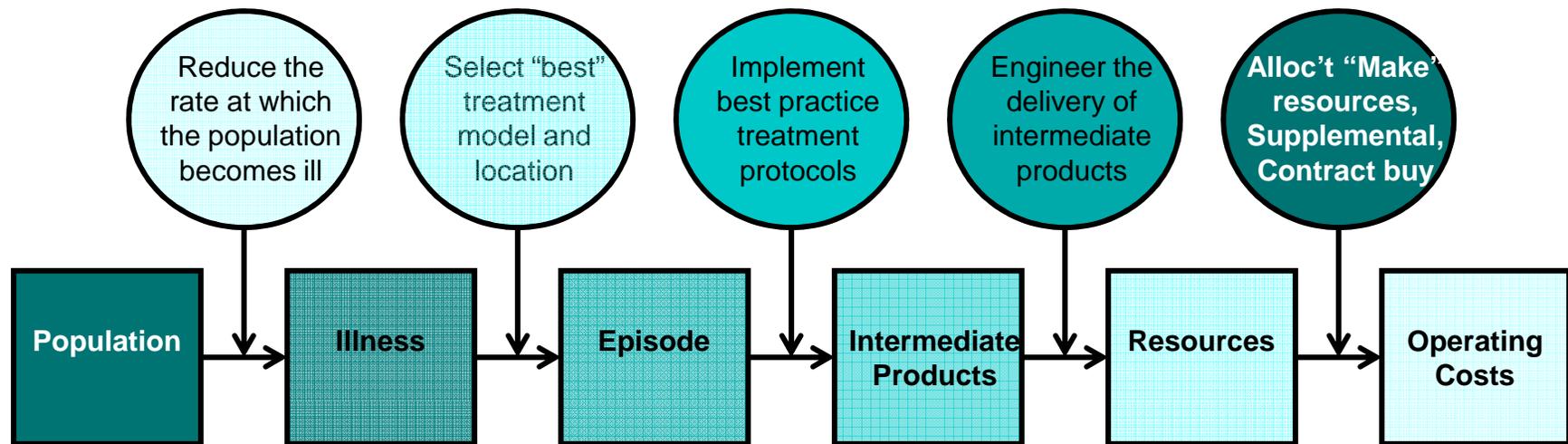
- Introduce the Lee and Jones Framework
- The keys to high quality and controlled costs
 - Get the volume right
 - Industrialize the process

Lee and Jones Model:



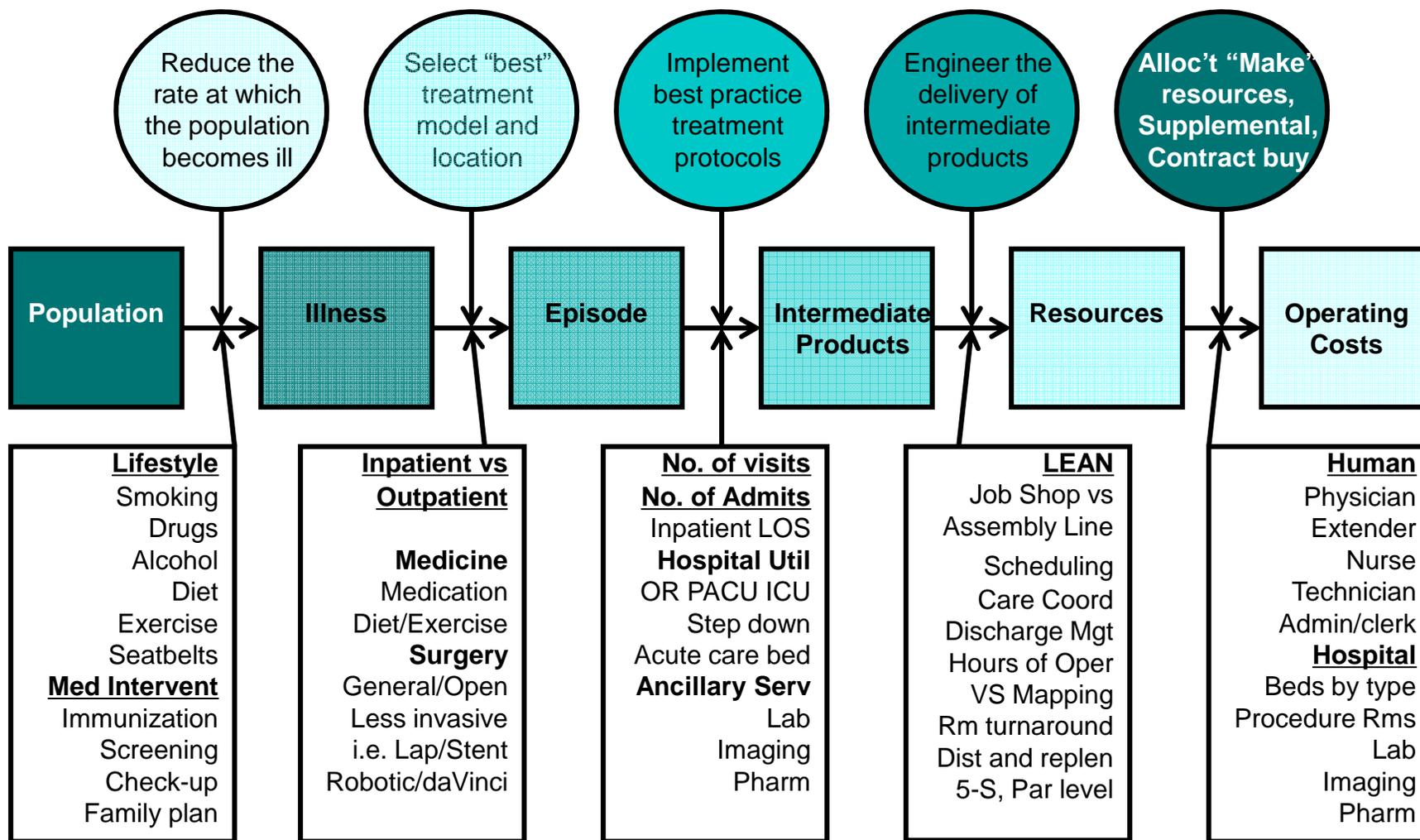


Lee and Jones Model:



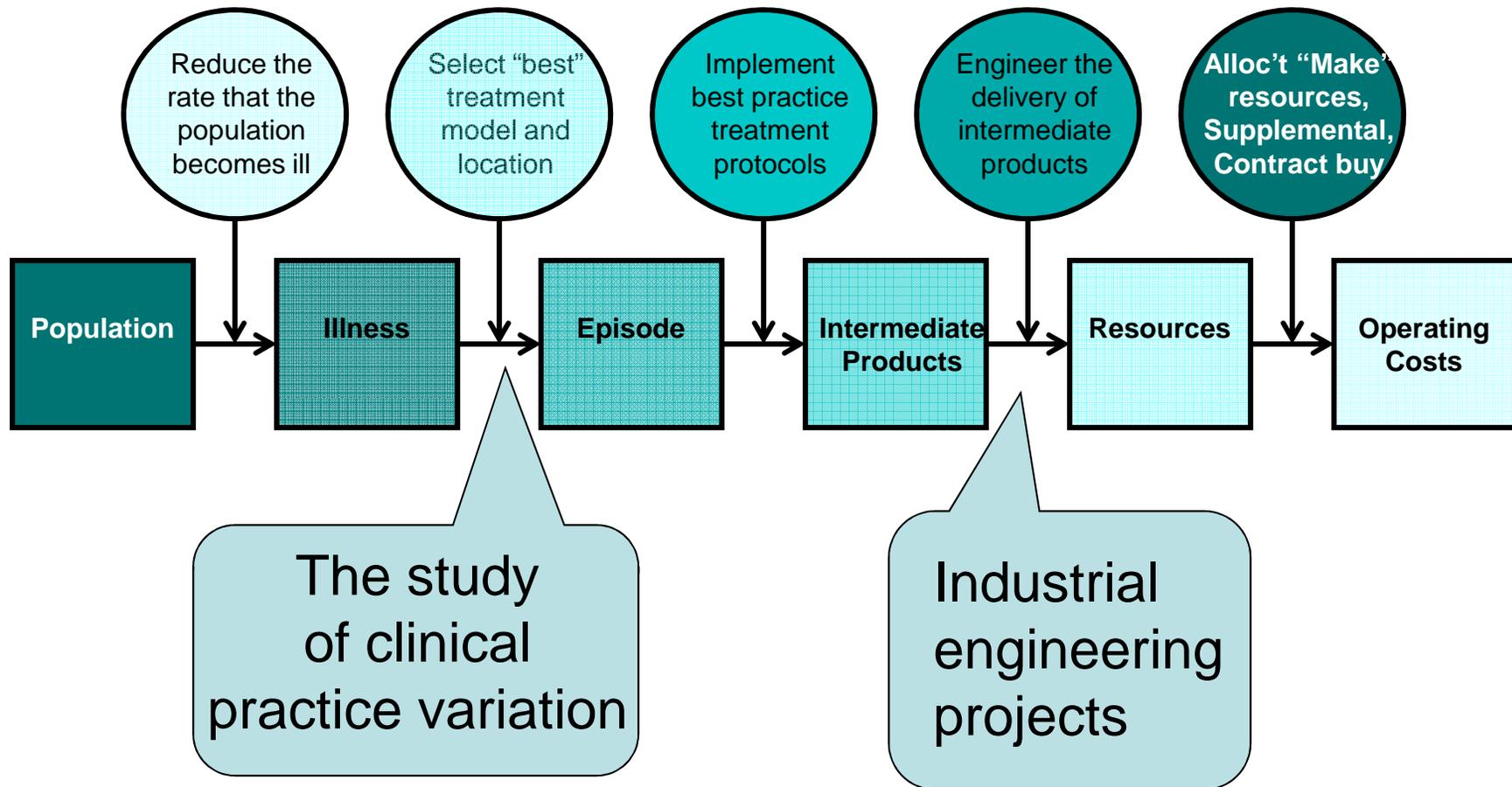


Lee and Jones Model:





Lee and Jones Model:



A Look at Variation in Navy Medicine



- Project Goals: Quantify variation in
 - Diagnosis / occurrence of conditions
 - How conditions are treated
- Example - Ischemic heart disease

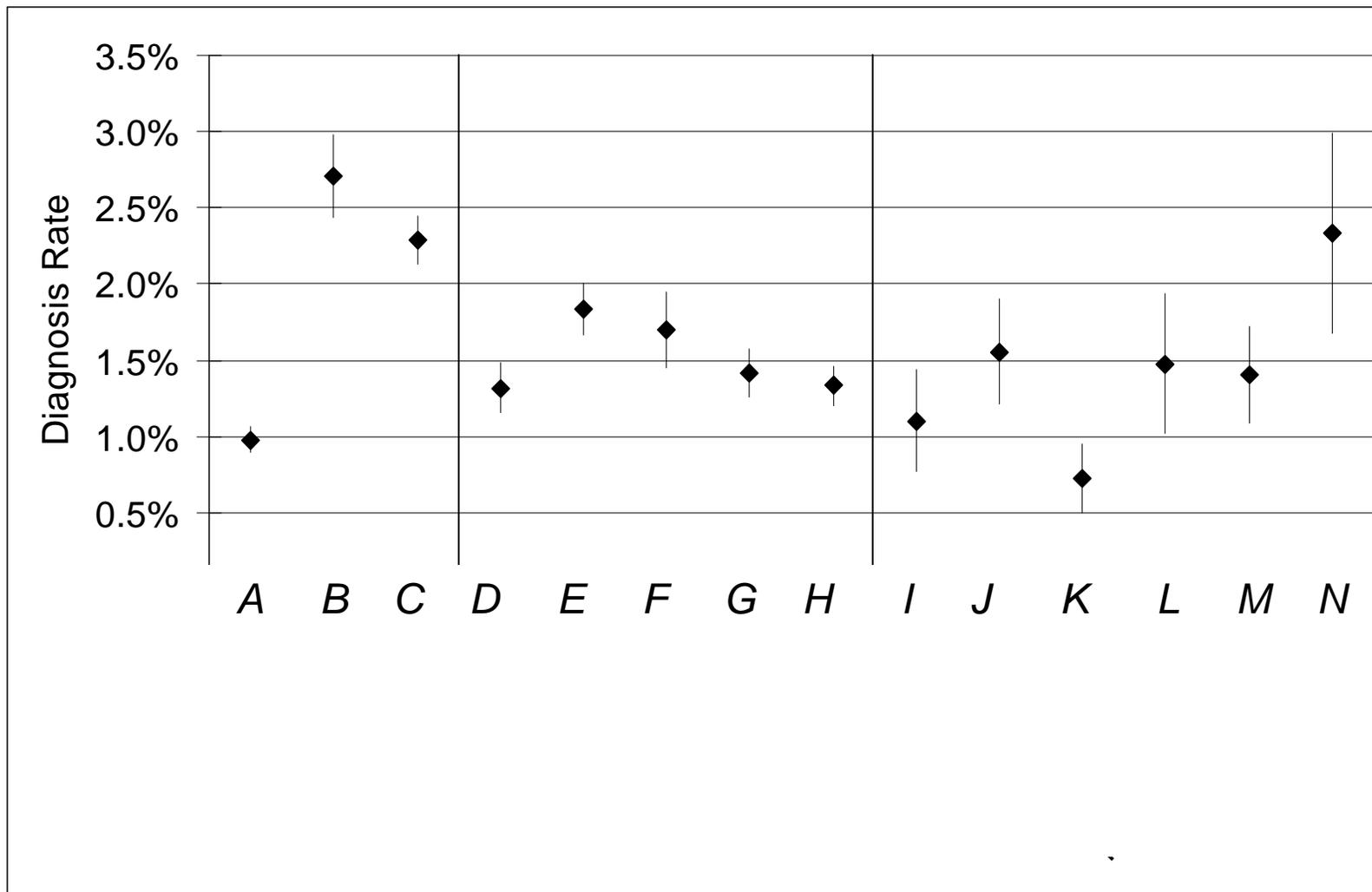
IHD Variation



- Mine procedure codes to identify treatment tracks
- Result: Four tracks
 - Diagnosis
 - Percutaneous
 - Angioplasty
 - Stents
 - CABG
 - *Uncategorized*

IHD diagnosis rate by Catchment Area

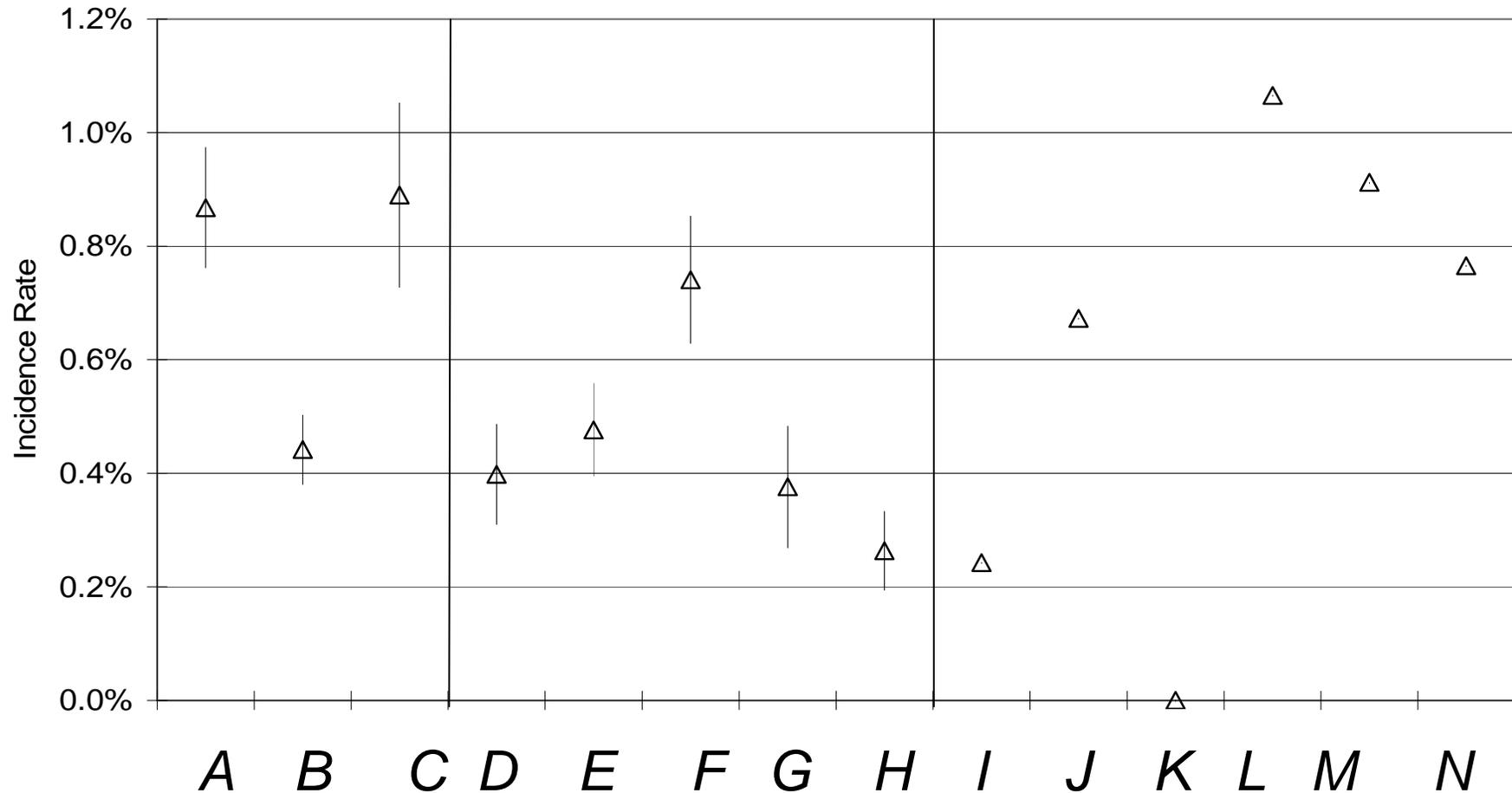
Risk adjusted rates with standard errors, FY07-FY08



Percutaneous procedure rate by Catchment Area



Risk adjusted rates



Example: 20,000 enrollees age 30+



	Expected number of:		
	IHD episodes	Percutaneous procedures	CABG procedures ¹
High rate catchment area	541	155	36
Overall average	327	107	26
Low rate catchment area	264	45	9

¹Includes episodes where percutaneous procedure is performed together with CABG

²MTF treated episodes are episodes where the inpatient or emergency room admission is at an MTF

IHD summary



- Big differences across Catchment Areas:
 - Factor of 2 in diagnosis rate
 - Factor of 4 in CABG rates
 - Factor of 2 in total spending on IHD episodes
- Caveat: No data on outcomes

Industrial Engineering In Navy MTFs



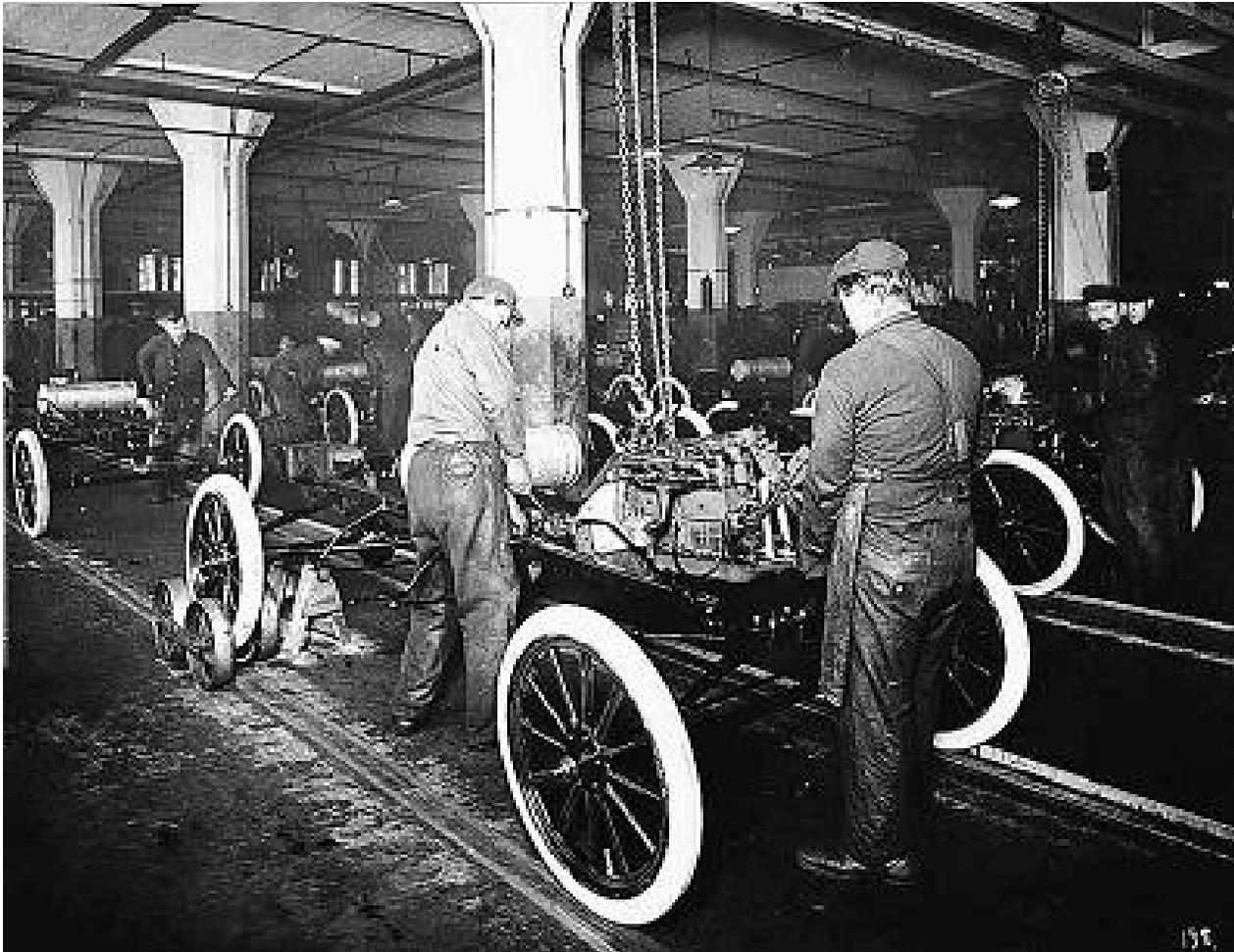
- What is Industrial Engineering?
 - a branch of engineering concerned with the development, improvement, implementation and evaluation of integrated systems of people, money, knowledge, information, equipment, energy, material and process
 - also known as operations management, management science, systems engineering, or manufacturing engineering

Job Shop Production Process



- Range of tasks performed in variable order
- No defined time expectations
- Completed by highly skilled “craftsmen”
- In low volume (one-at-a-time)

Production Line



- Well defined sequence of tasks
- Strict performance time requirements
- Assigned responsibilities for tasks
- Repetitively in high volume

Top 10 Opportunities for Inpatient OB



- Forecasting demand
- **Procedure scheduling (c-section and induction)**
- **Active discharge management**
- Provider practice patterns
- Facility sizing
- Staff leveling
- Housekeeping room turn-around time (TAT)
- Supply management & 5-S
- Pull system for patient transfer
- Key Performance Indicators (KPIs) and IT

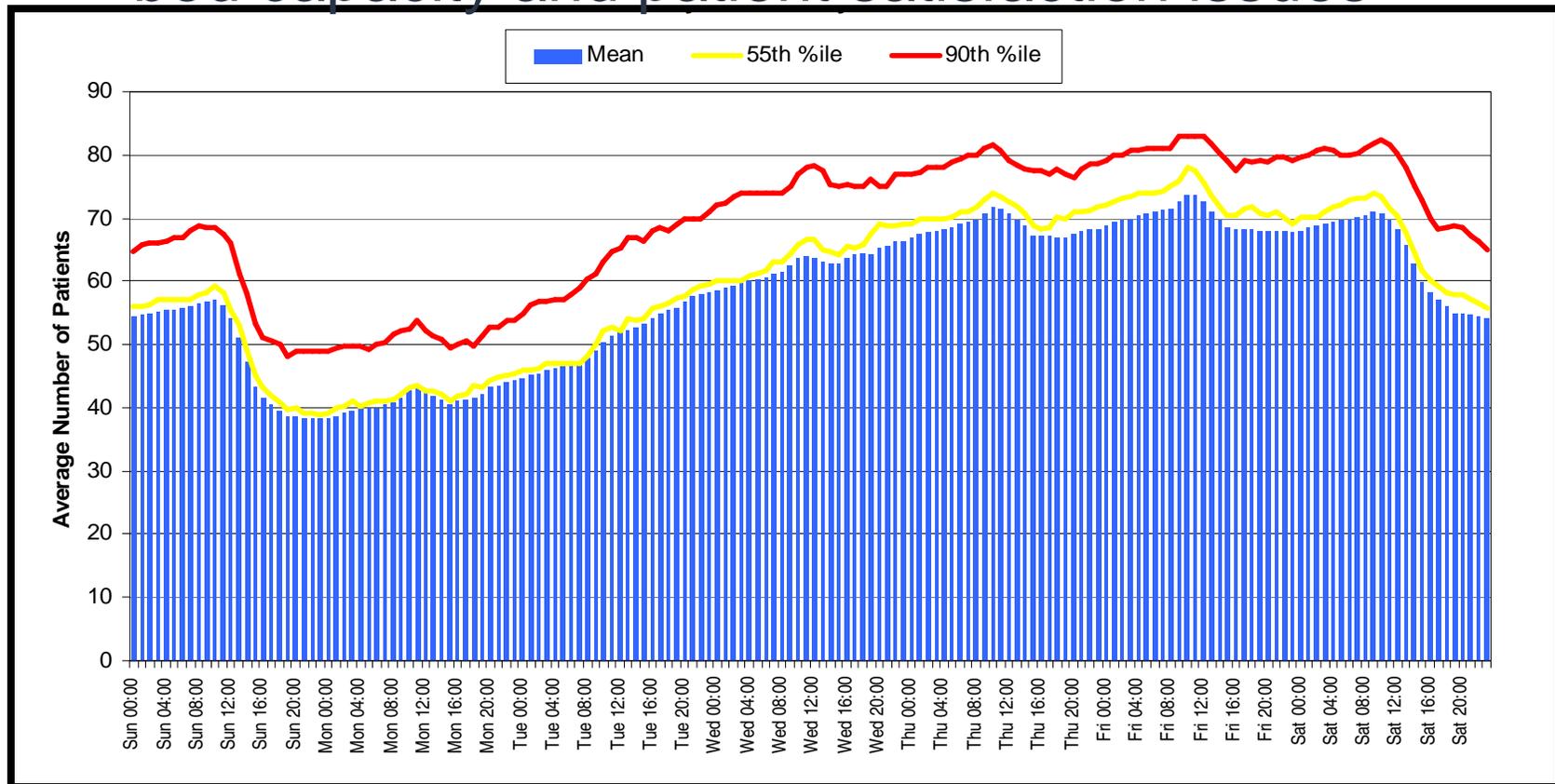


■ Procedure Scheduling

Procedure Scheduling



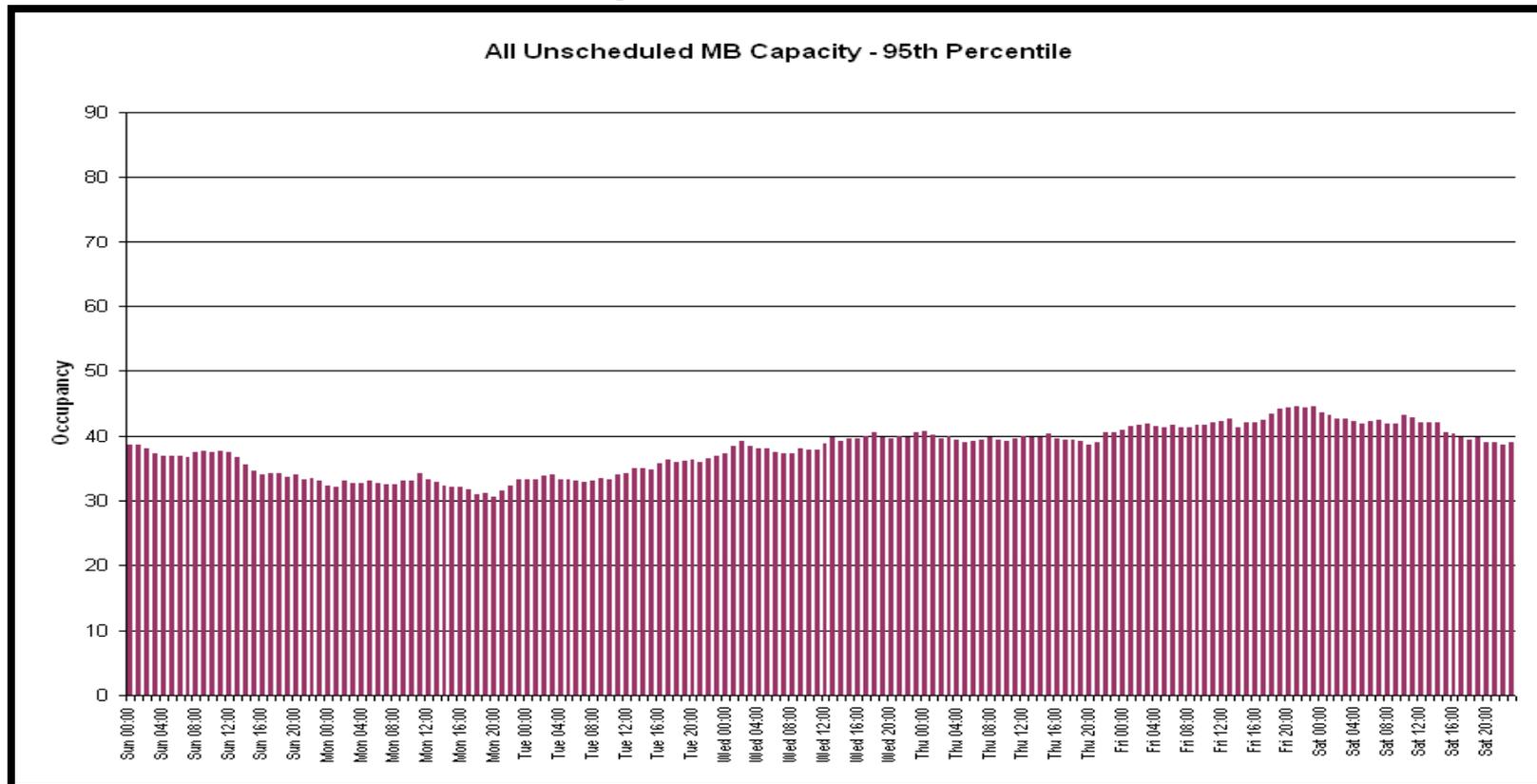
- Postpartum census variation creates staffing, bed capacity and patient satisfaction issues



Procedure Scheduling



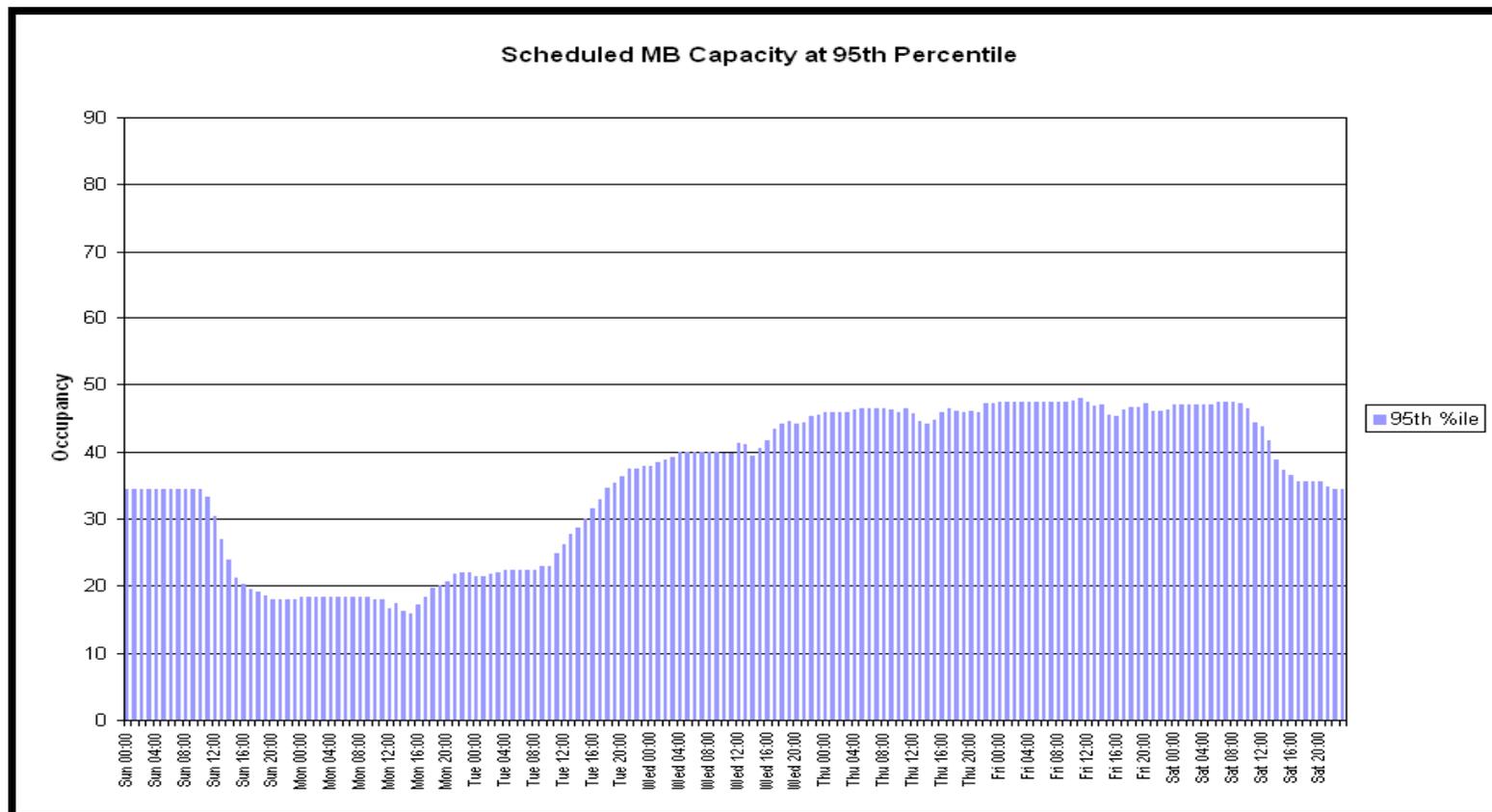
- Postpartum census variation is **NOT** due to randomly arriving “spontaneous labor” patients



Procedure Scheduling



- Postpartum census variation **IS** due to “scheduled” induction and cesarean delivery patients

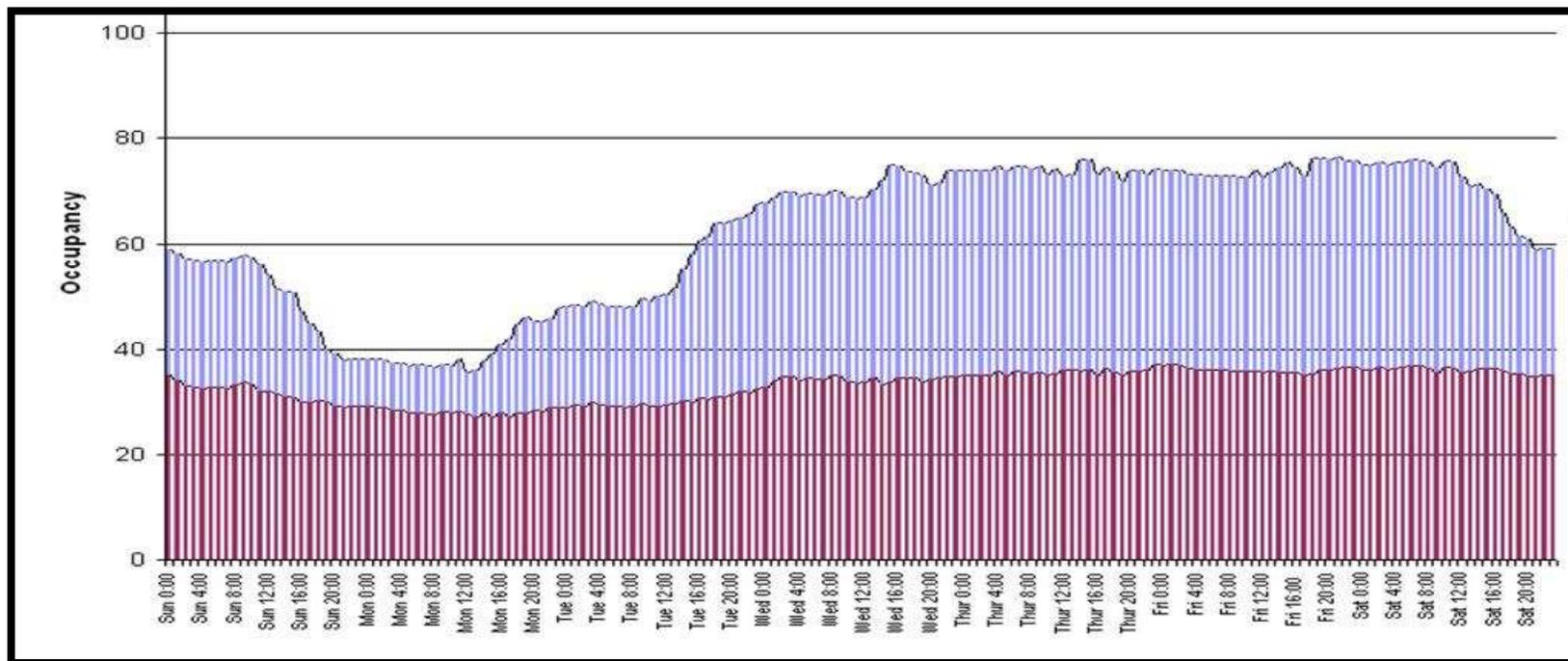


Procedure Scheduling



- A scheduling model has been developed to smooth census on the Postpartum unit.

Day of Week	Cesarean	Induction
Sunday	0	0
Monday	5	16
Tuesday	5	11
Wednesday	5	11
Thursday	5	11
Friday	7	11
Saturday	0	0
Grand Total	27	60



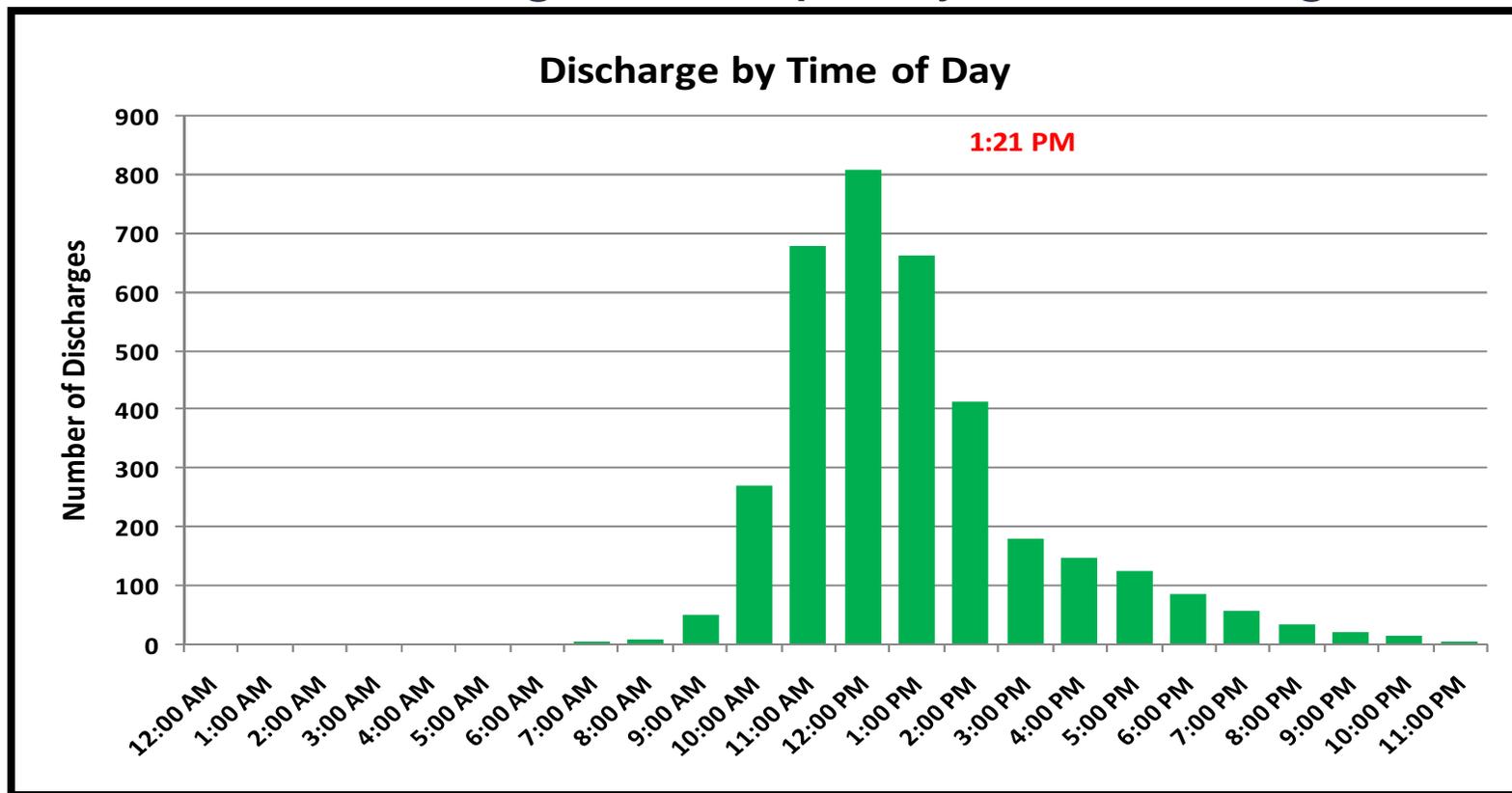


▪ **Active Discharge Management**

Active Discharge Management



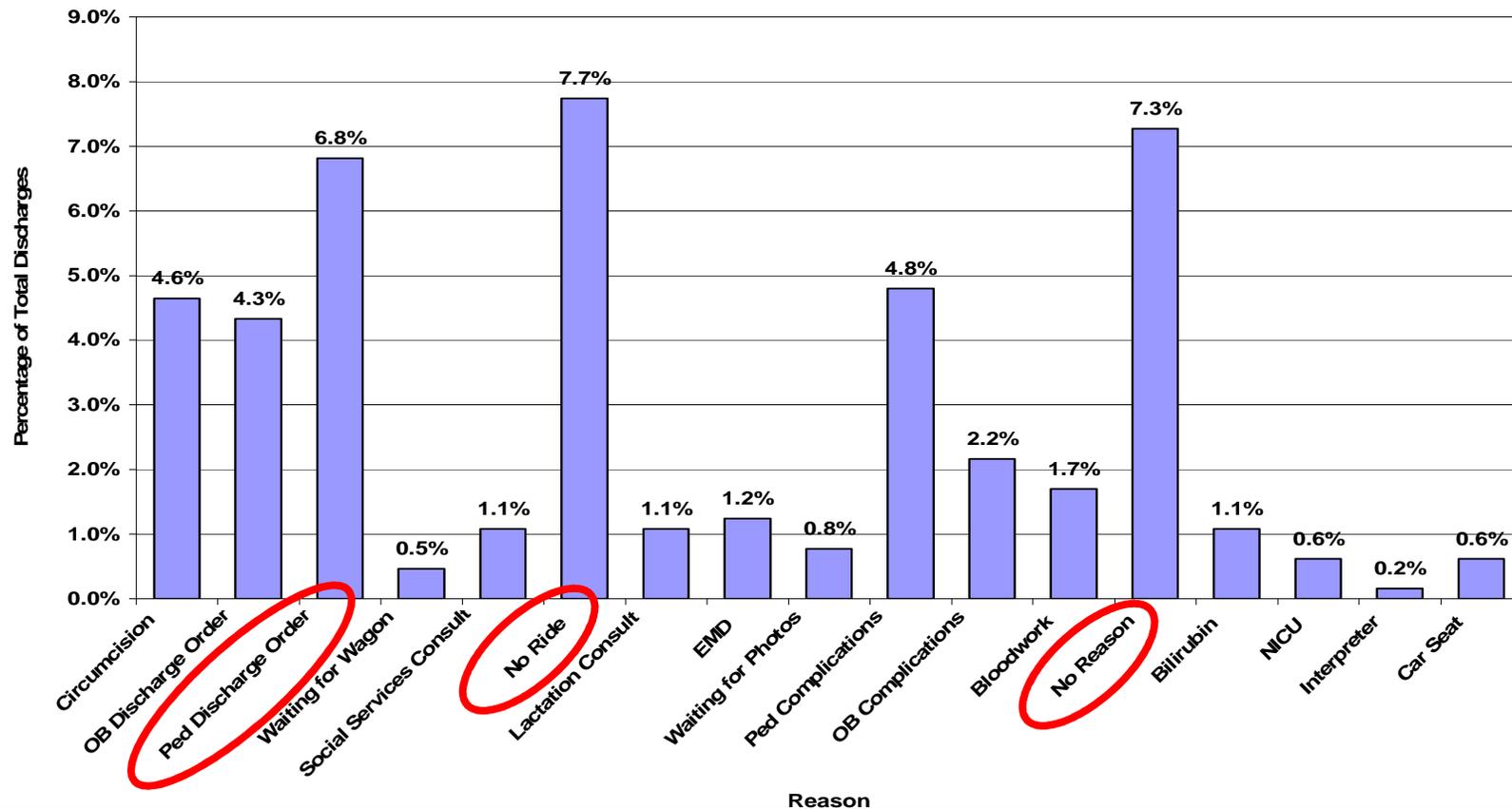
- Discharge time of day is late, usually after 1 PM - this creates boarding, bed capacity and staffing issues



Active Discharge Management



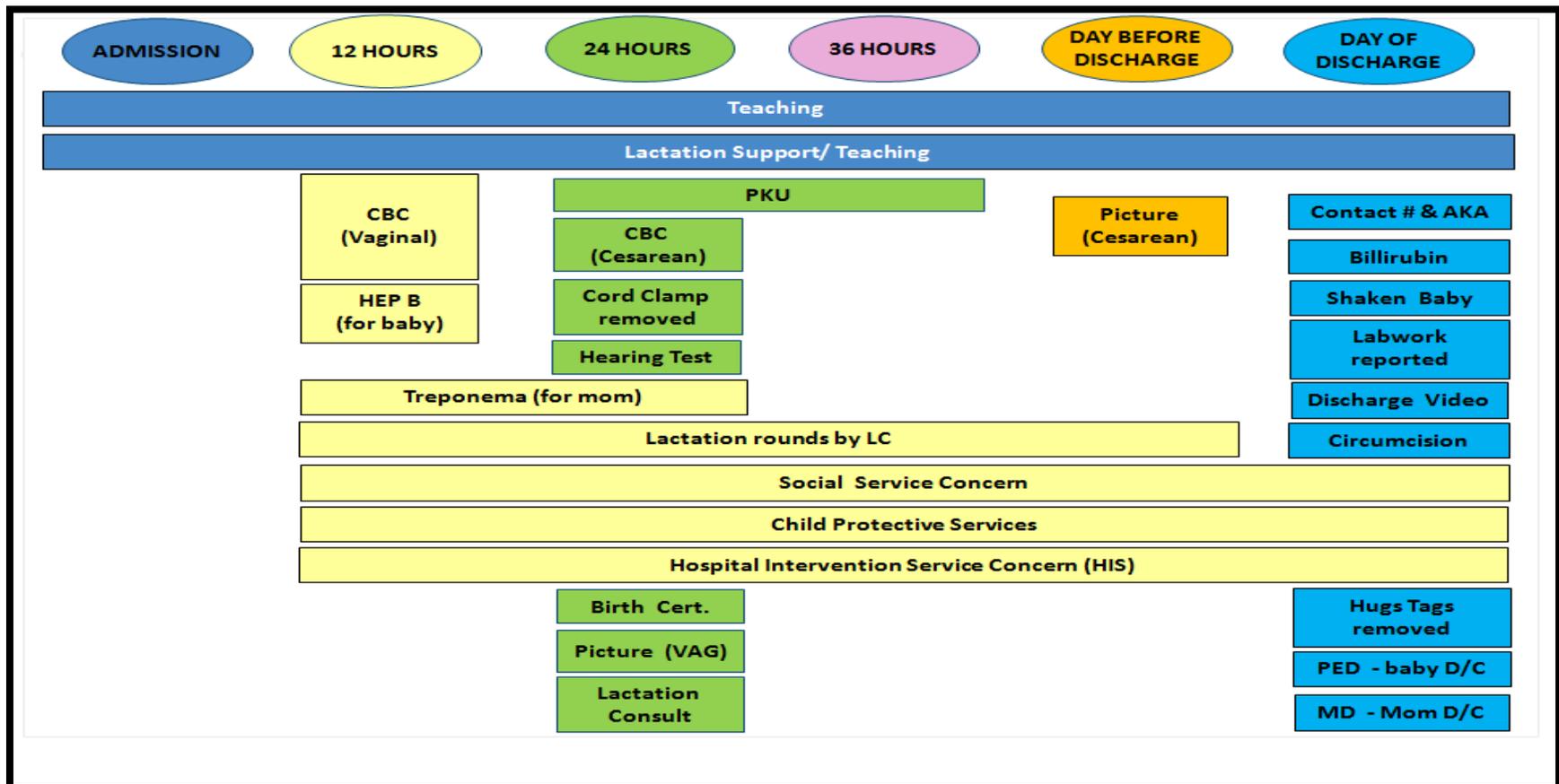
- Reasons for late discharge: Two week survey of patients still in rooms at Noon on their discharge day



Active Discharge Management



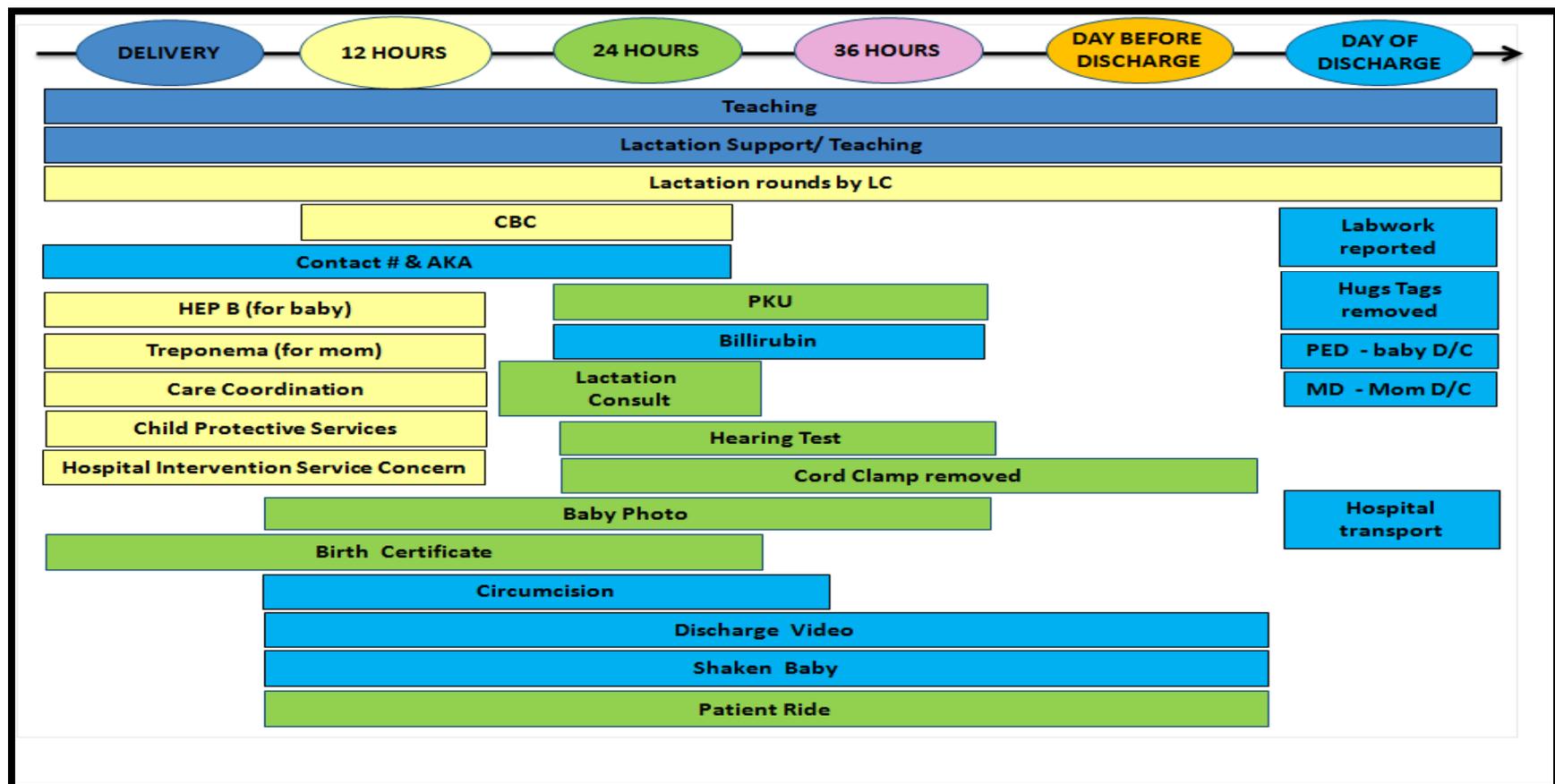
Discharge task management - BEFORE



Active Discharge Management



Discharge task management - AFTER





Active Discharge Management

- Itinerary to inform and set expectation with patient *
- Visual management tool for nurse managers

ELIUSON 13 ROOM #	PATIENT NAME		NURSES		EDUCATION		TESTING		DISCH DATE
	DAY	NIGHT	DAY	NIGHT	MOM	INFANT	PKU	BAER S	
1302A									
1302B									
1304A	Please clean								
1304B									5/23*
1306A									
1306B			Cheryl	Colleen	RHC				5/25
1312A									
1312B			Cheryl	Colleen	RHC				5/24
1314A									
1314B			Janeva	Kate	Revere				5/25
1316A									

Mr. Smith,

We would like to take this opportunity to congratulate you on your new baby boy and welcome you to the McDonnell-Bryant Women's Hospital. We are confident that you will enjoy your stay.

Below are a few phone numbers that you may find useful during your stay.

Home sleeping.....	Ext 6501
Birthing place.....	Ext 6502
Birth Certificate.....	Ext 6503
Nursing gift shop.....	Ext 6504
Social Services.....	Ext 6505
Women, Infants and Children.....	Ext 6506
Lactation.....	Ext 6507
Cafeteria.....	Ext 6508

As part of Women's Hospital's continuing effort to provide the highest level of patient satisfaction, we would like to inform you of some of the activities that will be occurring during your stay.

Scheduled Activity	Assigned Time Window
• Unsubstitution <i>(Coordinate you with your room and our facility and bring some important information to your attention)</i>	• Upon arrival in the Unit/Baby
• Patient Education	• Charging
• Vaccines Administration	• 401.07.10.15 am - 402.07.9.00 pm
• Diaper Change Instruction <i>(Information required for Louisiana Birth Certificate)</i>	• 401.07.11.15 pm - 402.07.1.30 pm
• Heating Blanketing <i>(A blanket blanket will provide a warm required blanket necessary for your newborn)</i>	• 401.07.8.15 pm - 402.07.9.00 pm
• Car Seat Testing <i>(Car Seat tests require you to bring your own car seat. Newborns will be administered under the car seat is safe for newborns with less than a 37" level overall seat size)</i>	• 402.07.8.15 am - 403.07.11.00 am
• Birthing Place	• 401.07.4.15 pm - 402.07.5.00 pm
• Contraception	• 402.07.8.15 am - 403.07.1.15 am
• Edmonton Testing	• 402.07.8.15 am - 403.07.8.15 am
• PEU and Genetic Counseling	• 403.07.8.15 am

Expected Discharge: June 23, 2007 between 8:15 am and 10:15 am. Please confirm your discharge time with your physician.

Complete this sign and enjoy your stay!

Summary



- The Lee and Jones Frameworks guides the management of population-based care
- Small-area variation studies help target opportunities
- Industrial engineers improve process management

Challenges



- Public Health
 - Lee and Jones Framework dramatically illustrates its importance

- Clinical Practice
 - Largely unmeasured
 - Not systematically managed



Questions ?



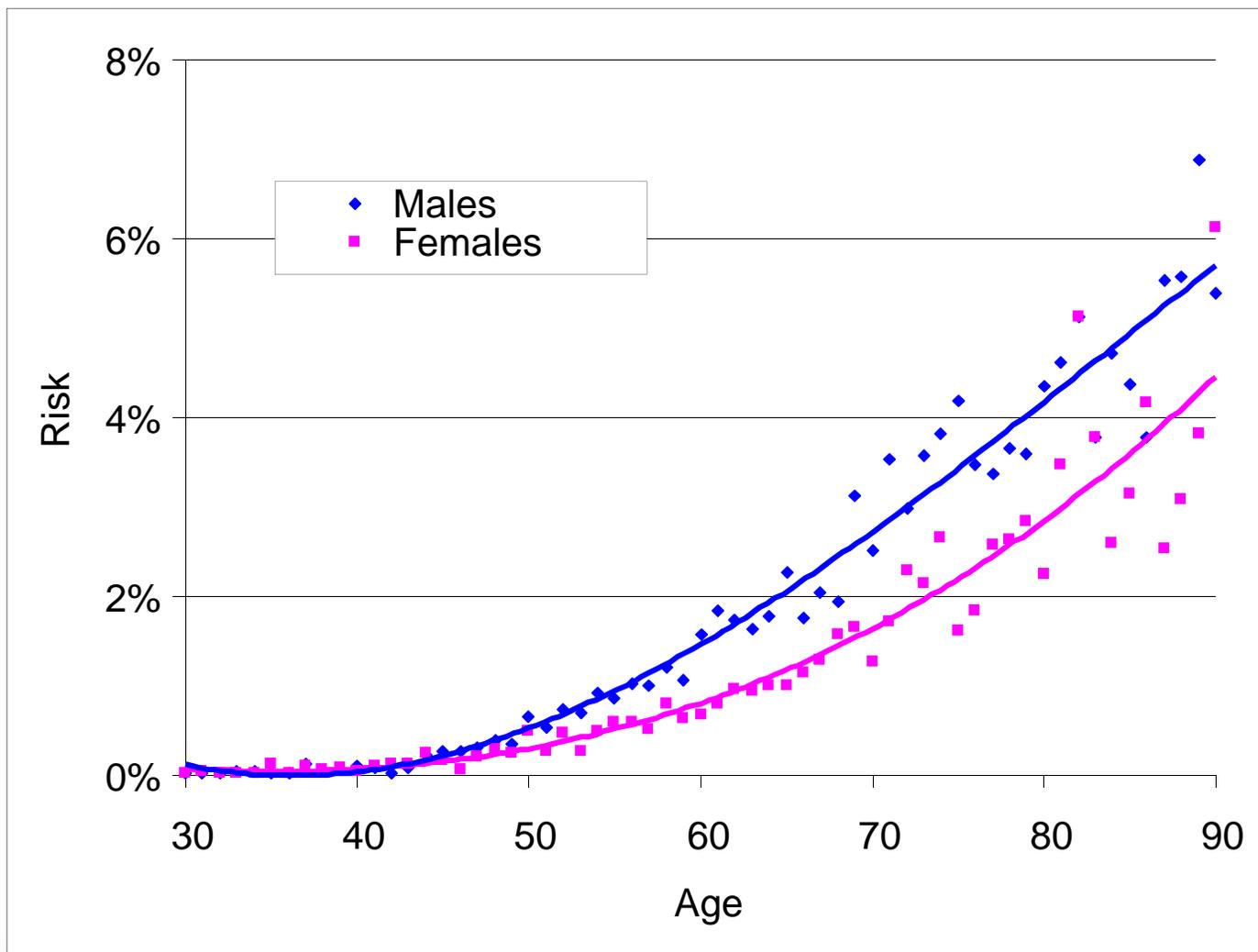
BACK UP SLIDES

Population



- Individual **enrolled** at one of the Navy “big 14”
 - Include purchased care
- Starting point: Visits or admissions with one of 88 qualifying ICD9 diagnosis
- Identify episodes of care
 - Collection of ambulatory visits and inpatient events
 - Each with a qualifying ICD diagnosis and DRG
 - In the same time frame
 - Fewer than 90 days between successive ambulatory encounters or inpatient admission
- Keep severe episodes where primary complaint is heart disease

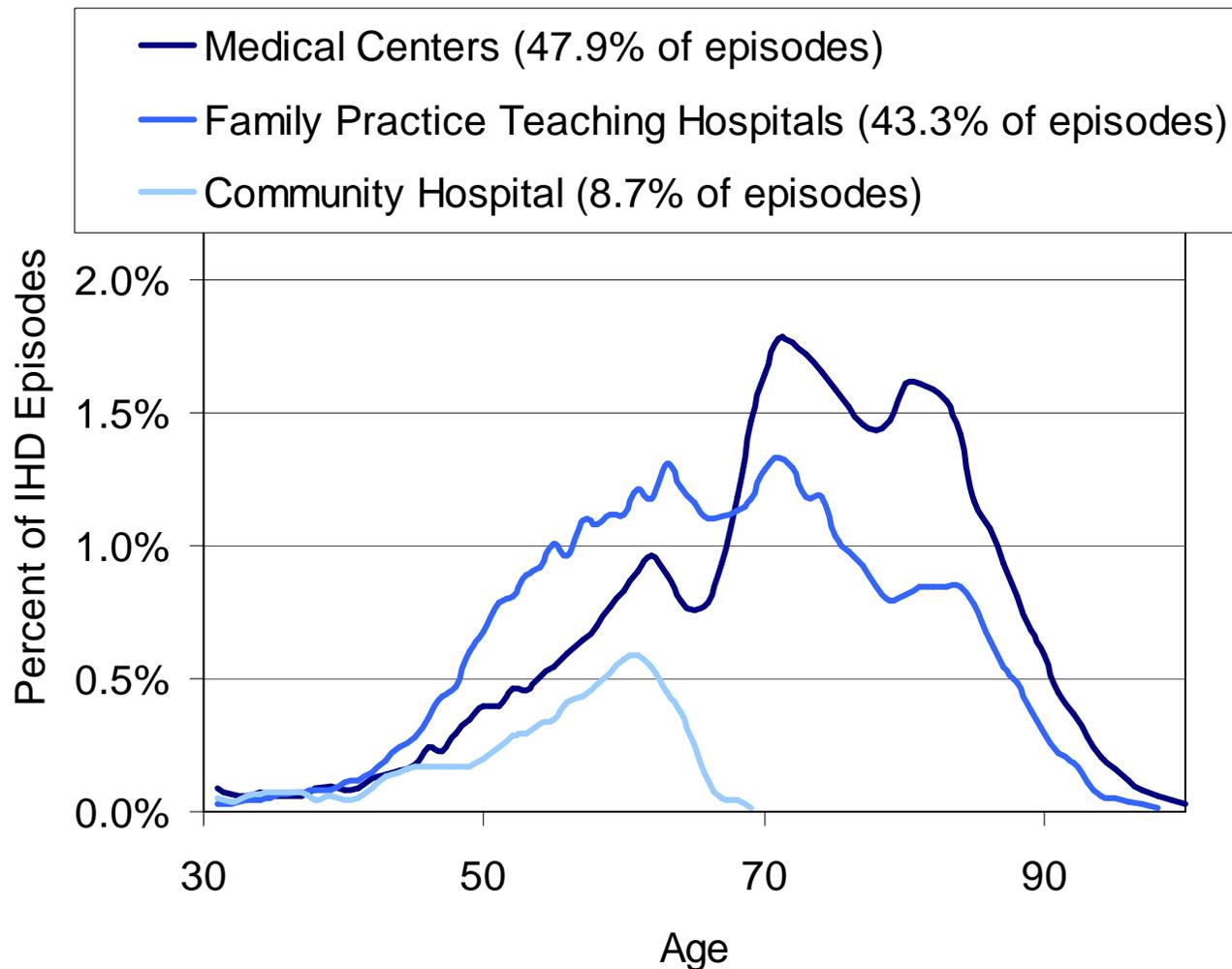
Percent of enrolled population with an IHD episode, FY07-FY08



Beneficiary population varies by facility type



Medical Centers: 26% "Plus" enrollees – Family Practice Teaching Hospitals: 16% -- Community Hospitals: 1%



IHD care provided in MTFs

