Rehospitalization Data: A Primer for Clinicians

Prepared for Project STAAR

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Purpose of this session:

To help clinicians, both hospital-based and in the community, to understand how data can help them in reducing preventable rehospitalizations.

At the end of this session you should be able to:

- Explain what the rehospitalization effort is about.
- Define some key terms.
- Discuss the causes of rehospitalization.
- Discuss the evidence on preventability.
- Discuss the relevance of risk adjustment.
- Discuss the uses of patient/caregiver input.
- Discuss measuring improvement.

Prologue:
Why rehospitalization matters

- Cost: ~$17 billion for Medicare and perhaps as much again for others, 20%-40% avoidable.
- Suffering: 5 million rehospitalizations a year.
- Preventable: 1-2 million preventable with current knowledge.
- Symptom of care fragmentation, which strategies like the medical home also address.
- A form of unsafe care.
- Momentum for change, including legislation.

Affordable Health Care for America Act

- Reduces Medicare payments to hospitals with "excessive readmissions", starting in FY2011.
- Current CMS measures appear the likely starting point.
- Potential penalties rise to 5 percent by 2014.
- Secretary has growing discretion through 2014.

Other evidence of growing momentum

- 500-1000 hospitals engaged in collaborative projects to reduce rehospitalization
- 14 communities (QIOs)
- 3 states (STAAR)
- Growing recognition that this is not just a Medicare problem.

Causes of Preventable Rehospitalization

- About 90 percent of all rehospitalizations seem to be related to the index hospitalization, and not be part of a treatment plan.
- The majority of rehospitalizations are not for the principal diagnosis of the original hospitalization (exceptions: chemotherapy and psychosis.)
- 70 percent of post-surgical hospitalizations are for medical reasons – largely conditions like pneumonia, heart failure, and gastrointestinal that cause most hospitalizations in the elderly.

Safety: A population at high risk

- 19.6% of live Medicare fee-for-service discharges are rehospitalized within 30 days.
- Two-thirds of Medicare fee-for-service medical discharges are rehospitalized or dead within a year.
- Half of Medicare fee-for-service surgical discharges are rehospitalized or dead within a year.

Aim of effort

- Many rehospitalizations result from care system failures in the transition from hospital to the next source of care.
- These care failures allow, and sometimes cause, clinical deterioration that leads to rehospitalization.
- The failures reflect a lethal system design flaw.
- Our aim is to fix the system to prevent these care failures so the patient does not deteriorate and need rehospitalization.

Terms

- Measurement system
- Rehospitalization rate
- Index/“At risk” discharge
- Rehospitalization or readmission
- Clinically related
- Potentially preventable

Rehospitalization rate

$$\text{Rehospitalization rate} = \frac{\text{rehospitalizations}}{\text{at-risk discharges}}$$

Determining which discharges are at risk and which rehospitalizations to count is complex and requires a system, not just a formula.

Three Measurement Systems

- CMS (Yale). Complex, public domain.
- Strengths: Strong risk adjustment. NQF-endorsed. In health care reform legislation.
- Weaknesses: Only 3 conditions; designed for Medicare and hard to do on other data sets; sample sizes too small to track change over time; no exclusions for planned rehospitalizations. Weaker than CMS and UHG in tracking change/measuring differences.

Three Measurement Systems

- PPR (3M). Complex, proprietary.
- Strengths: model makes sense to clinicians; widely known.
- Weaknesses: Many exclusions, some debatable, produces low rates, not NQF endorsed; stronger than CMS but weaker than UHG in tracking change/measuring differences.

Three Measurement Systems

- UHG (Pacificare). Simpler. Effectively public domain.
- Strengths: simplicity, easy implementation; NQF-endorsed.
- Weaknesses: Almost no exclusions, even for elective procedures and chemotherapy; risk adjustment less sophisticated. Stronger than CMS and UHG in tracking change/measuring differences.

Index hospitalization = "At risk" discharge

- Patients discharged dead are not at risk for rehospitalization; patients transferred to another hospital are the receiving hospital's risk.
- Some measurement systems exclude rehospitalizations from index discharges.
- Some exclude patients with diagnoses at very high risk for rehospitalization such as major malignancy with metastasis.

Rehospitalization/readmission

- Most systems use a 15-day or 30-day window.
- Most measurement systems do not count rehospitalization for rehabilitation.
- 3M's PPR system only counts rehospitalizations that their consultative process has identified as plausibly preventable.
- Other systems (CMS, UHG) count essentially all rehospitalizations for whatever reason.

Risk adjustment

- For publication and payment you want a method that produces valid comparisons. You could miss classes of preventable rehospitalizations without damage. Objective definitions and risk adjustment are vital.
- For improvement you want a method that is sensitive, even at the risk of false positives. Comparability across providers and communities is nice but not necessary. Risk adjustment is not much help.
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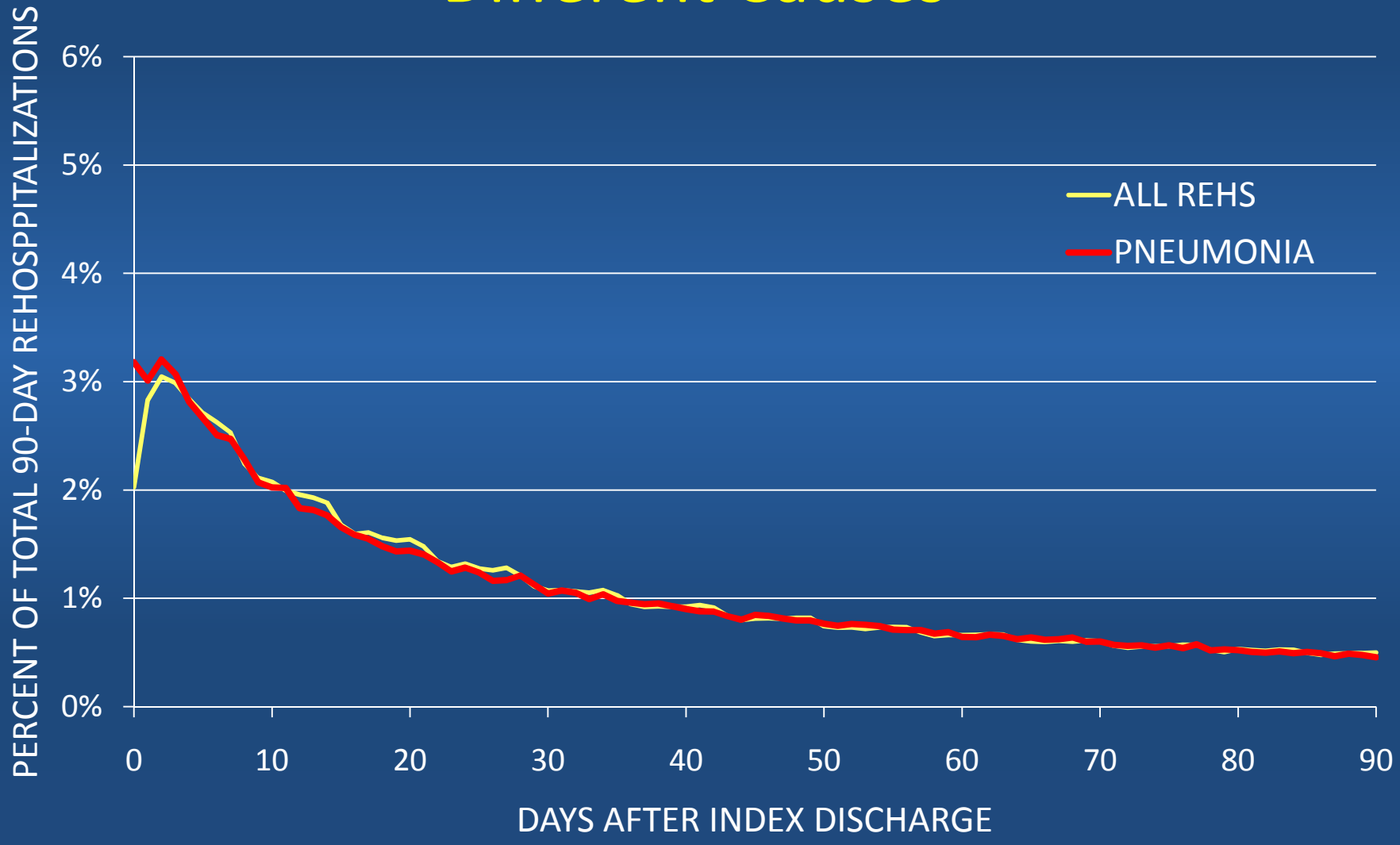
Clinically related

1. A rehospitalization that is a product of the disease process that caused the index hospitalization, or, indirectly
2. A product of the care or risks associated with that hospitalization, or, therapeutically
3. Intended to complete care initiated during the index hospitalization.

Note: 1 and 2 may be preventable. Preventing Reason 3 is not within scope of the aim (Slide 5).

Patterns of Rehospitalization for Different Causes



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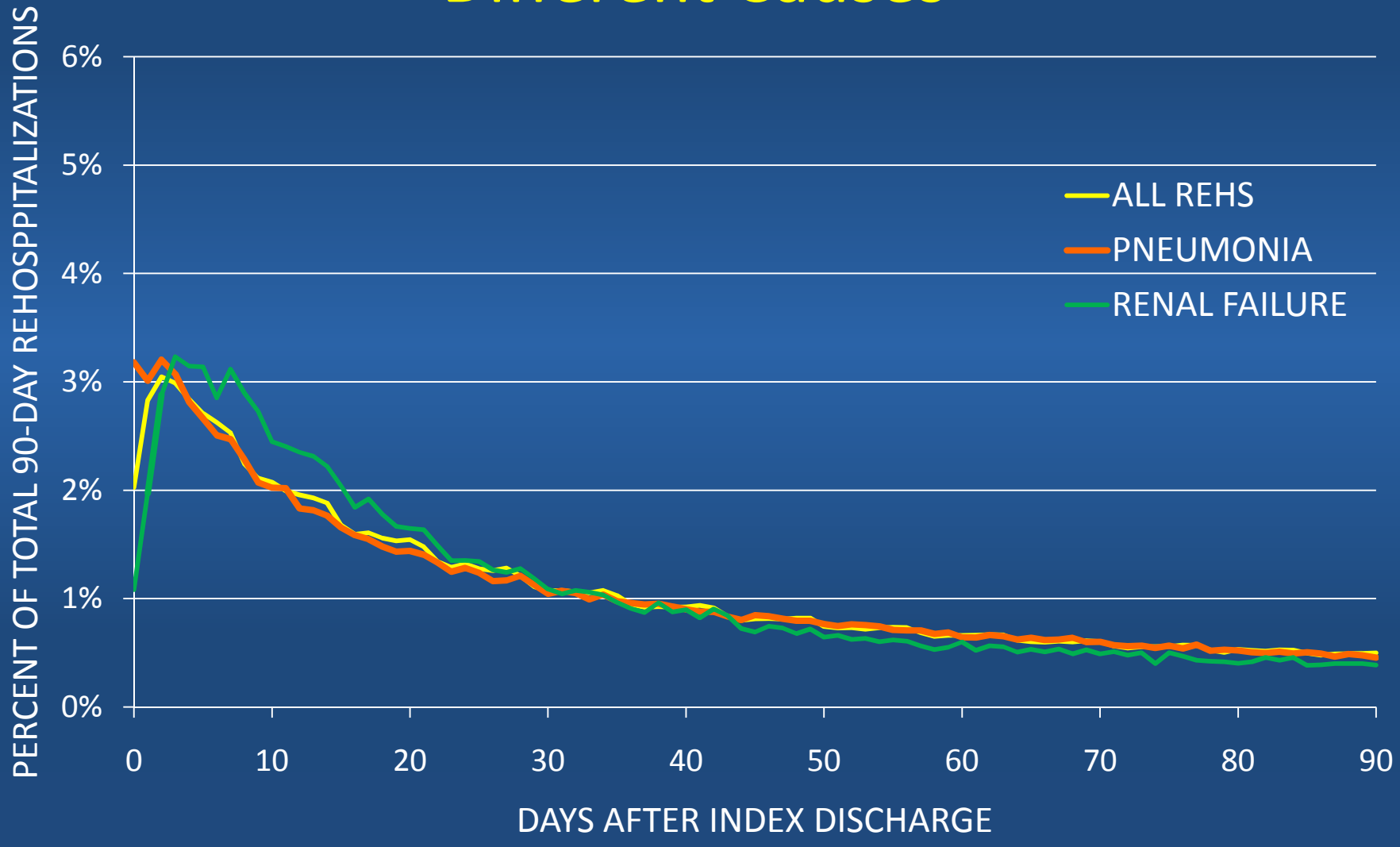

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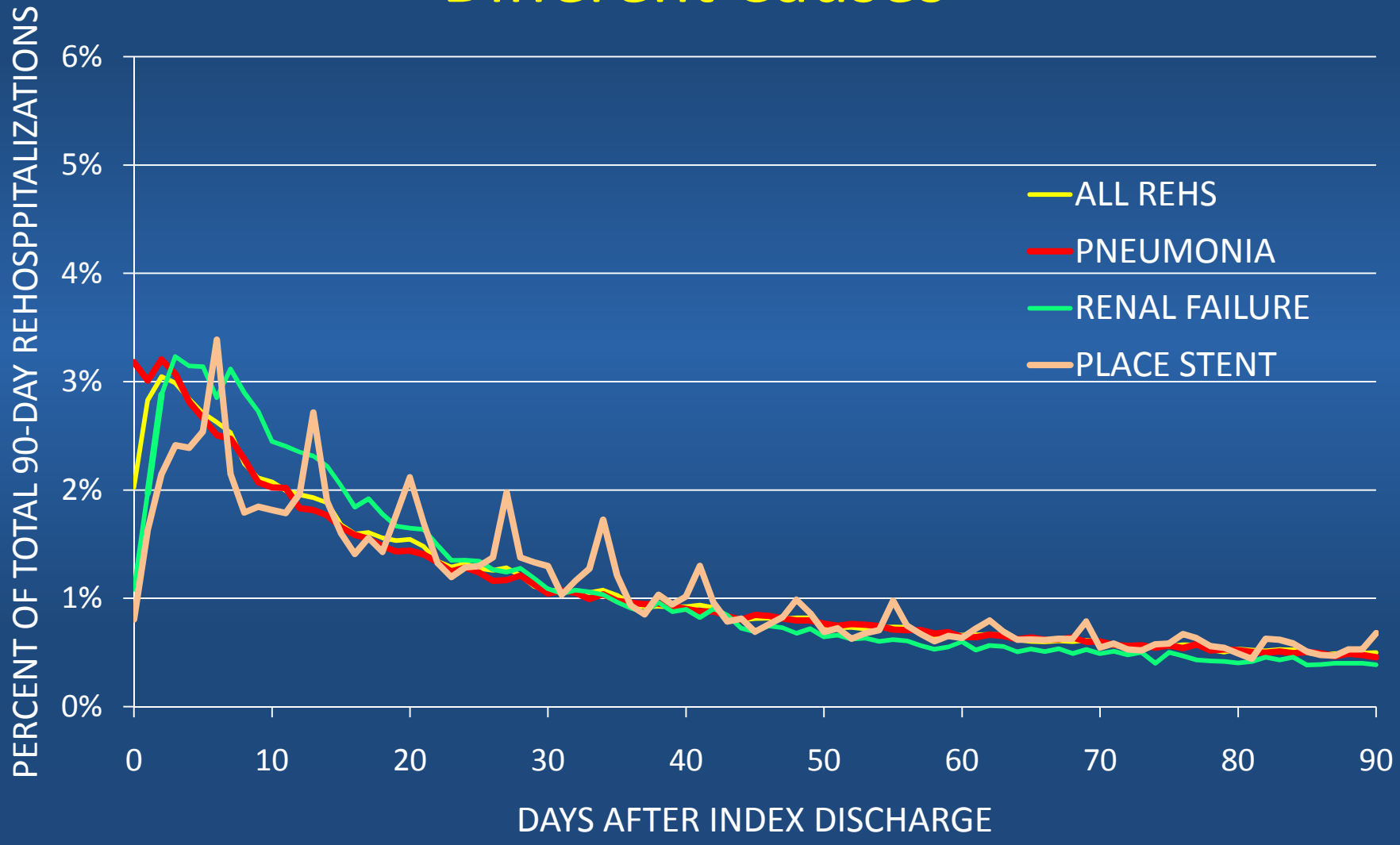

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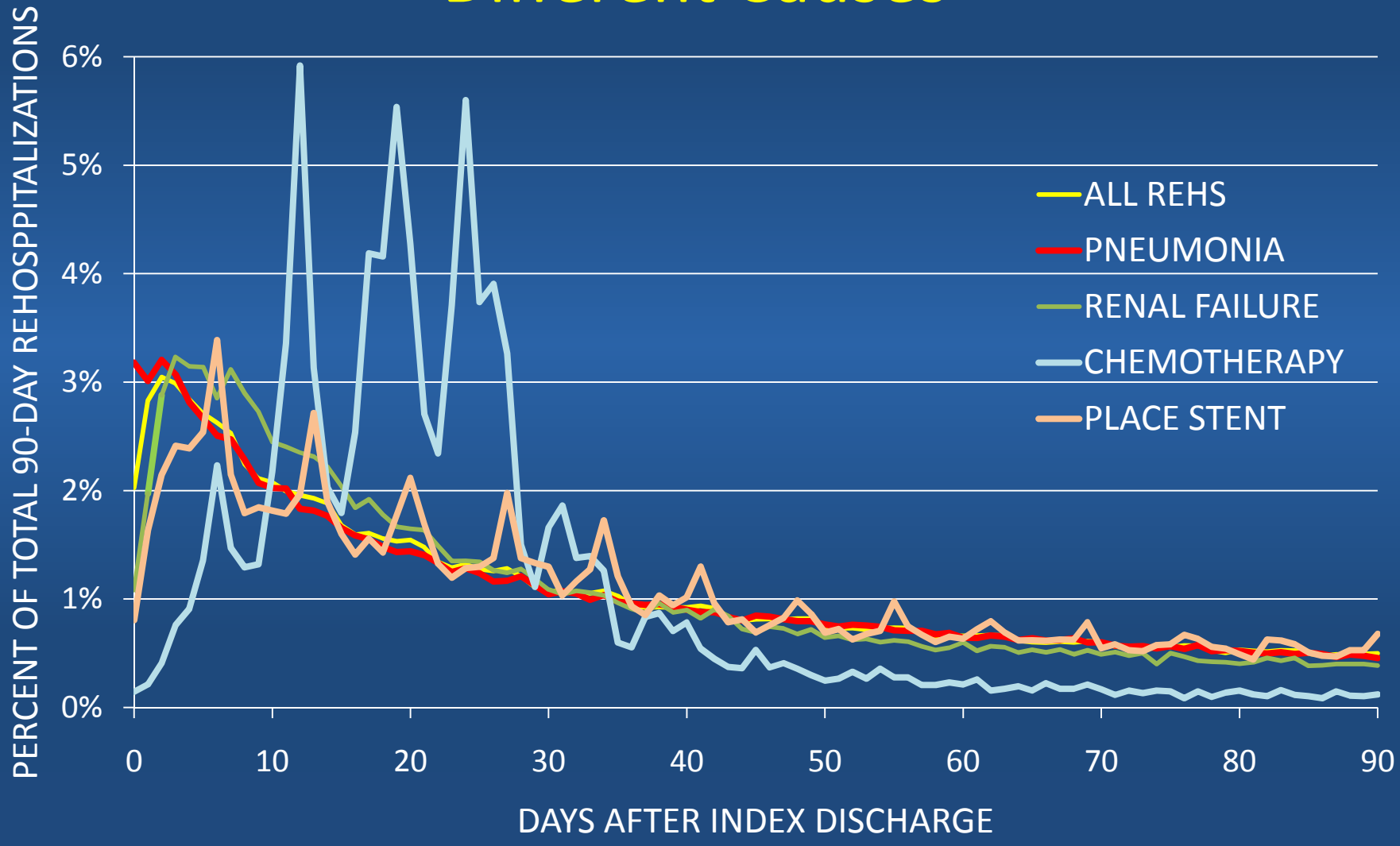


A practical rule for clinicians

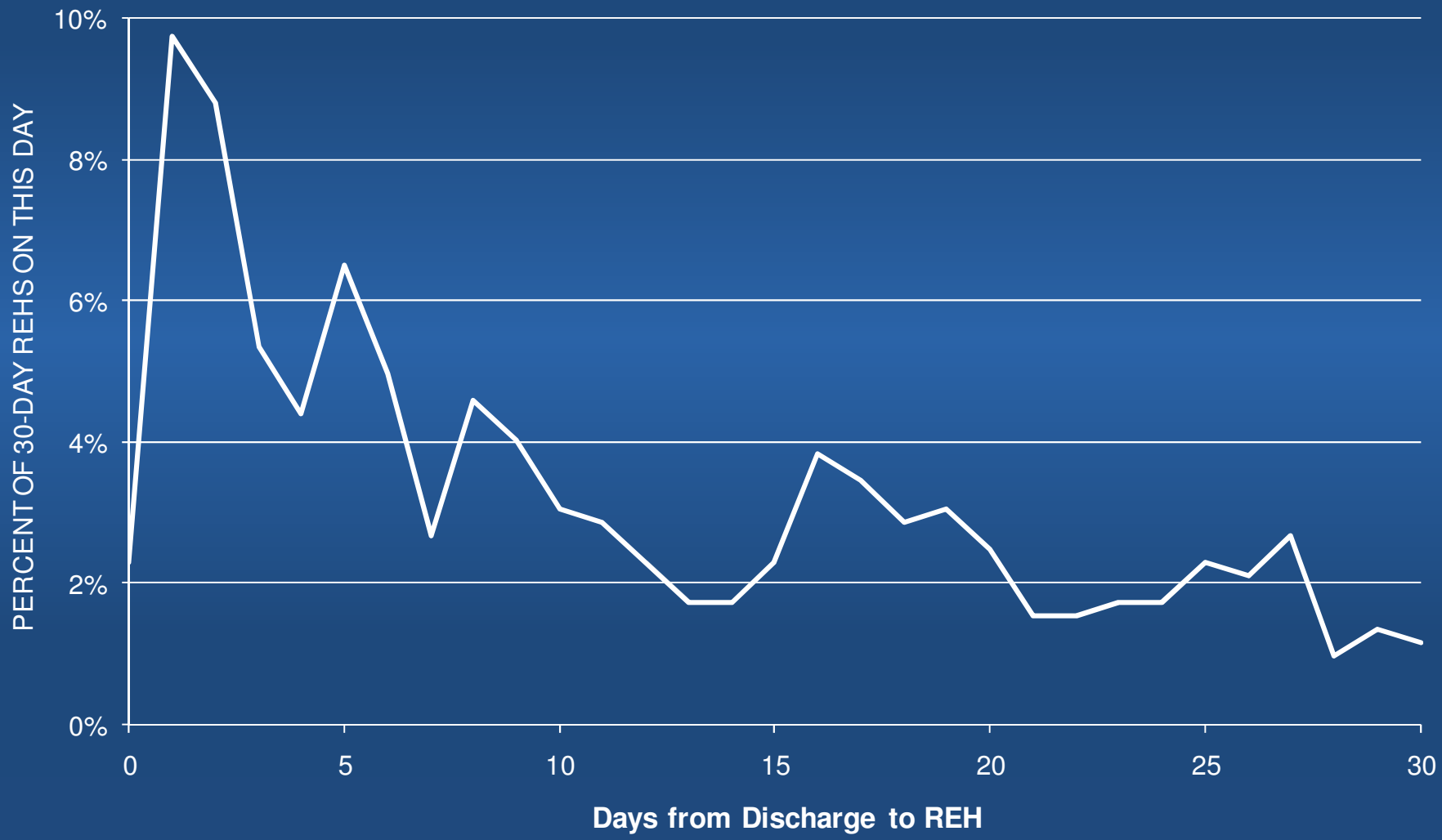
If a reason for rehospitalization is more frequent in the days immediately after discharge then it is likely that many of the rehospitalizations are clinically related to heightened risk at the time of discharge.

Potentially preventable

- A rehospitalization is potentially preventable if
- a) it is clinically related to the index hospitalization and
- b) many such rehospitalizations could have been prevented by better acute, transitional, or post-acute care.
- c) rehospitalizations for elective procedures or for planned continuation of care are not included here.

Pattern of Rehospitalizations for Stroke

Daily and Cumulative



Application

- You can't do curves like these with data available at one hospital; you may be able to get state or national data, but
- If you could, 90% of the reasons for rehospitalization would have curves like pneumonia.
- If you want to do a calculation like this, just divide the number of rehospitalizations in days 1-10 by the number in days 10-30.

Patient experience

- Discharge-related elements get terrible scores on patient surveys.
- The patient and family/caregiver are the most valuable source of information about how well the discharge worked and why rehospitalization occurred.
- Medical records do not commonly record the problems and failures.

Approach

- You need information that only patients and caregivers can give you.
- Your admissions unit should be able to give you a daily list of persons admitted in the last 24 hours who had been discharged in the last 30 days.
- Just go and talk to some of them about what happened and why they are back.
- IHI has a tool to help.

Using Public Data

- Only public data can tell you about rehospitalization of patients in hospitals other than the discharging hospital.
- You can do a great deal by working on and reducing rehospitalizations in the discharging hospital, but public data can alert you to classes of discharges that may be different.
- The manager of public data can usually tell you the hospital(s) where most of your patients are rehospitalized.

Some things data can do for clinical improvement

1. Tell you how many of your discharges are rehospitalized (almost always more than clinicians think)
2. In particular, inform surgeons, who are often not informed when their patients are rehospitalized for medical reasons.
3. Identify clinical (such as medication problems) and nonclinical (such as failure of follow-up)

Measuring improvement.

- If we reduce rehospitalizations we expect to reduce total hospitalizations and therefore, also, at-risk discharges – that is, both the numerator and the denominator of the rate.
- If we reduce at-risk discharges, changes in the rehospitalization rate become almost uninterpretable.
- Over time, the number of rehospitalizations will be more informative than the rate.

A practical algorithm for clinicians

- If the rate of rehospitalizations is declining, you are making progress unless the total number of at-risk discharges is rising.
- If the number of rehospitalizations is declining you are making progress unless the population you serve is also declining.
- If you are caring for a population rehospitalizations per person is generally a good way to track progress.