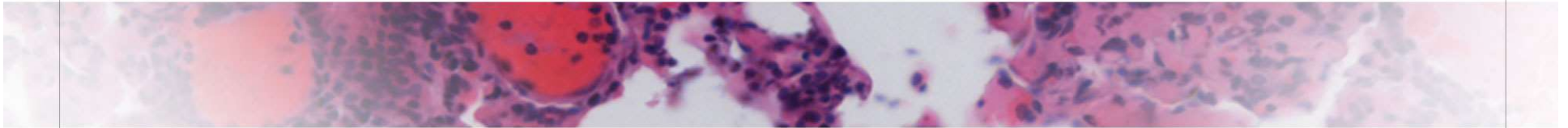




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## Data Analysis and Reporting - Review

ASH SCD Workshop Year 2 Cohort

**Janis Bozzo, MSN, RN**

**Sr. Innovation Scientist**

**Yale New Haven Health**

# Content

- Approaches to improving financial outcomes
- Examples of data display and tracking



# Overall Strategies to Improve Financial Outcomes

- **Best: New revenue**
  - May be difficult to achieve for SCD population
  - Explore potential 340B-eligible outpatient meds/infusions
- **Next best:** Reduction in financial loss
- **Associated corollaries:** Backfill and downstream utilization

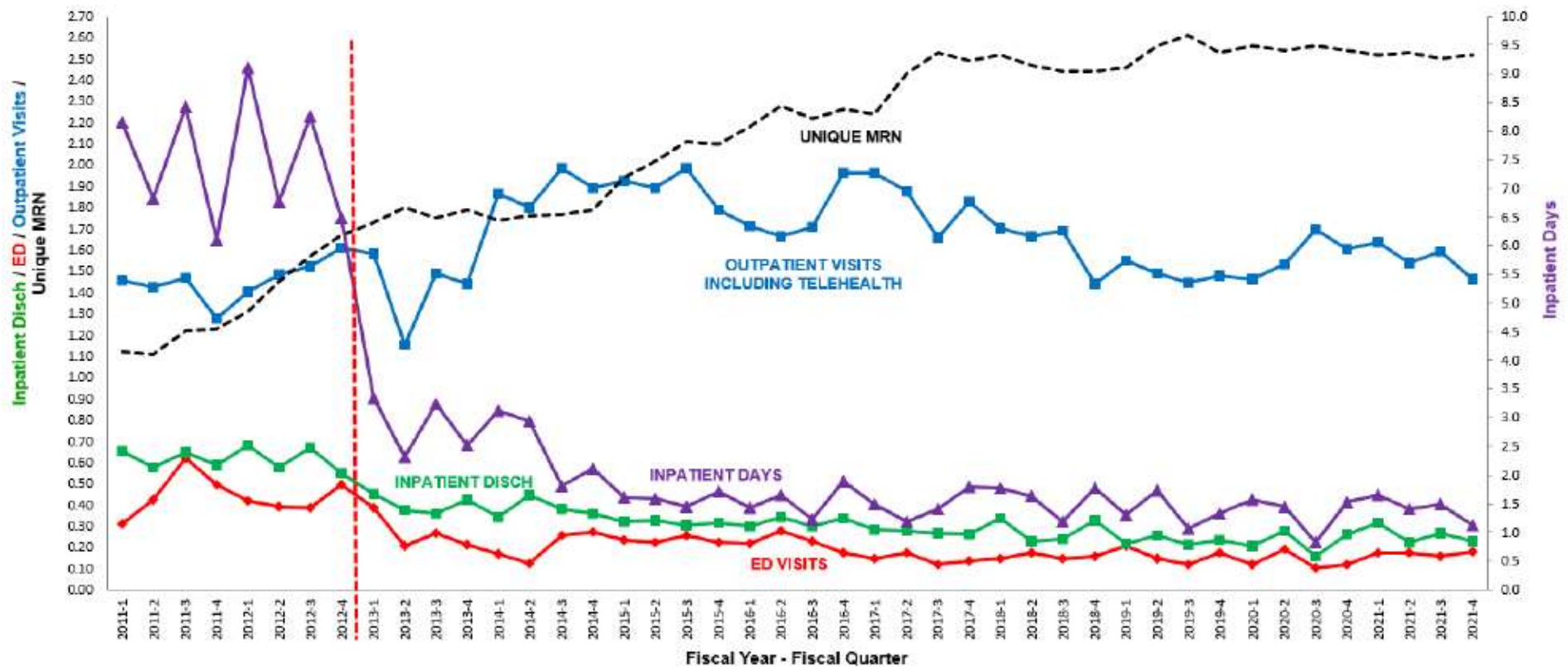


# Inpatient/Outpatient Visit Volumes & LOS

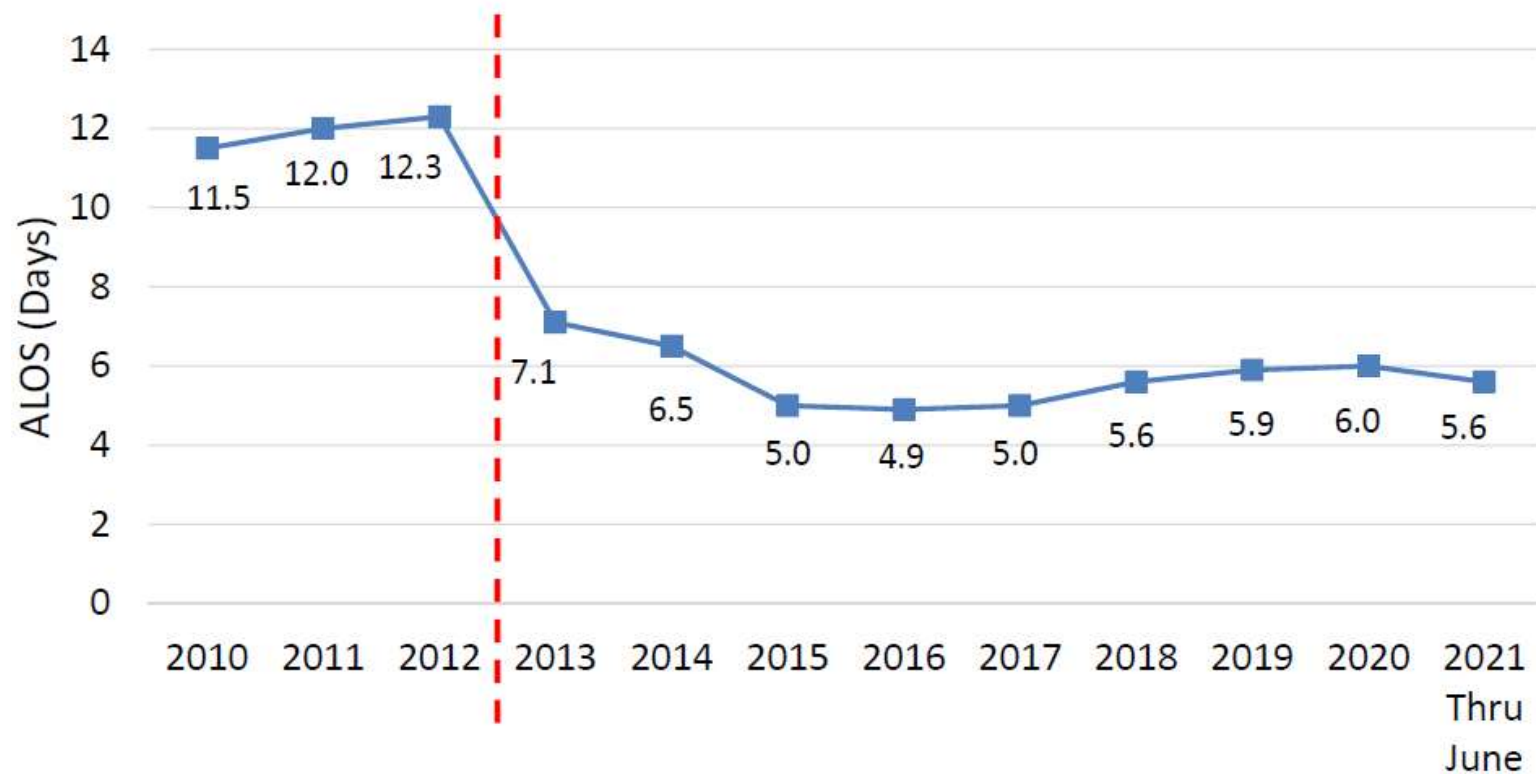


## Outcome Measurement: Adult SCD Program Visit Volumes

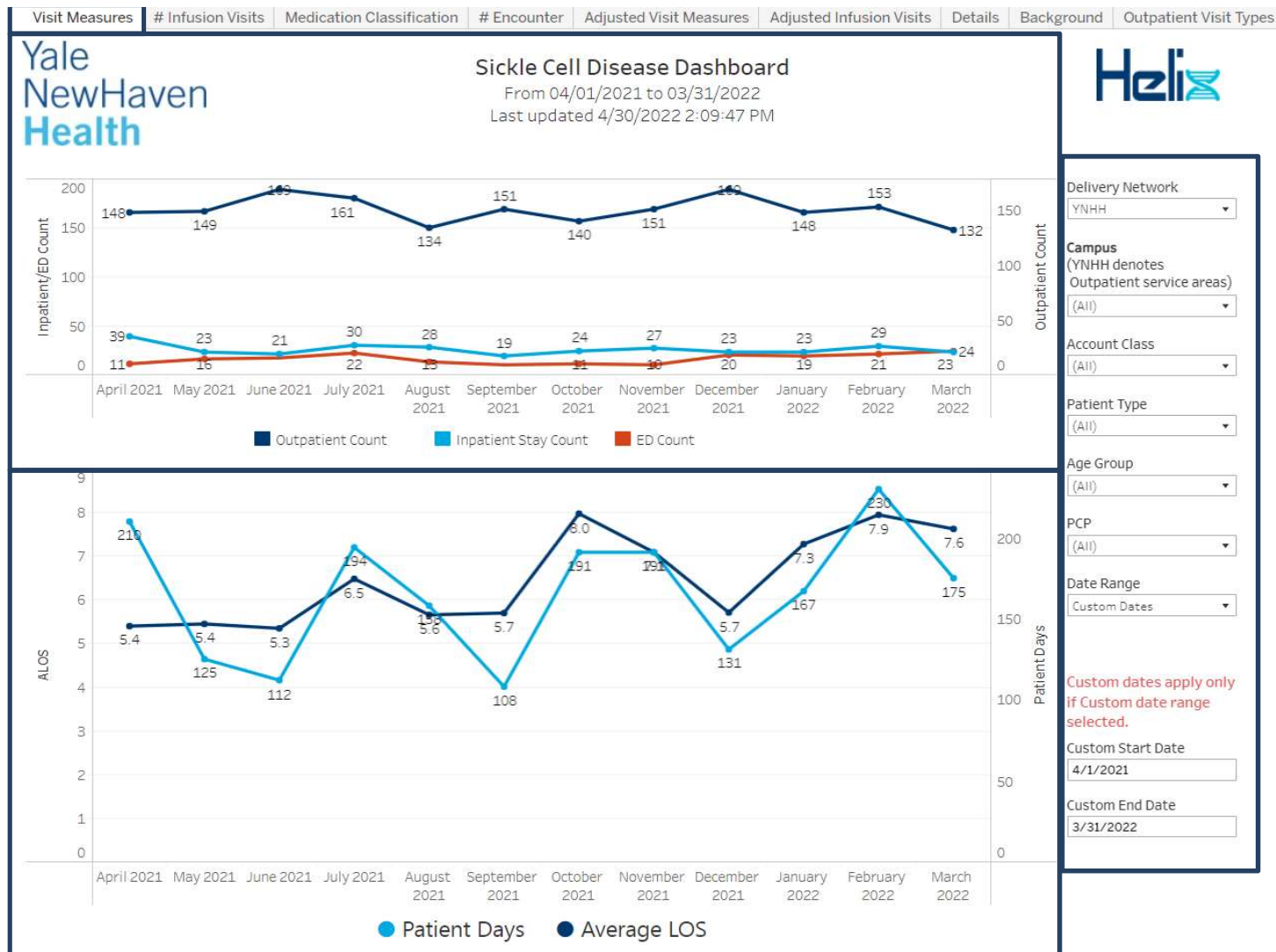
Adjusted for number of unique individuals



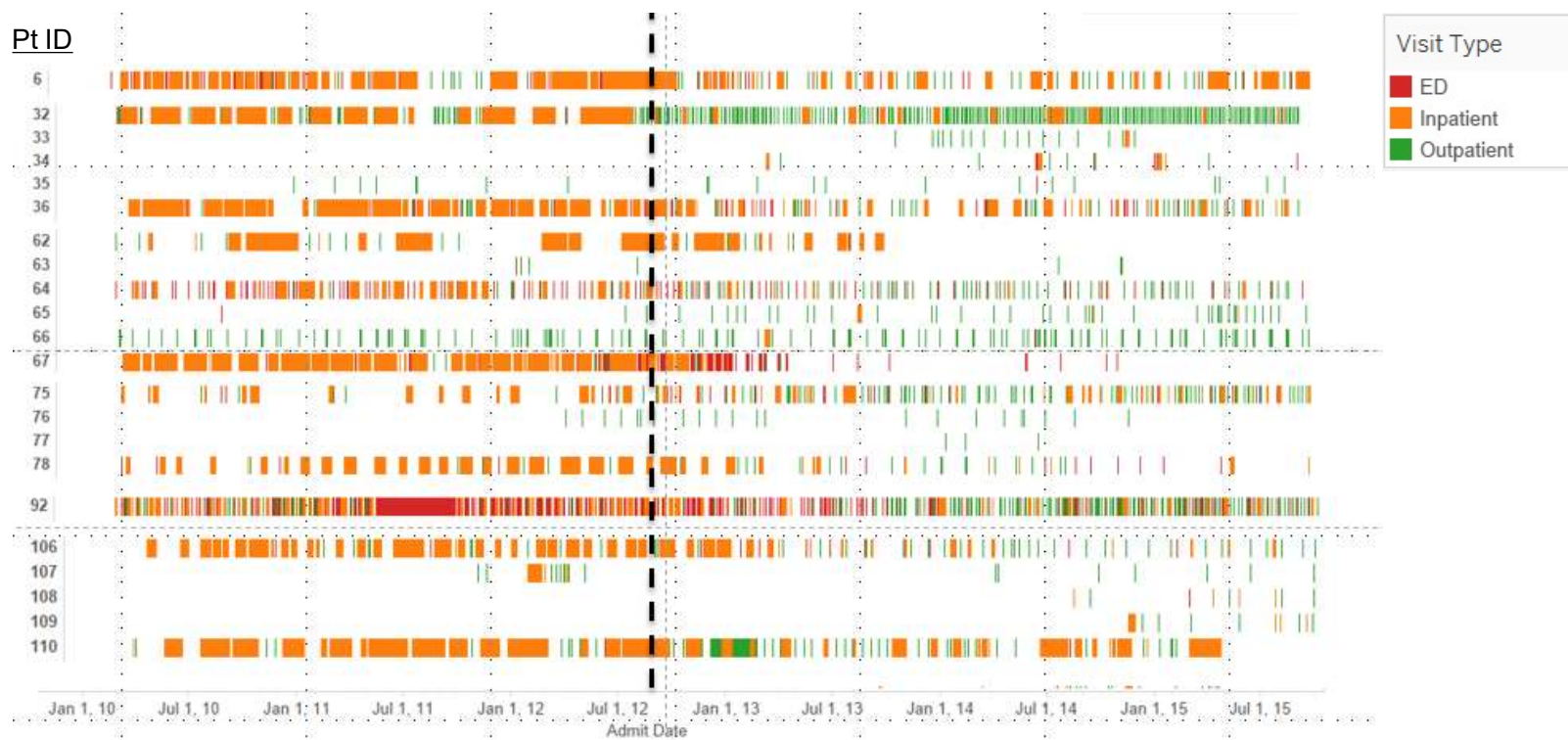
## Outcome Measurement: Inpatient ALOS Reduction



# Online Dashboard



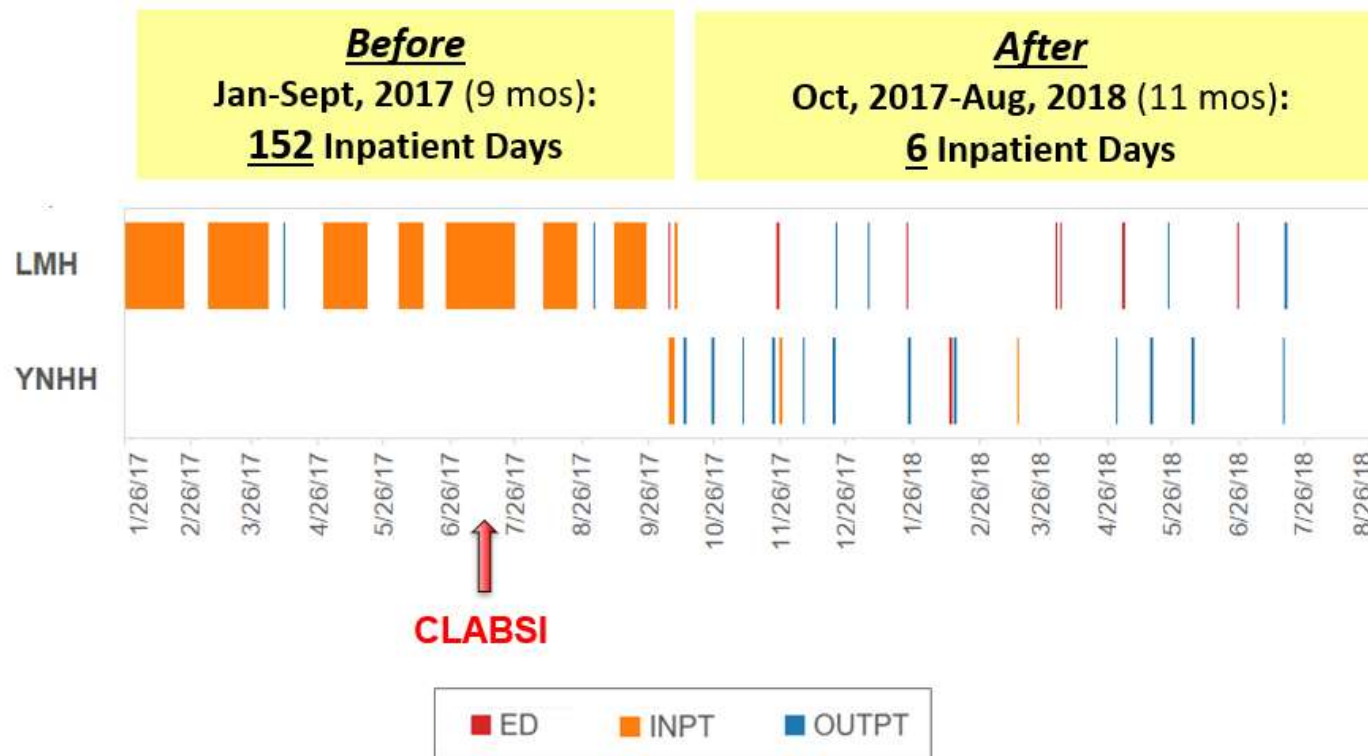
## Outcome Measurement: Patient Level Visit Volumes





# Measuring Outcomes: “Patient Story”

## Longitudinal Analysis of One Patient’s Visit Patterns



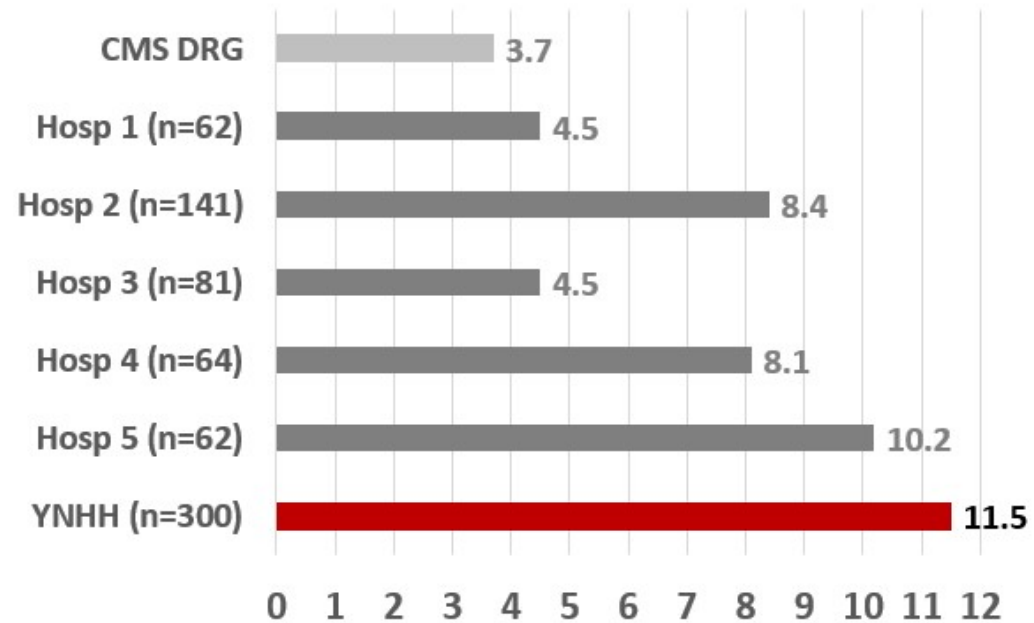
CLABSI, central line-associated bloodstream infection



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# Benchmarking

## Inpatient ALOS Benchmarks for Adults with SCD - 2010



Connecticut Hospitals with > 60 adult inpatient discharges in FY 2010

*Data Source: Connecticut Hospital Association CHIMEData*

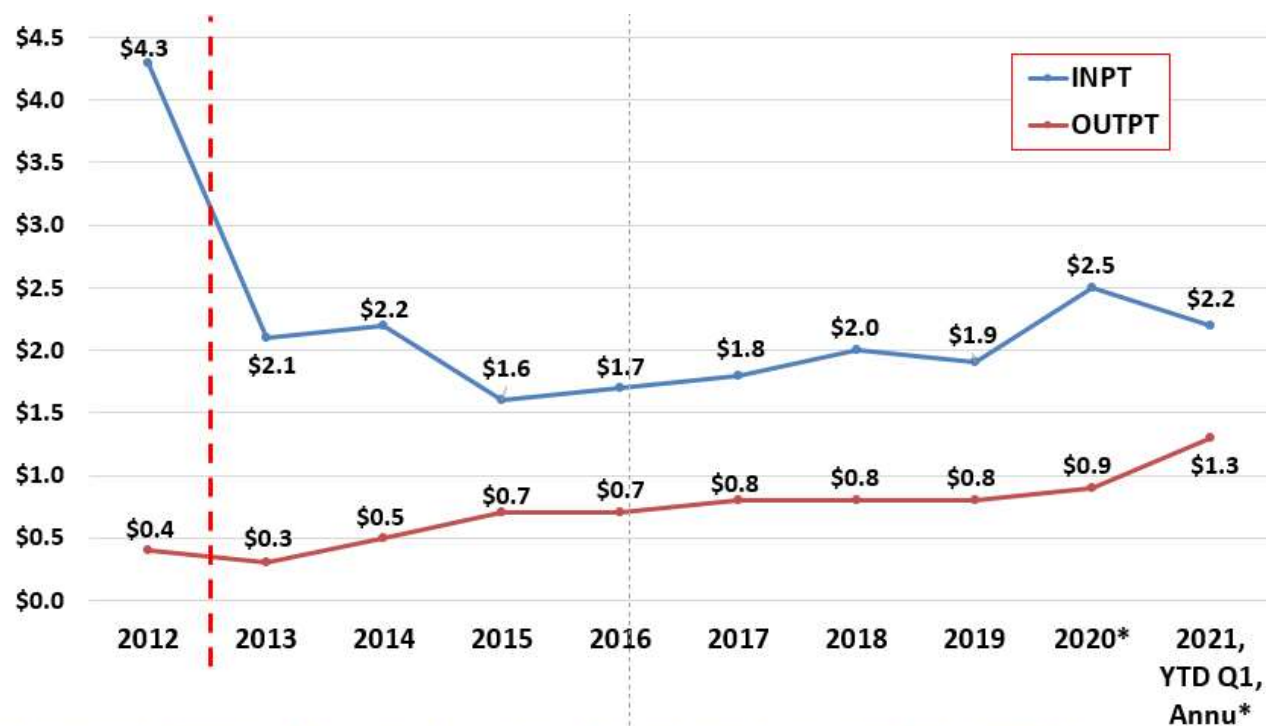


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# Financial Outcome Metrics



## Outcome Measurement – Cost Per Year (in Millions)



*\*The inpt adult SCD inpt Nsg unit changed to a "Covid" unit during FY20 Q3 - FY21 Q1, and Covid(-) SCD inpts were managed on other inpt Nsg units, by non-SCD staff. Additionally, indirect-direct cost allocation methods changed in FY21.*



## Outcome Measurement – Cumulative Cost Reduction

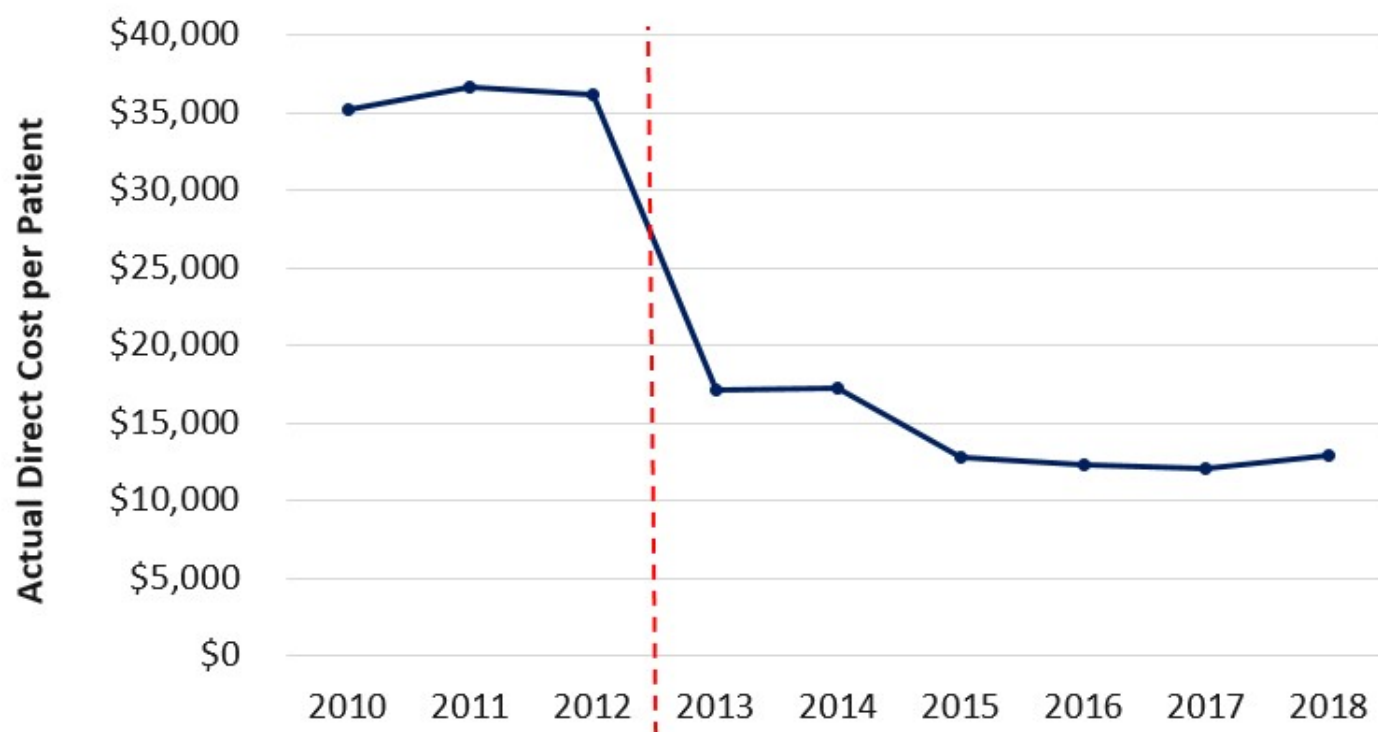
*Cumulative Savings over 6 years, FY 2013-2018\*:*

- **Inpatient** direct cost decrease: **\$14.8M**
- **Outpatient** direct cost increase: **\$1.8M**
- Total **Inpatient and Outpatient**:  
**\$13.0M** in cumulative savings

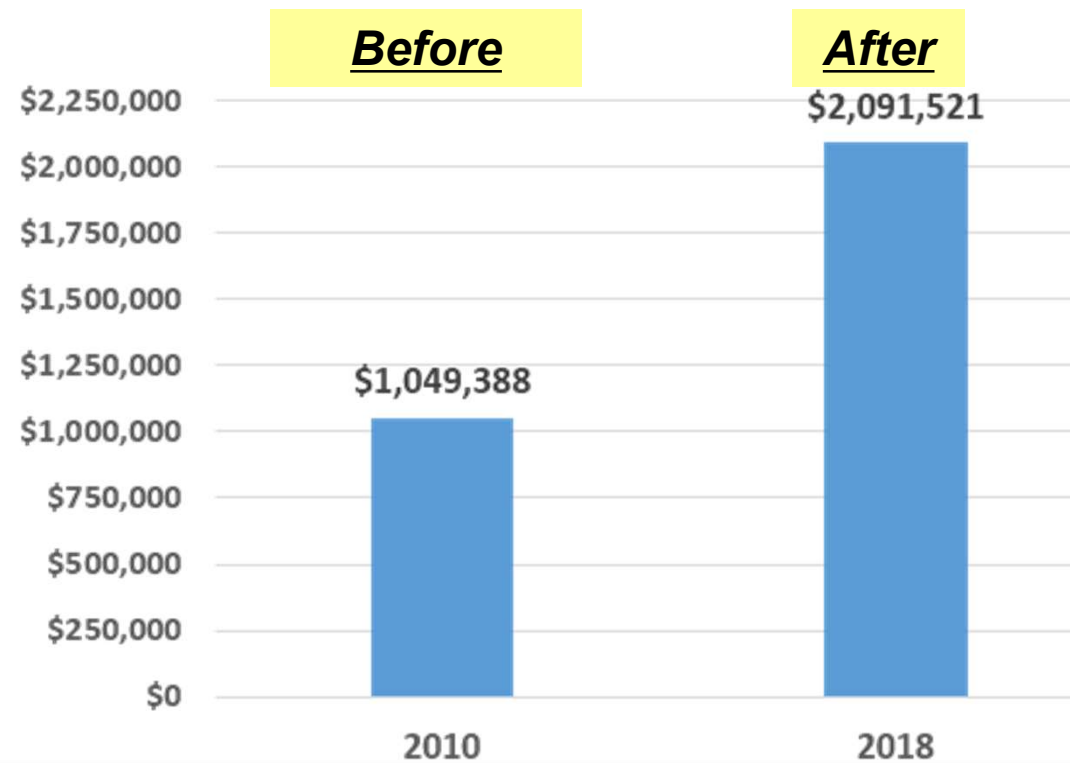
\*Sum of costs for each year, 2013 to 2018, minus cost of baseline year, 2012.



## Population View: Cost per Patient



## Financial Outcomes - Revenue: Inpatient Contribution Margin

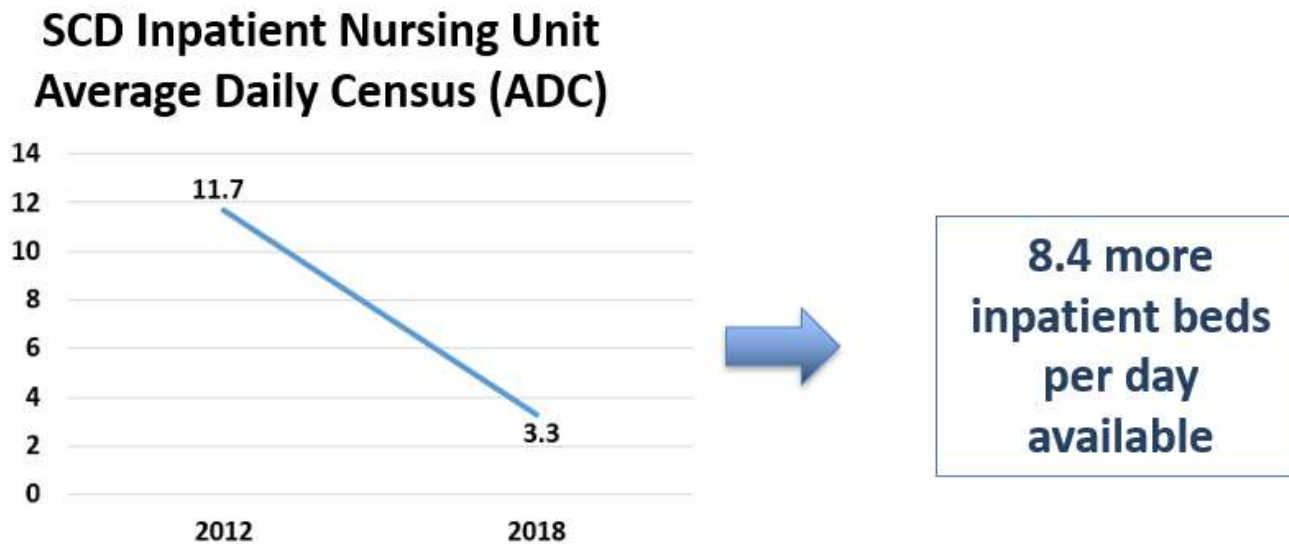


# Potential Revenue Opportunities: Backfill and Downstream Utilization





# Revenue Opportunity from Freeing Up Inpatient Beds



## Opportunities:

- Move patients out of Emergency Department
- Avoid elective admission delays
- **Backfill** – Potential incremental revenue



# Example of “Backfill” Calculation

1. Start with **N=100 Sickle Cell Disease (SCD)** inpatient discharges
2. An Average Length of Stay (ALOS) reduction produces a **0.75 day reduction** per discharge.
3.  $0.75 \text{ days per discharge} \times 100 \text{ discharges} = \mathbf{75 \text{ “freed up” days}}$
4. Estimate based on patients who are hospitalized on similar inpatient units to those of the patients with SCD
  - For example, if patients with SCD typically reside on general medicine units (ALOS = 5.0 days)
5. **15 newly available inpatient hospitalizations** for general medicine discharges
6. Assume the average margin for a general medicine discharge = **\$2,000**
7.  $\$2,000 \times 15 \text{ newly available inpatient hospitalizations} = \mathbf{\$30,000}$   
**incremental margin**



## “Backfill” Calculation - Caveats

- Assumes your institution is running at capacity
- If not, and there is excess capacity for admissions, that negates the advantage of freeing up additional beds for the purpose of incremental margin



## “Downstream” Visits

- Additional inpatient/outpatient visits resulting from follow-up to earlier visits
  - Includes preventative evaluations such eye exams
- **Payor** drives financial outcome
  - Governmental (MCaid/MCare):
    - May avert financially unfavorable acute care visits
  - Commercial:
    - May produce financially favorable visits for work-ups/procedures



# Takeaways

- Cultivate relationships with financial/data analysts
- Track program volume and financial outcomes on an ongoing basis

