



# Transforming the Transfer Process:

Assessing and Improving the Transfer  
of Patients from Bayview MICU to Floor

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# Background

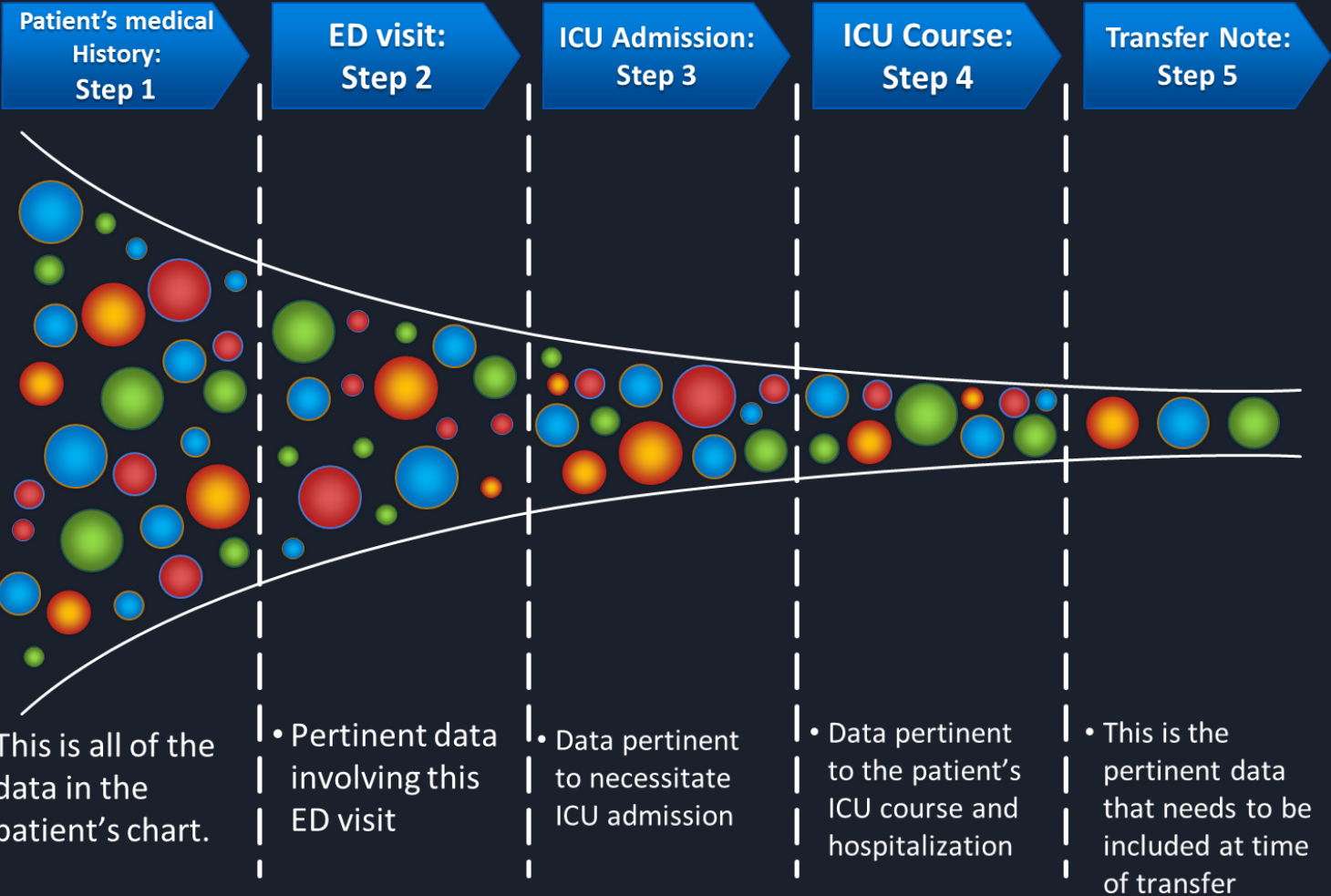
- ❑ Intrahospital transfers occur frequently in multiple directions (floor to ICU, floor to IMC, IMC to ICU, ICU to floor, etc).
- ❑ The transition from one team to another can result in the omission or miscommunication of key information.
- ❑ Poor quality transfer notes can lead to adverse events that negatively affect patient care and erode the trust in the hospital system.





# Background

- ❑ In a study of 58 ICUs across 34 institutions, *Tully et al* found that **46%** of patients transferred from ICU to floor had a **medication error**, with an average of **1.88 errors per patient**.
- ❑ *Santhosh et al* surveyed internal medicine residents at three academic centers in the U.S.
  - **87% of respondents recalled at least one adverse event** related to communication failure during transfer
  - **60% of respondents** acknowledged that notes **omitted or miscommunicated aspects** of the patient's care (Abx, IVF, subspecialists, decision-makers, pending results).





# Goal of the Project

To determine if a note template and coaching of interns can lead to increased (and more timely) transfer note completion and more relevant / helpful transfer notes compared to current practice.

*Assumption is that improved transfer notes will lead to reduced medical errors which would lead to improved care and improved patient satisfaction.*



# Aims

- Develop a new transfer note template
- Improve transfer note completion rates
- Improve transfer note quality



# Methods

- ❑ Study Design: pre-post intervention record review
- ❑ Data Collection:
  - ➔ Pre- intervention period: Patients transferred from the MICU to floor beds at Bayview Hospital, were identified for the period from October 2021 to December 2021 (PRE period).
  - ➔ The intervention period ran from June 2022-July 2022 (INTERVENTION Period).
  - ➔ PRE (n=76) charts and INTERVENTION (n=73) charts. These 149 patient charts were evaluated for the presence of a transfer note, and its quality.





# Methods: Scale Development

- ❑ A scale to assess the quality of transfer notes was developed through review of the literature and meetings with multiple stakeholders including house staff, critical care intensivists, and hospitalists.
- ❑ Reviewed multiple existing tools used to assess quality of other note types.
- ❑ The scale was iteratively revised through discussions with stakeholders.





# Intervention: Transfer Note Scale

1. Whether the note was posted before the patient's arrival on the medical floor
2. One-liner
3. Reason for ICU admission
4. Management of the primary problem
5. Listing secondary problems
6. Remaining issues requiring hospitalization
7. Active consultants
8. Summary of the patient's care preferences

# Intervention: Resident Instruction

Thursday, April 7, 2022

**BAYVIEW NEWS  
TODAY**

Issue #10



Sweet little old lady lies in bed during hospital transfer wondering whether all of her medical information has been appropriately communicated to the accepting team.

## **NEW ICU TRANSFER TEMPLATE**

Designed to convey useful information and reduce time spent writing



Patient knowing her team used the new template.

Did you know that transfers in the hospital are a big problem?

Multiple studies have shown that important information is either incorrectly communicated or omitted to the accepting team altogether! Transfer notes are an imperfect attempt to fix this problem.

In fact, *Tuttle et al* published research recently that found that in ICU to floor transfers, 46% of patients had a medication error upon arrival to the medical floor. Further, among the patients that had an error, they averaged 1.88 errors per patient.

*Santosh et al* surveyed Internal Medicine residents at three academic health systems in the United States and found that among participants, 87% recalled at least one adverse event related to a communication failure at the time of transfer. Further, 69% of respondents acknowledged that notes frequently omitted or miscommunicated aspects of the patient's care.

Examples of miscommunication or omission included duration of treatment, continuation of intravenous fluids, what sub-specialists were following, who the active decision-makers were for the patient and pending results that were not back at the time of transfer!

A new template has been developed with key stakeholders including hospitalists, intensivists, and residents. This template was designed with the goal of conveying the most useful of information while trying to reduce unnecessary note bloat. Further, the goal is **not** to increase the workload of busy residents! The hope is that this new template will **reduce time spent writing** so more time can be spent taking care of patients!

**“All Medicine residents  
have access to  
.ICUTRANSFERNOTE”**

- Robert DeGrazia

So, what are you waiting for?! Get out there and start using this new template for all of your patients that are transferring out of the ICU. This project will be following patients who transfer out of the ICU to medicine floors, and we hope that by using this new template residents will be inclined to write transfer notes more frequently and before the acceptance note has been written!

- ❑ Biweekly emails with instructions sent to residents rotating through the MICU during intervention period.
- ❑ Biweekly presentations about new transfer note template at rounds.



# Methods: Data Analysis

- Two blinded reviewers (a medical student and fellow) scored the notes
- Inter-rater reliability was measured by Kappa statistics
- Reviewers also assessed each transfer note using 4 global rating questions aimed at:
  - (i) how prepared they would feel to take over patient care;
  - (ii) the note's structure / organization / clarity;
  - (iii) inconsistencies;
  - (iv) length



**Maximum  
score of 15**

**1. PRESENCE OF A NOTE**

Is the Transfer/Off Service note finalized (signed) at a time before the accepting team note has been written? Is there a Transfer/Off Service note present at all?

0 = absent

1 = present but written after accepting note and/or incomplete.

2 = present and before accepting note

**2. SUMMARY STATEMENT/ONE-LINER**

A concise summary statement that highlights the person, their presentation and hospital/ICU course. Elements may come from 4 domains: (i) who the person is [age, gender, primary language (if not English) ...], (ii) relevant & focused past medical history, (iii) information related to the incident hospitalization/presentation and (iv) how long the person has been in the ICU.

0 = 0-1 domains present

1 = 2-3 domains present

2 = All 4 domains present

**3. REASON FOR ICU ADMISSION**

Description of the reason for ICU admission (namely the leading diagnosis) along with key features of their presentation and / or precipitating factors that led to critical state.

0 = leading diagnosis absent/not stated

1 = stated but no explanation

2 = stated and rationale / explanation noted

**4. MANAGEMENT OF THE PRIMARY PROBLEM/COURSE**

Clear and succinct explanation of what has been done to stabilize/improve the patient. Should include: (1) treatment / procedures /interventions, (2) length of time since stabilization / resolution of need for critical care (e.g. timing since extubation or “off pressors”), (3) ongoing treatments (and expected duration [if applicable – such as totals days of antibiotics suggested]).

## Global rating of the note

1. Does this note seem to be free of inconsistencies?

Substandard   Adequate   Outstanding

2. How well would this note prepare you to take over the care of this patient?

Substandard   Adequate   Outstanding

3. In terms of structure, organization, and clarity, how would you rate this note?

Substandard   Adequate   Outstanding

4. In terms of length (with attention to note bloat), how concise is this note?

Substandard   Adequate   Outstanding



# Results

- ❑ Out of 76 charts reviewed for patients transferred from the MICU to the medical floors during the PRE period, only 15 charts **(19.7%)** had a transfer note.
- ❑ During the intervention period, transfer notes were written for **31 (42%)** of the 73 patients.
  - **30 of the 31 (96.7%)** transfer notes were written using the new template.
- ❑ The higher rate of transfer note completion is a statistically significant increase ( $p < 0.003$ )



# Results

- There was a positive correlation between two independent reviewers for the eight questions used in the scoring scale.
  - The **positive correlation** was **strong** in the scoring of questions 1-6, ranging from **0.82 to 0.96**
  - Correlations were lower for question 7 (**0.39**) and 8 (**0.33**), although still statistically significant ( $p < .05$ )

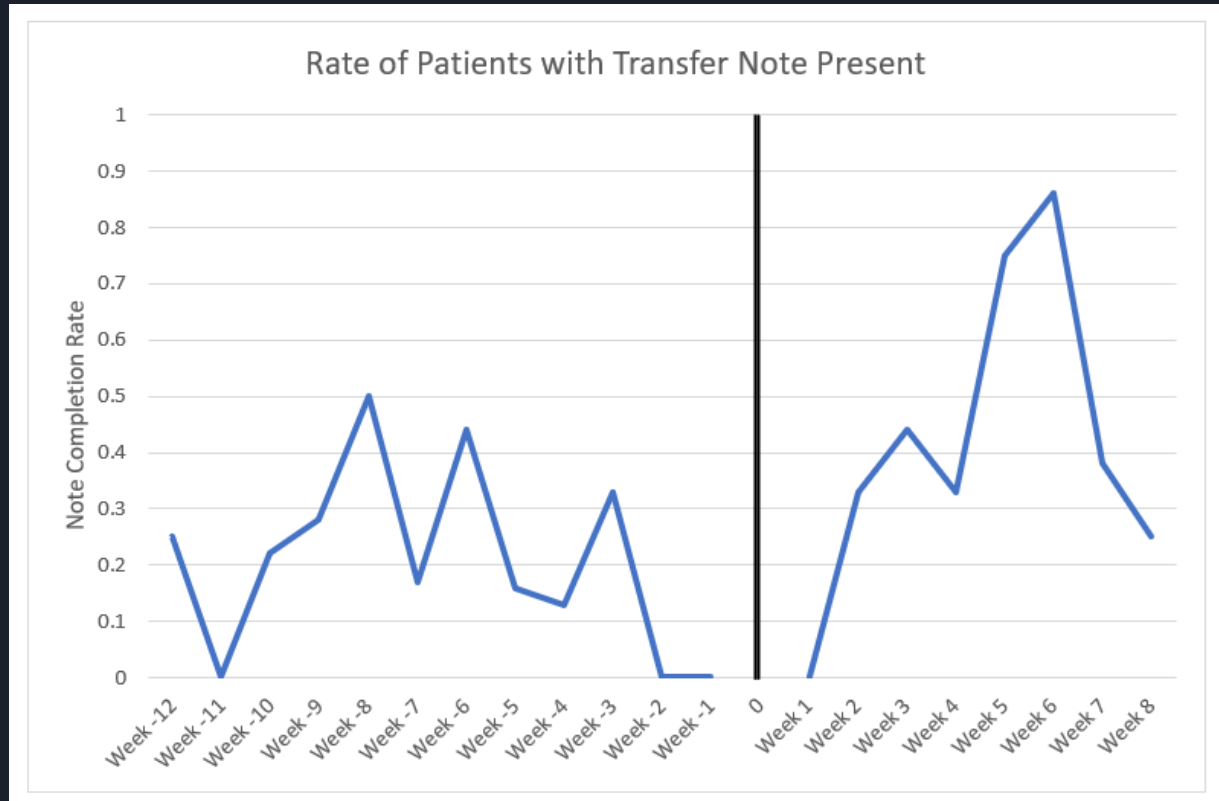


# Results: Quality of Transfer Notes

- ❑ Pre-intervention, the mean score on the JHTN was **10.3 out of a maximum score of 15** (CI: 9.3-11.2)
- ❑ During the intervention period, the TN mean score was **12.3 out of a maximum score of 15** (CI:11.2-13.5); (p=0.005).
- ❑ A composite of the 4 global rating questions increased from **5.1 (+/-1.6) in the PRE period to 6.0 (+/- 2.7) in the INTERVENTION period** out of a maximum score of 8 in the intervention period (p=0.14).



# Run Chart of Pre and Post-Intervention Rate of Transfer Notes Completed





# Conclusion

- ❑ The transfer note completion rate in the institution is low.
- ❑ The Johns Hopkins Transfer Note Scale was validated
- ❑ Intervention resulted in statistically significant improvement in transfer note completion and quality.
- ❑ Declining use of the template at the end of the intervention period indicates issues with sustainability.

# Limitations

- ❑ Single academic center, limiting generalizability to other healthcare settings.
- ❑ Some items that are especially relevant to other institutions are not reflected in our transfer note tool.
- ❑ Adoption of the tool varied across weeks during the intervention.
- ❑ Short intervention period.





# Future Directions

- ❑ Improve adherence and buy in from providers
- ❑ Evaluate longer intervention period with improved sustainability
- ❑ Assess differences in transfer notes by patient demographics
- ❑ Determine effects of note completion and quality on patient care
- ❑ Expand to transfers between other units



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