eAppendix Table 1. Demographics of Patients Discharged to HIE-Enabled SNFs, 2014-2017

No. of patient encounters	5487
Age	69.7 (14.2)
% Male	45.7%
% White	78.6%
Avg. length of hospital stay	10.3 (12.8)
Number of diagnoses	20.4 (9.2)
30-day readmit rate	28.4% (45.1)
Time until readmission	10.4 (7.5)
Average length of readmission stay	5.6 (7.4)
14-day readmit rate	19.8% (39.9)
7-day readmit rate	11.7% (32.1)

eAppendix Table 2A. Patient Drivers of HIE Portal Use, by Facility (Bivariate Analyses)

Driver of Informational Need	Specific Measure	No HIE Use N=2,962	Any HIE Use N=2,525	T-test difference in means (P-value)
Medical Complexity	Length of stay (days)	11.5 (15.4)	8.7 (8.6)	<0.001
	Number of conditions on current problem list	21.5 (9.3)	19.2 (8.8)	<0.001
	Number of medication classes	9.5 (5.1)	9.4 (5.2)	0.597
Degree of Familiarity with Patient	Patients who are new (rather than returning) SNF residents	81.4%	89.2%	<0.001
Inadequacy of other information transfer mechanisms	Patients admitted to SNF following ED or observational stay only (compared to inpatient)	5.6%	12.4%	<0.001
Timing of transition (and associated staffing levels)	Nighttime discharge	16.1%	15.5%	0.558
	Weekend discharge	14.7%	11.6%	0.001
Controls	Age at discharge	69.2 (14.2)	70.3 (14.2)	0.005
	Gender	45.6%	45.7%	0.946
	Non-white race	21.6%	21.2%	0.710

eAppendix Table 2B. Patient Drivers of HIE Portal Use, by Facility (Bivariate Analyses)

Driver of Informational Need	Specific Measure	First HIE Use after transition window N=940	First HIE Use during transition window N=1,585	T-test difference in means (P-value)
Medical Complexity	Length of stay (days)	8.0 (8.0)	9.0 (5.2)	0.001
	Number of conditions on current problem list	18.2 (8.3)	19.9 (9.0)	<0.001
	Number of medication classes	10.0 (5.1)	9.0 (5.2)	<0.001
Degree of Familiarity with Patient	Patients who are new (rather than returning) SNF residents	92.8%	86.8%	0.001
Inadequacy of other information transfer mechanisms	Patients admitted to SNF following ED or observational stay only (compared to inpatient)	13.3%	11.9%	0.312
Timing of transition (and associated staffing levels)	Nighttime discharge	10.7%	18.4%	0.000
	Weekend discharge	16.7%	8.6%	<0.001
Controls	Age at discharge	73.7 (13.9)	68.3 (13.9)	73.7 (13.9)
	Gender (Male)	42.3%	47.7%	42.3%
	Non-white race	20.1%	21.9%	20.1%

eAppendix Protocol

A. <u>**Interviewee and Practice Demographics**</u>
1. Please describe your current role(s) at [**SNF XX**] and how long you have been at this facility.
   a. Did you previously serve in a different role here or at another local SNF?

2. [*administrator only*] Can you tell me some general details about this facility, including:
   a. Average percent of patient population admitted from the University hospital?
   b. The nature of physician coverage?
   c. The number of personnel and composition of a typical care team for a resident? (i.e. nurse, nursing aides, etc.)

3. What *clinical* electronic health record or other record keeping system(s) do you have in place at [**SNF XX**]? [*prompt: exclude databases related to human resources and financial administration*]
   a. [for each electronic system(s) in place]
      i. What is the name of this system?
      ii. What are the primary functions of this system? (i.e. billing? Medicare quality reporting? Support for care delivery? Medication administration? Patient medical records?)
      iii. When was it implemented? What did you have in place prior to this system?
      iv. What prompted you to adopt this system?
   b. Do you also maintain paper record systems?
      i. To what extent do staff rely on paper versus electronic records?

B. <u>**Patient Complexity and Process Variation**</u>

Before we get in to the specifics of patient handoffs and information transfer, I would like to understand the important ways in which your processes may vary across intakes based on certain patient characteristics.
4. Would you describe processes of intake and transitional care as standardized?
   a. What policies/procedures guide these activities?
      i. [*if relevant*] Did these policies change when [**SNF XX**] received access to Hospital records via EpicCare Link?
   b. In what ways, if at all, are policies modified by staff? (Probe on consistent versus ad-hoc modifications)

5. Are there particular patient case characteristics that alter traditional care practices? [*we will probe on these as we walk through each step of patient care and information transfer*]
   a. Classification by Resource Utilization Groups (RUGs)
   b. Specific patient conditions?
   c. Overall complexity?
      i. If so, please define: number of conditions, any disabilities (physical or cognitive), medication combinations, frailty, etc.?
   d. Type of hospitalization?
   e. Timing of discharge (e.g., "off shift" as well as weekend)?

   f. Other?

C. Information Transfer from Hospital to SNF

6. How would you define the "transition window" of care during which providers and staff are getting a patient settled in to the SNF and on a routine care plan?

7. What information retrieval, if any, takes place <u>prior to accepting</u> the patient?
 [*probes if needed*]
  a. Who at [SNF XX] is involved in these arrangements?
  b. What key data elements are being sought?
  c. How is this information gathered (phone, in person, fax, electronic viewing)
  d. Where is this information documented internally?

8. At the time a patient is discharged to **[SNF XX]** from the hospital, in what way(s) is that information sent to/received by **[SNF XX]**? (paper, fax, by phone, electronic viewing?)
  a. Do you use more than one method of information retrieval?

9. What are the key information elements you are looking for from the hospital? (e.g. medication list, physician/nursing notes, discharge summary)
  a. How does information seeking vary across different platforms or media used for information sharing (i.e. is there particular information that you seek by phone and other details that are found in the paper chart?)
  b. How are these information elements incorporated in to your internal record(s)?

10. Does the documentation you receive from the hospital provide information you can use and understand?
  a. Are there aspects of the documentation sought/retrieved from the hospital that *facilitate* you finding the information you need and/or incorporating it in to your records? (e.g. information ordering/prioritization, highlighting, summaries)
  b. Are there aspects of the documentation sought/retrieved from the hospital that *create challenges* as you seek the information you need and/or incorporate it in to your records?
   i. Missing information?
   ii. Information overload?
   iii. Timeliness of information receipt?
   iv. Other?

11. What additional information seeking might occur after the transition window surrounding SNF admission has passed?
  [probes if needed]
  a. When do these other information seeking processes tend to take place? What are they prompted by?
  b. What methods are used to retrieve this information? Does method vary by type of information needed?

12. At each stage of information gathering, how (if at all) would processes differ based on the patient characteristics we discussed above?

D. Information Retrieval Processes from other Hospitals

13. To what extent do the processes of information retrieval look different for patients coming from hospitals other than Hospital XX? *(Probe on: timing, method(s) of information transfer, volume/relevance/accuracy of information received, ease of handoff)*
    a. Before hospital discharge
    b. At the time of transition from hospital to SNF
    c. During a patient's stay duration at **SNF XX**

E. Targeted Questions Regarding ECL Use

14. Were you employed at [**SNF XX**] when the facility started to access Hospital XX information through EpicCare Link (ECL)?
    a. (if yes) What training or resources were provided, if any, to guide use of this electronic information viewing system?

15. Overall, how would you characterize the extent to which your facility utilizes EpicCare Link?
    a. Has this use changed over time?
    b. Do rates of use vary across staff at **SNF XX**?
    c. Do all staff have equal access to ECL?

16. How would you describe the typical use case for ECL versus other methods for information retrieval?
    a. Standardized process vs. need-driven use
    b. Does the specific nature of ECL use vary across staff at **SNF XX**?

17. Does ECL use vary based on any of the patient characteristics we initially discussed?

18. Based on analysis of the ECL usage data, I detect that your system is most often used in the following way [*describe/share facility-specific usage findings*]
    a. Does this fit with your understanding of typical system use?
    b. Does this description surprise you?
    c. Are there important aspects of system use not captured here that you think are important to understanding how **SNF XX** utilized ECL?

19. What do you think ECL does particularly well in supporting transitional and post-acute care?

20. What do you think could be improved in terms of use of ECL to support transitional and post-acute care?
    a. System design?
    b. Workflow/processes?
    c. Other?

F. <u>Wrap up</u>

Thank you for taking the time to speak with us today. Is there any additional information you think we should know related to your facility's systems and processes for retrieving information to support transitional and post-acute care delivery?