TEMPUS

CASE STUDY

Identifying patients with Valvular Heart Disease: A partnership between St.Francis and Tempus

Learn how the deployment of Tempus Next, an AI-enabled clinical care pathway solution at St. Francis enabled guideline directed care for patients with structural heart disease.

THE ORGANIZATION

The John Brancaccio St. Francis Hospital and Heart Center is New York state's only specialty designated cardiac center, with two Heart Valve Centers that opened in 2015 and 2017. In 2023, they performed more than 600 transcatheter aortic valve replacements (TAVR) procedures at St. Francis.

THE CHALLENGE

Keeping up with complex and rapidly updated clinical guidelines is a nearly impossible task for clinicians of all specialties. An estimated one-third of patients in the United States who meet the AHA/ACC Guidelines criteria for severe aortic stenosis don't have a guideline-recommended treatment plan.[1] Clinical data suggests a myriad of reasons, including echocardiogram findings that are misclassified due to complex cardiac anatomy, or referrals that are delayed.[2] Patients with Aortic Stenosis (AS) have high mortality risk across all levels of untreated AS severity, especially Severe AS. Undertreatment rates remain high for patients with Severe AS.

St. Francis identified the following areas of focus to further advance their heart valve center:

- **Challenge 1**: Implement seamless ways for clinicians to identify patients with untreated valvular heart disease, starting with severe AS.
- **Challenge 2**: Leverage AI-enabled care pathway solutions that can handle high volumes of echo reports.
- **Challenge 3**: Reduce the number of patients not receiving guideline directed care for valvular heart disease.

THE SOLUTION

Tempus Next facilitates the adoption of precision care pathways by helping clinicians deliver best practice, guideline-directed medical care to appropriate patients with complex disease. Tempus' AI-enabled solutions marry streaming clinical data with up-to-date clinical guidelines to deliver precision care pathways and help guide clinicians in closing care gaps. Next delivers customized and targeted notifications to treating clinicians during the course of care and at the point of care. Routine reports are delivered to health systems on an ongoing basis to easily track care guidelines across the site, improve quality, and monitor outcomes.

At St. Francis, the user sets up the parameters, specific echocardiography findings, and then the platform performs a thorough search of all available patient data, identifying anyone with severe AS who is not already receiving guideline-recommended care. The patient's care team who ordered the most recent echo available to Tempus is informed that their patient may require additional screening or referral to the structural heart clinic.

Results Snapshot

14,960

with echocardiograms in the St. Francis Hospital electronic health records system were reviewed by Tempus Next over 12 months.

388

patients met defined criteria and did not have an existing treatment plan.

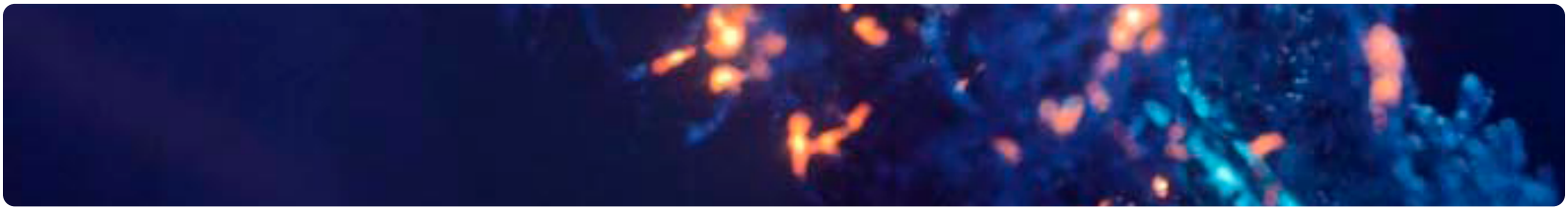
100

previously unidentified, untreated patients were referred to the Heart Valve Center for consideration of an intervention by their provider.

1 Tempus data on file.

2 Brennan JM. Under-treatment of Aortic Stenosis in the United States. Presented at TVT 2019; Chicago, IL.

CHALLENGE	Implement seamless ways for clinicians to identify patients with untreated valvular heart disease, starting with severe AS.
SOLUTION + RESULTS	The platform is customizable, allowing the user to filter out any information they don't need and focus on the exact targets of their searches. It also learns from its users as time goes on, remembering the details of previous searches to improve the customization process. As a result, referring clinicians learned to trust the platform's discoveries and saw it as a helpful quality initiative.
IN OUR PARTNER'S WORDS	*The process of filtering in Tempus Next was so easy. On the side menu of the system, there were boxes I clicked to refine patient results. It was just like shopping online, where you click filters to show only the products you want to see.* **— Kristin Pasquarello, M.P.A.S., PA-C, Administrative Director of the Heart Valve Center at St. Francis Hospital**



CHALLENGE	Leverage AI-enabled care pathway solutions that can handle high volumes of echo reports.
SOLUTION + RESULTS	Tempus Next combines artificial intelligence including natural language processing to contextualize patients in real-time using precise patient screening parameters to identify potentially undertreated or untreated patients. ▪ **14,960 patients** with echocardiograms in the electronic health records system were reviewed by Tempus Next **over 12 months**.
IN OUR PARTNER'S WORDS	*In a way, [the Tempus Next solution] mines a lot deeper into the data than we would on our own,* **— Kristin Pasquarello, M.P.A.S., PA-C, Administrative Director of the Heart Valve Center at St. Francis Hospital**

"Tempus Next is a wonderful resource. You just need to be ready, because you will find patients in your system who may qualify for needed treatment. They are definitely out there and Tempus Next can help you identify them."

- Kristin Pasquarello, M.P.A.S., PA-C, Administrative Director of the Heart Valve Center at St. Francis Hospital

CHALLENGE	Reduce the number of patients not receiving guideline directed care for valvular heart disease
SOLUTION + RESULTS	Tempus Next interfaces with the EHR using a bi-directional data feed. Once the platform identifies a potential patient, a notification is initiated that is delivered to the in-basket of the provider who most recently referred their patient for an echocardiogram. This notice highlights the clinical guidelines and options for potential next steps. ▪ **388 patients** met defined criteria and did not have an existing treatment plan for one or more diseases including Severe Aortic Stenosis and/or Severe Mitral Regurgitation. ▪ **100 previously unidentified**, untreated patients were referred to the Heart Valve center for interventions.
IN OUR PARTNER'S WORDS	*Tempus Next continually ingests real-time EHR data such as echocardiogram results, physician notes, surgery schedules, clinic visit appointments and lab results, searching for potential candidates that may qualify for heart valve interventions based on clinical guidelines.* **— Elizabeth Haag, RN, M.P.A., CCRP**

**Case studies and past performance are not necessarily an indication of future results, and do not guarantee a similar outcome.*

Getting St.Francis patients guideline directed care

12 month assessment from Jan 2023-Dec 2023

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