

Assessing **Patient Flow**A new patient workflow solution



BAPTIST HEALTH SOUTH FLORIDA

Baptist Health Miami Cardiac & Vascular Institute (MCVI) is the first user of Philips PerformanceBridge Patient Flow application, an interactive, electronic "white board" designed to improve visibility and control of patient flow throughout a department. In a qualitative survey, users credited Patient Flow with saving time and improving communication, and found the solution easy to use.

A joint study of Baptist Health Miami Cardiac & Vascular Institute and Philips

MCVI is the largest and most comprehensive cardiovascular facility in South Florida. Patients can experience consistent, exceptional, evidence-based care at institute locations throughout Baptist Health. In 2019, Philips and MCVI embarked on a co-development project to create a digital solution for monitoring and tracking the movement of patients through exams and procedures. In July 2020, the result of that project went live when MCVI received the first Patient Flow solution. Under a joint agreement, MCVI serves as the beta site to test and develop Patient Flow.

Prior to using Patient Flow, MCVI's patient workflow system used notecards and magnets on a single magnetic white board located in the hallway outside the cath lab. The notecards indicated patient

and physician schedules and cath lab use. When situations changed, the cards were moved to reflect those changes.

Because staff could easily move the notecards on the magnetic white board when rooms or times of procedures changed, this notecard system met the need for flexibility that a fast-paced interventional department requires. However, the system ran the risk of misplaced or fallen notes, and there was no way to limit those who were able to make changes. In addition, staff had to make multiple trips to view the board throughout the day to see what had changed due to emergencies, no-shows, procedures that exceeded the planned length and other situations.

Patient Flow solution description

Patient Flow improves upon this system without losing the benefits of visibility and flexibility. It allows staff to visualize an entire day's work, while also making it easy to track an individual patient from arrival to post-procedure.

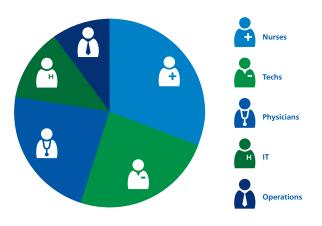
Patient Flow displays an electronic card for each patient on a large, 55" LCD monitor in the main gallery. The Patient Flow display can also be accessed from any hospital PC for remote monitoring of procedure workflows. Philips Performance Bridge is the link that pulls information from the electronic medical record (EMR) system and the cardiovascular information system (CVIS) and uses it to populate Patient Flow's patient data. In addition, administrators can add details about staffing, rooms occupied or scheduled for procedures, and anesthesia needs, among others. This small team of administrators is responsible for keeping Patient Flow current and accurate, and only these individuals have the ability to make changes to the solution's data, which prevents unauthorized changes and decreases the chance of errors.

The cards are color-coded to indicate at which point the patients are in the procedure workflow. The color coding is identical to that which was previously used on the manual white board to support an easy transition to Patient Flow. MCVI has developed a set of icons that allow staff to see important patient attributes at a glance, including Covid-19 status, anesthesia requirements, paperwork completion needs and more. Notes can also be added to the cards.

Study methodology

To determine if Patient Flow is effectively serving MCVI staff, nine key stakeholders participated in one-on-one interviews that included both qualitative and quantitative components designed to evaluate Patient Flow and to provide suggestions for improvements. Study participants included nurses, technologists, physicians, IT personnel and operations personnel. The participants' years of service in cardiac and vascular health ranged from 7 to 22, with a mean average of 12.86. All but one participant had worked in the department prior to the installation of Patient Flow. Four study participants had administrative rights to update Patient Flow.

Numbers and roles



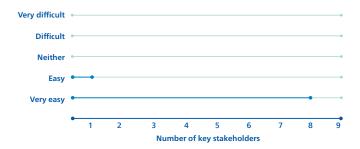
Results

All those surveyed agreed that Patient Flow was beneficial. One hundred percent of participants said that Patient Flow saved them time and improved communication within the team. The participants were also in consensus that the solution was easy to use and intuitive, and all thought it was helpful to be able to consult the Patient Flow board.

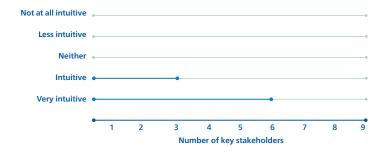
"Before we had Patient Flow, if you mixed up magnets accidentally before they were placed on the white board, it would confuse the entire day. And there was no way to know if a patient note had been lost. There was too much room for error," one participant explained. "Transition to Patient Flow went smoothly because the staff was included in the design and setup of the app – for example, the color of the cards, the setup of the board, icon design, etc. So, it all made sense to us."

"I can find out status for my patients from the board in real time so I know when I need to be ready," another participant stated.

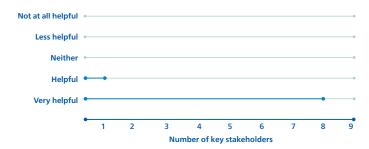
On a scale of 1-5, how easy or difficult is the Patient Flow application to use?



On a scale of 1-5, how intuitive is the Patient Flow application to use?

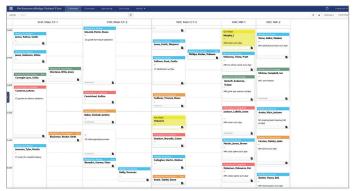


On a scale of 1-5, how helpful is it for your work to be able to consult or see the board more easily?

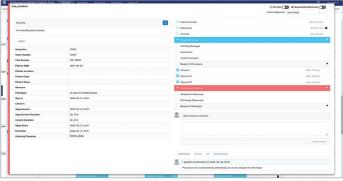


"With the app, the margin of error has been exponentially reduced."

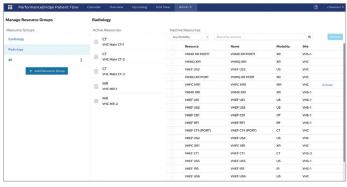
-Study participant



Staff can see the full schedule at a glance, including rooms occupied, patients, procedures and procedure status.



Patient cards display individual patient data and procedure status.



Resources are easily added, arranged and modified.

Most appreciated feature

While all participants agreed that Patient Flow saved time and improved communication, their answers varied considerably when asked what feature they liked best and used most.

Answers included:

- Seeing that the patient is checked in
- Calendar view
- Access to real-time information
- The ability to switch between views and click on a card for more information
- The icons that convey information at a glance
- Standardized notes and details
- Accurate information about when and where to be, and the type of procedure
- Seeing where the patient is in the procedure process

Suggestions for future improvement

Those surveyed noted a number of options that would make Patient Flow even more useful. All respondents asked for the ability to access Patient Flow from a tablet or mobile phone. Some respondents also pointed out the value of pushing notifications of changes to the staff via phone or tablet, so they are aware of changes instantly, rather than having to consult the main board or a PC. These improvements would require protocols to ensure the security of patient data, but they are within the scope of solution possibility.

Patient Flow administrators (those with the ability to update the board) suggested the addition of information from the pre- and post- procedural areas be included, or that these areas be equipped with their own Patient Flow boards that would be linked to the main board. They expressed that this would increase accuracy and reduce phone calls between personnel in the different care areas.

Other, less common answers included the ability to update cards using voice recognition software, displaying in-room, live camera views from the procedure rooms and the preand post-cardiovascular care unit, and increasing the amount of information displayed on the card without clicking.

"I can find out status for patients from the board in real time so I know when I need to be ready."

-Study participant

of participants said that **Patient Flow**saved them time and improved communication within the team.

Conclusion

At MCVI, Patient Flow is fulfilling its goal of improving visibility and control of patient flow throughout the department. Future plans include adding information from the pre- and post-cardiovascular care unit to Patient Flow. By providing information about the patient's entire stay in the department, this update will eliminate a substantial amount of phone calls between the staff in the cath lab and those in the pre- and post-cardiovascular care unit.

PerformanceBridge Patient Flow is not available for sale in all markets.

Results from white papers and case studies are not predictive of results in other cases; results in other cases may vary.

