

# Developing a Cardio-Vascular Step-Down Unit in Response to the COVID-19 Pandemic



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## BACKGROUND

The COVID-19 pandemic has placed significant stress on worldwide healthcare facilities. Cardiovascular procedural volumes have been negatively impacted by government mandates, the need to conserve material and human resources and by the limited availability of beds in ICU and on telemetry units. Patient avoidance of the health care system has also been implicated as a reason for loss of procedural volumes and for undertreatment of potentially fatal conditions.

## OBJECTIVES

The Alexian Brothers Cardiovascular Stepdown Unit (CVSDU) was developed in response to the COVID -19 pandemic. Faced with an emergency of uncertain duration and unpredictable surge periods, then unit was designed to help insulate the Cardiac Procedural Areas from the vagaries of inpatient resource availability.

Unit aims to:

- ❖ Facilitate Same Day Discharge (SDD) and Short Length of Stay (LOS) procedures.
- ❖ Separate Outpatients from the inpatient population and staff in an effort to reduce nosocomial viral transmission
- ❖ Keep patients in the same room and with the same nurse pre/post op (family can wait in room during procedure)

## Assets / Needs

### Resources:

- An existing 16 bed unit located in immediate proximity to the Cardiac Cath Lab (CCL)
- Nursing staff experienced in groin management and post-procedural care

### Needs:

- An area capable of handling higher complexity cases
- Protocols allowing for SDD / Short LOS for Structural and EP procedures
- Nursing Training to accommodate higher complexity patients

## Methods

- During the March-June 2020 elective procedure freeze – the existing nursing staff was deployed to the ICU where they acquired additional skills.
- Protocols for the Same Day Discharge (SDD) of highly selected TAVR and Watchman patients were developed.
- Existing protocols for the SDD of selected PCI and EP device and ablation patients were updated.
- Nursing Staff received formal training allowing the unit to accommodate more complex patients.

## CVSDU Capabilities

- ✓ Patients post:
  - ✓ PCI / Peripheral Intervention
  - ✓ EVAR / TVAR / TCAR
  - ✓ Carotid Stent
  - ✓ Femoral Endarterectomy
  - ✓ EP Devices / Ablations (including Afib)
- ✓ Patients with:
  - ✓ Swan-Ganz Catheters
  - ✓ Pericardial Drains
  - ✓ Temporary Pacemakers
- ✓ Patients on:
  - ✓ Single Pressor Agents
  - ✓ IV Antihypertensive Medications
  - ✓ Remodulin

## CVSDU Specifics

- Staffing: Monday- Saturday
  - Day Shift:
    - # 7 RN
    - # 1 PCT
    - # 1 Secretary
  - Night Shift:
    - 3 RN
  - Staffing Ratio:
    - 3:1

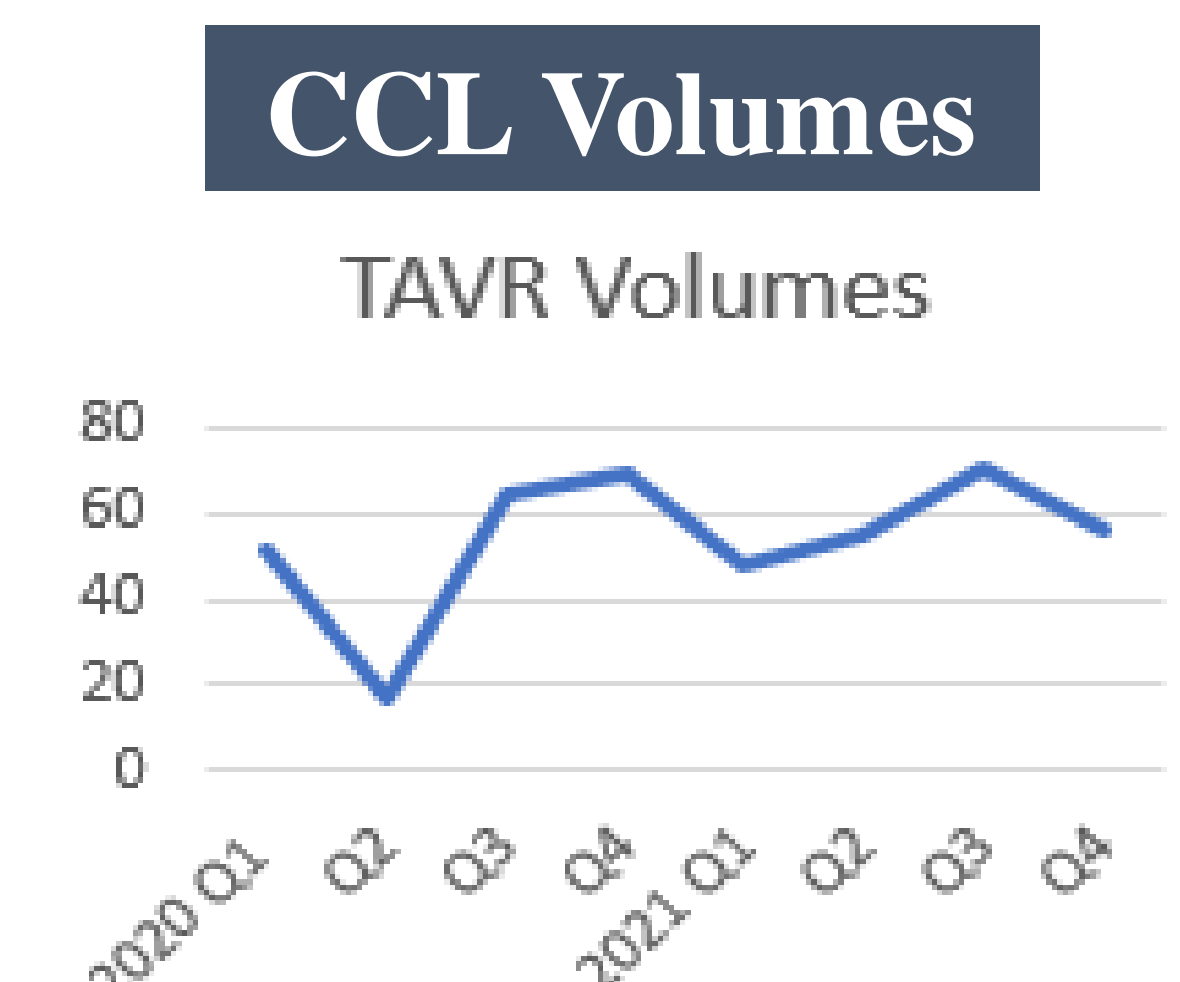
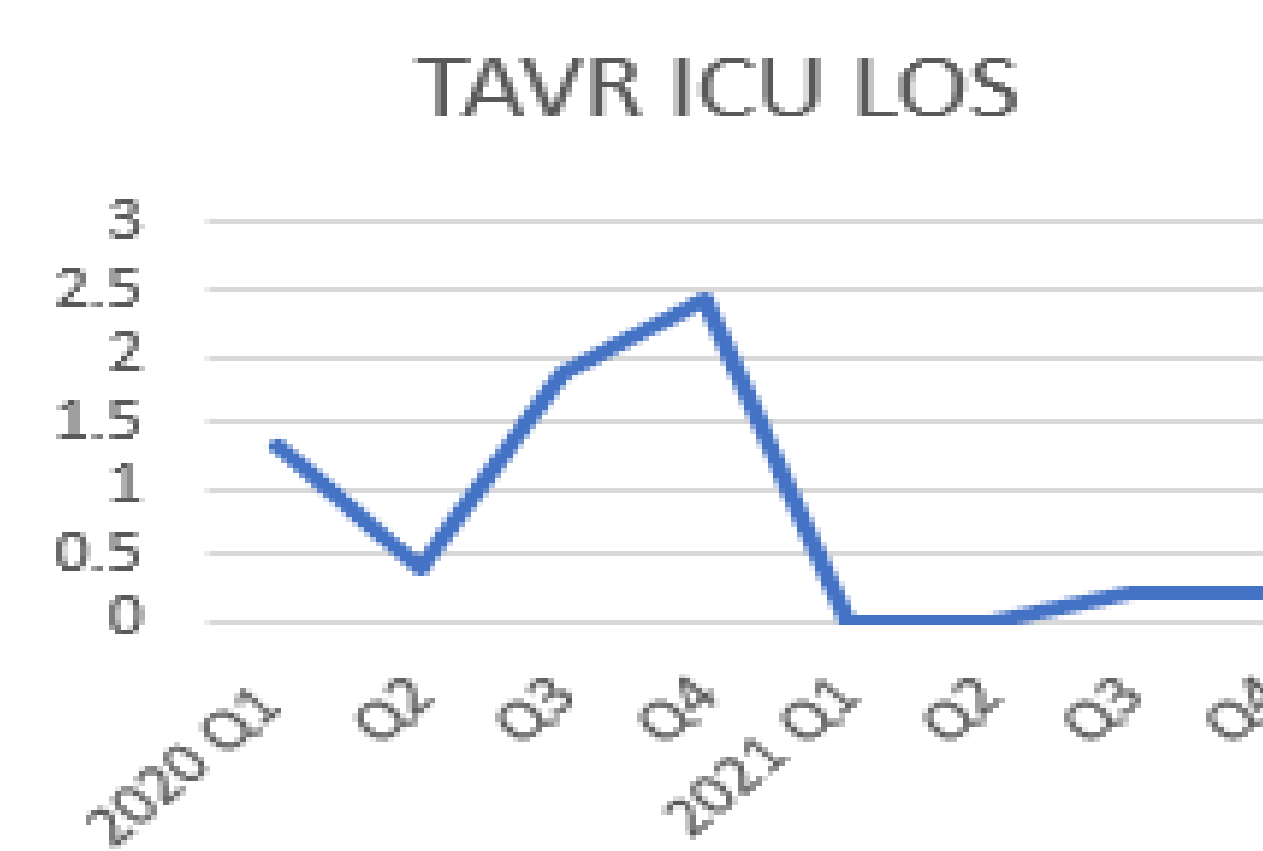
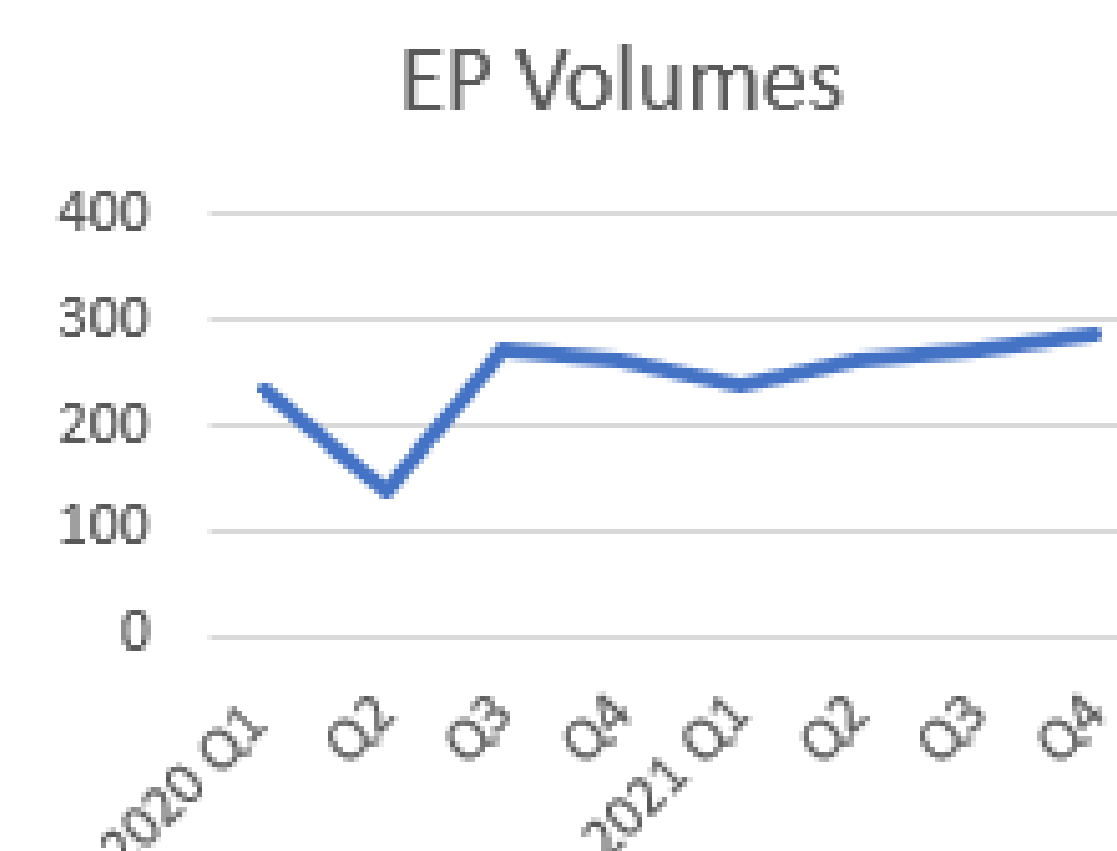
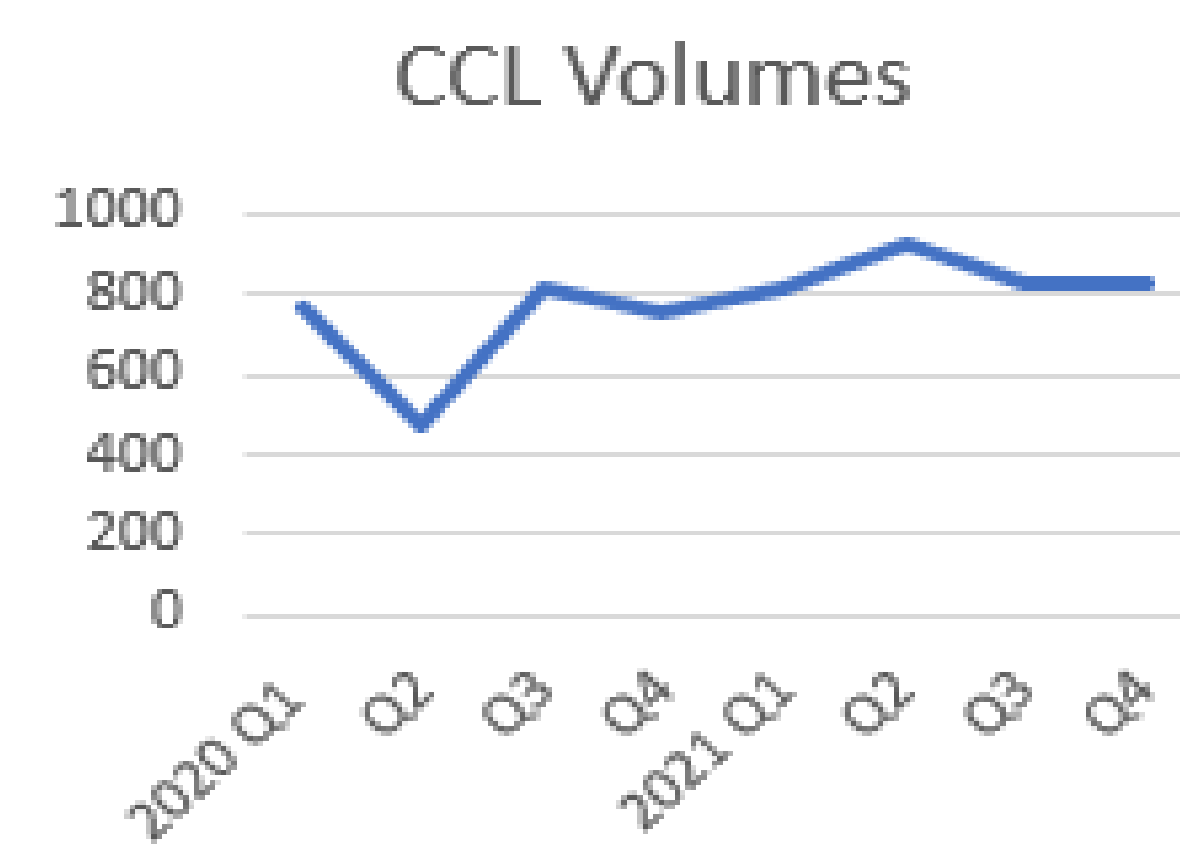
## OUTCOMES

- Since the implementation of the CVSDU, the authors are not aware of any cases of nosocomial transmission of COVID-19 in Outpatients treated in the CVSDU.
- The enhanced capabilities of the CVSDU allows many patients to avoid ICU admission
- The availability of the CVSDU allowed our institution to buck nationwide trends and experience increasing CCL and EP volumes in 2020 and 2021 vs 2019.
- The unit allows the majority of outpatient and inpatient-only procedures to continue even in situations where telemetry and ICU bed availability is severely curtailed.

## CONCLUSIONS

The development of the CVSDU together with the adoption of SDD protocols allowed our institution to continue to safely treat increasing numbers of patients despite the challenges of the COVID Pandemic.

## Quarterly Procedural Volumes, LOS and SDD During the COVID -19 Pandemic



	SDD %
Outpatient PCI	80%
TAVR	20%
Watchman	42%



## References

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