

## INTRODUCTION

Venous thromboembolism (VTE), which is a broad term that includes deep vein thrombosis (DVT) and pulmonary embolism (PE), is a complication that may occur after surgery and is associated with greater adverse outcomes for patients.<sup>1,2,3</sup> However, VTE incidence following cardiac surgery is not as well described as its incidence in other surgical procedures, like orthopedic surgery. As such, VTE prophylactic recommendations for cardiac surgeries are variable and still carry a 2b/c recommendation, meaning usefulness is unknown and intervention might be considered.<sup>4,5</sup> While recent studies place post isolated CABG VTE incidence between 1-2%, the true incidence is still debated.<sup>2,6,7</sup> ECU Health performs on average 500 Coronary Artery Bypass Grafting (CABG) procedures a year, and we seek to identify the patients at risk and better understand how to prevent VTEs after isolated CABG.

## OBJECTIVE

The aim of this study is to understand the incidence of VTE among patients at ECU Health who have received an isolated CABG procedure. We hypothesize that incidence of VTE at ECU Health will mirror recently reported national rates. With this data, we plan to investigate the characteristics of those that did develop a VTE.

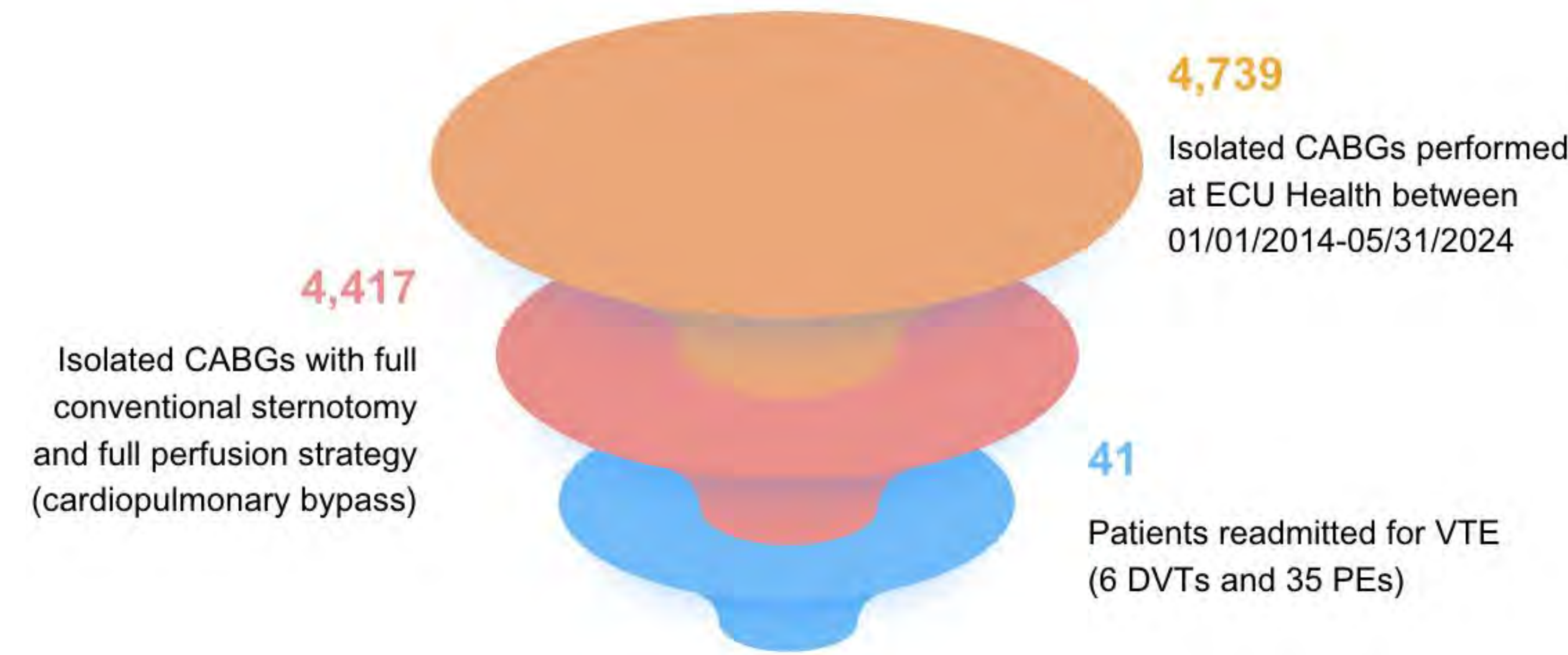
## MATERIALS & METHODS

Incidence was calculated using data obtained from the Society of Thoracic Surgeons Adult Cardiac Surgery Database (STS National Database). Patients that received an isolated CABG between 01/01/2014 - 05/31/2024 were included and those within this cohort that were readmitted up to 30 days post procedure for either DVT or PE were used to calculate the incidence rates. We then compared the calculated rate to published national incidence rates from Khoury et al. (2020), Du et al. (2020), and Panhwar et al. (2019).

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## RESULTS



ECU Health Readmission Reason Post Isolated CABG	ECU Health Incidence
VTE	0.87%
DVT	0.13%
PE	0.74%

Table 1. ECU Health incidence rates calculated using total number of isolated CABGs from 01/01/2014 - 05/31/2024

## ECU Health vs. Reported National Incidence Rates

	Khoury et al. (2020) Incidence	Du et al. (2020) Incidence	Panhwar et al. (2019) Incidence	ECU Health Incidence
VTE	1.79%	1.75%	1.30%	0.87%
DVT	1.42%	1.28%	0.90%	0.13%
PE	0.37%	0.61%	0.40%	0.74%

Table 2. Comparison of ECU Health incidence to published data on national incidence after isolated CABG

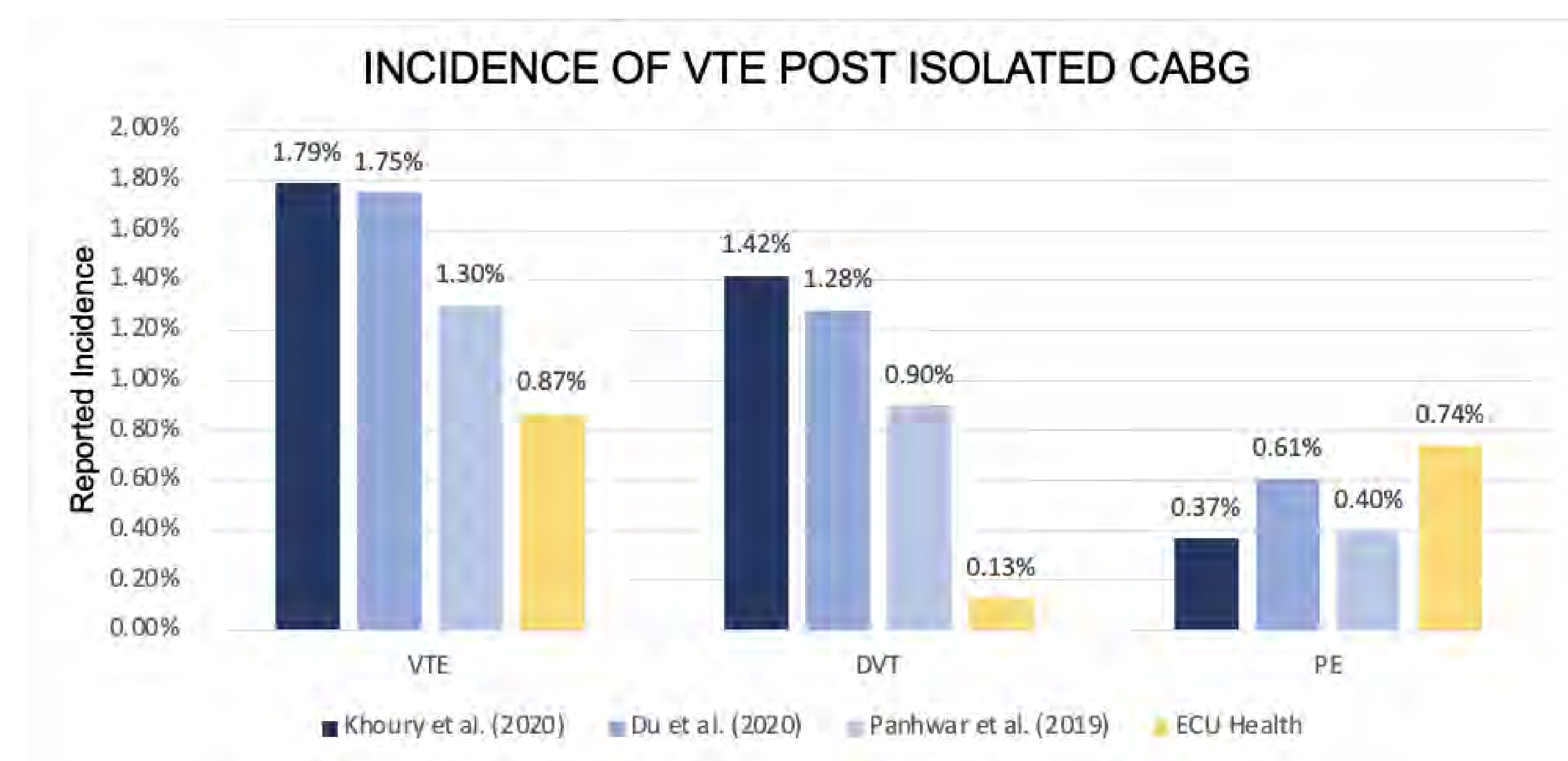


Figure 1. Comparison of ECU Health incidence to published data on national incidence after isolated CABG

## DISCUSSION

VTE and DVT incidence rates after isolated CABG were lower and PE incidence rate was higher at ECU Health in comparison to reported national rates. Our findings support the growing body of evidence that the described incidence rate is dependent upon detection techniques and is influenced by incidental findings, contributing to the lack of consensus on the true incidence rate. Investigation is ongoing and retrospective chart review will be used to understand what may be contributing to these trends.

## FUTURE DIRECTIONS

We plan to begin our retrospective chart review looking at characteristics of patients that did develop VTE after isolated CABG. We will evaluate the following characteristics: age, sex, race, intra and postoperative interventions and complications, prior medical history, discharge instructions, and medications. The findings from the retrospective study will help inform which patients are at a potentially higher risk for developing a VTE and should be considered for treatment with Directly Acting Oral Anticoagulants (DOACs) and other prophylactic interventions. The goal is that this research will help physicians better understand the risk factors for developing a VTE following an isolated CABG, identify which patients should be considered for prophylactic interventions, supplement 2b/c recommendations, and encourage more patient-centered care plans.

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