

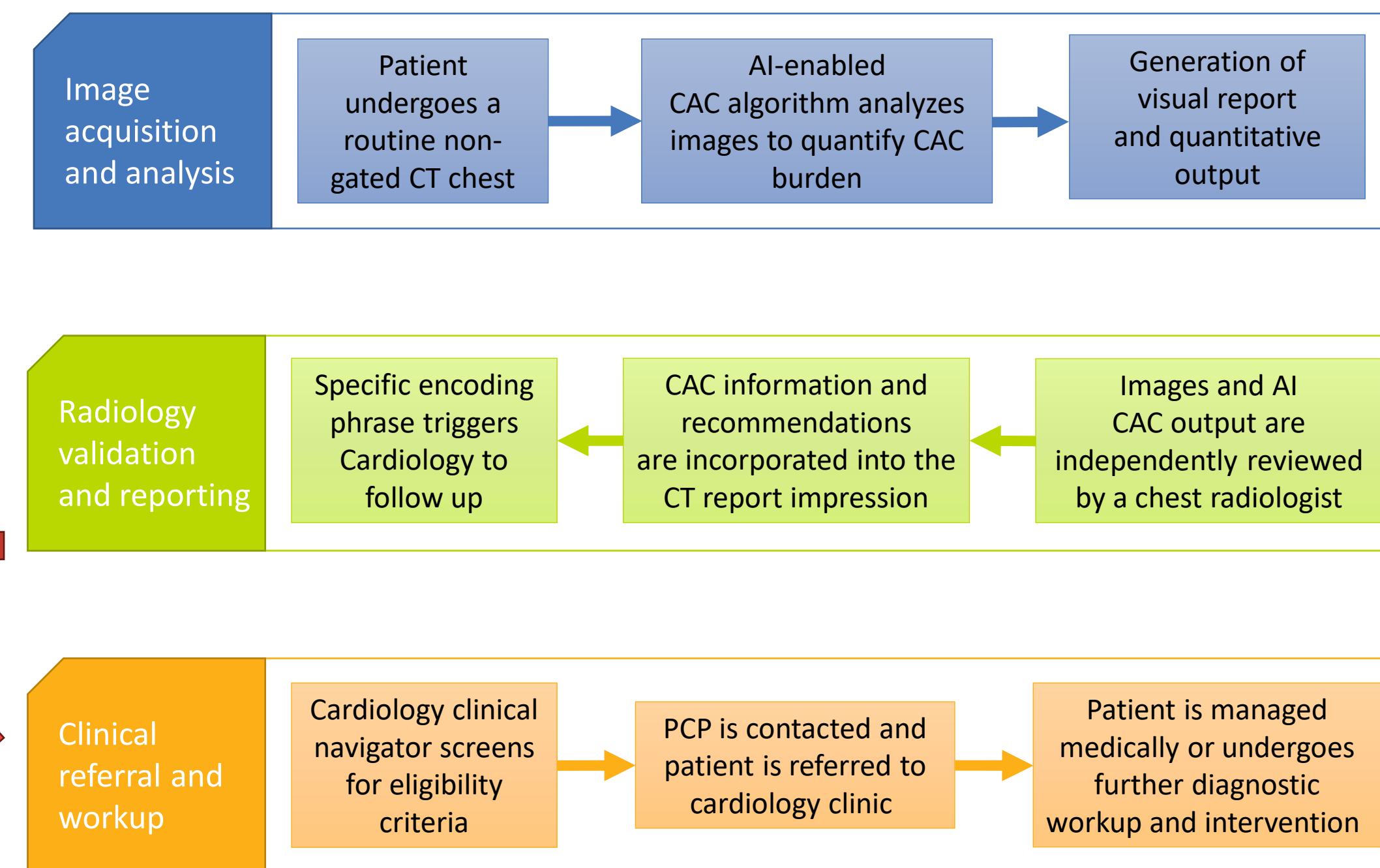
Introduction

Coronary artery calcium (CAC) is a critical marker of atherosclerosis, a condition characterized by the buildup of plaque in the coronary arteries. The presence of coronary artery calcium is a strong predictor of coronary artery disease (CAD) and cardiovascular events. We utilized an AI-based solution (HealthCCSng, Nanox.AI) designed to provide CAC category for patients undergoing non cardiac dedicated chest CT exams and highlight those patients with a medium or high CAC category values. The system analyzes all relevant scans and highlights patients with relevant calcium measurements by providing a secondary capture image allowing incorporating into the radiology report. In this observational study we evaluated the downstream value for this solution for patient management.

Methods

At Jefferson Einstein Hospital, HealthCCSng was installed through a collaboration between the radiology and cardiology departments. The radiology team was trained to assess the secondary capture results deriving from their non-gated non-contrast chest CTs. The cardiology team issued an information letter to all relevant PCP in their network informing them about this innovative approach to opportunistically screen patients for CAD and mentioned that patient information letters will be sent. The cardiology team had a dedicated nurse to review the newly found patients and assess for their applicability - including no known CAD, with an affiliated PCP.

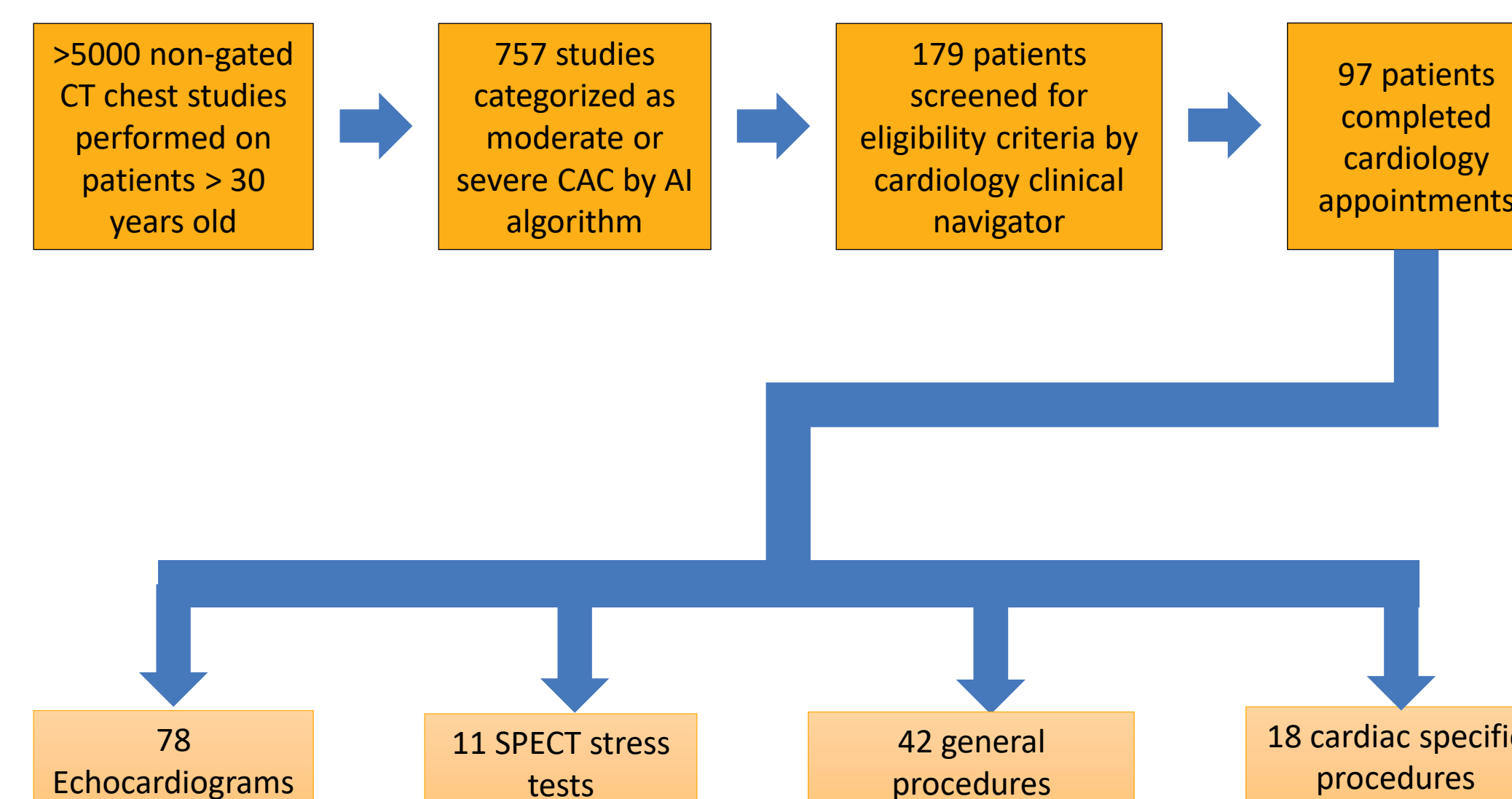
Figure 1 – AI-enabled CAC Workflow



Results

Of the 757 identified patients, as many as 179 have met all eligibility criteria to be flagged by the cardiology department for follow up consultation and treatment. Of the 179 patients where notification has been sent to the PCP through an automated process in the EMR system, 97 have returned to Einstein cardiology clinics for a visit of any kind. These patients underwent 78 cardiac echocardiograms, 11 SPECT stress tests, 42 general procedures attributed to the cardiac finding and 18 cardiac specific procedures and all came for a cardiac consultation - a total of 308 touchpoints with the cardiology department. When looking at standard rates of reimbursement for ECHO, stress and cardiac procedures, with only 46% of patients returning for care to date, these tests generated up to \$130,000 in revenue for the hospital.

Figure 2 - Summarized Results of All Studies Evaluated During the Study Period



Conclusion

This analysis shows the clinical and economic effect of implementing AI solution (HealthCCSng, Nanox.AI) for opportunistically screening in large populations.

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