# Evaluation of Experienced Clinical Pharmacists on the Emergency Resuscitation Team (EXPERT)

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# Background

- A code blue is called when a patient requires immediate medical attention via the emergency resuscitation team or code blue team<sup>1-4</sup>
- This team is normally comprised of physicians, nurses, respiratory therapists
- Clinical pharmacists can be part of the core team, but are not always present
- Typically medication errors occurring during code blues result in more harm and death<sup>6</sup>
- The interventions made by the clinical pharmacist on these teams leads to reduced mortality, and increased adherence to ACLS guidelines<sup>4</sup>
- The clinical pharmacist in emergency medicine at BH is acts as a medication consultant on the code blue team to ensure medication best practises
- Objectives:
- To assess the impact of the clinical pharmacist on adherence to ACLS guidelines and appropriate medication use during code blues
- To understand the perception of the role of the clinical pharmacist as part of the code blue team by other healthcare professionals on the team

# Methods

### **Design**:

- Retrospective Code Blue chart review
- Time frame: January 2017-December 2019
- Anonymized qualitative survey to members of the code blue team

## **Inclusion Criteria:**

- Age  $\geq$  18 years old
- All code blues called at BH from January 2017 to December 2019
- **Exclusion Criteria:**
- Code blues where team was dismissed by MRP or code blue physician leader as patient did not require emergency medical treatment based on code blue record documentation

### Survey:

- Anonymized qualitative survey sent to code blue team members
- Series of questions to assess the code blue teams perception of the clinical pharmacist at code blues
- Questions were determined based off pharmacist interventions during code blues in other studies<sup>4-6</sup>

## **Outcomes:**

- Primary: Compliance to ACLS guidelines
- Secondary: Survival of code blue, survival to discharge, appropriate medication use, perception of the roles of the clinical pharmacist on the code blue team
- Analysis:
- Chi-squared and descriptive statistics



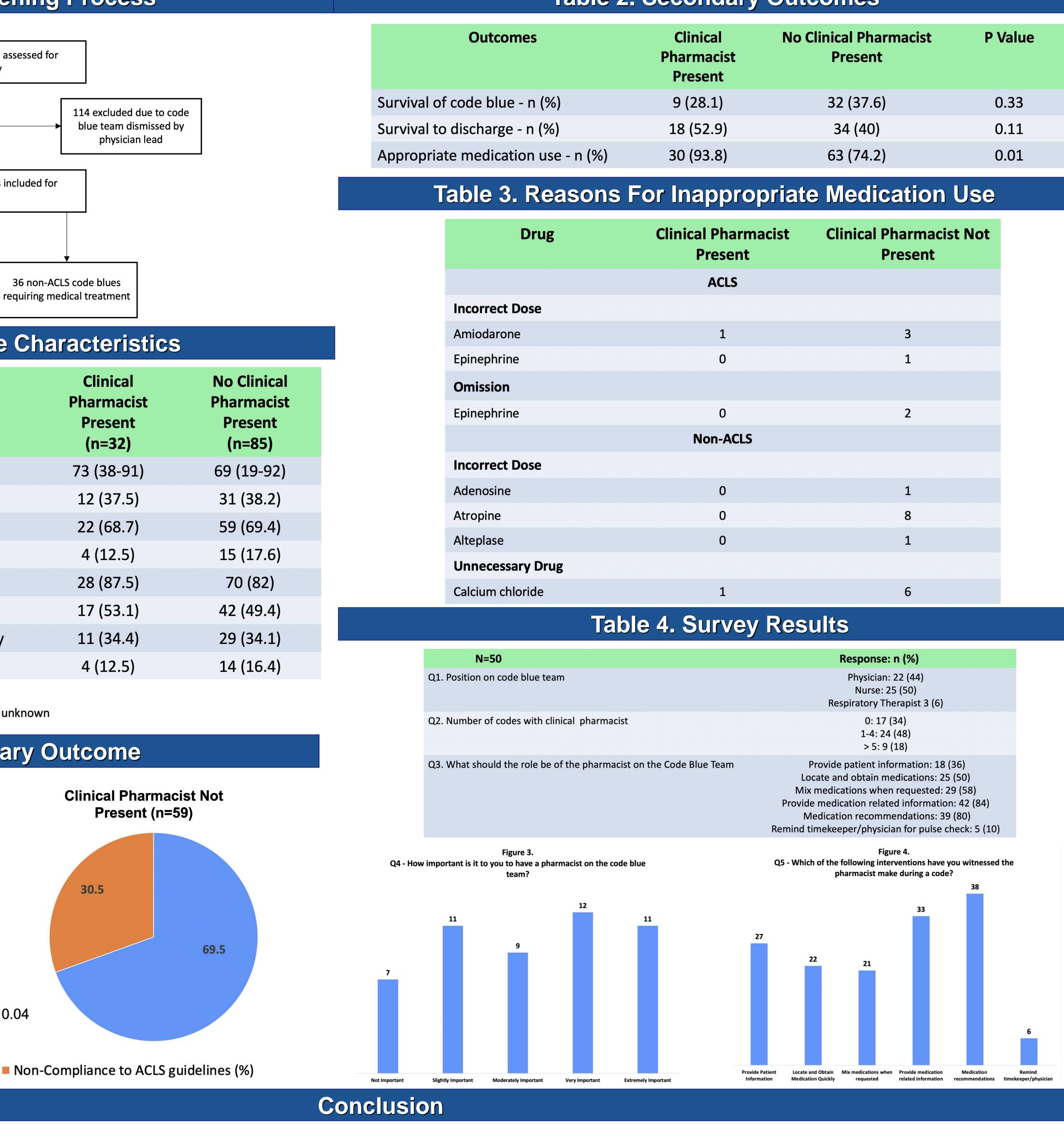


# Figure 1. Screening Process 231 Code Blue charts assessed for eligibility 117 Code blue charts included for analysis 36 non-ACLS code blues 81 code blues required requiring medical treatment ACLS Table 1. Baseline Characteristics **Characteristics** Clinical **Pharmacist** Present (n=32) Median Age (Interquartile range) 73 (38-91) 12 (37.5) Female sex – no(%) 22 (68.7) ACLS protocol required Location of Code Blue - no(%) ICU 4 (12.5) 28 (87.5) Non-ICU\* Cause of Code Blue – no(%) Cardiac 17 (53.1) 11 (34.4) Respiratory Other\*\* 4 (12.5) \*Non-ICU: medicine wards, surgical and imaging rooms \*\*Other causes of code blue: seizures, self extubation, and unknown **Figure 2. Primary Outcome Clinical Pharmacist** Present (n=22) 30.5 90.9 P = 0.04Complaince to ACLS guidelines (%) Majority of the code blue team sees value in the presence of the clinical pharmacist at codes • Members of the code blue team find clinical pharmacist presence beneficial for providing medication information and making medication recommendation **Provincial Health Services Authority**

How you want to be treated

# **Departments of Emergency and Intensive Care Medicines, Burnaby Hospital**

Results



• Presence of the clinical pharmacist on the code blue team is associated with increased compliance to ACLS and appropriate medication use



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# Table 2. Secondary Outcomes

Clinical Pharmacist Present	No Clinical Pharmacist Present	P Value
9 (28.1)	32 (37.6)	0.33
18 (52.9)	34 (40)	0.11
30 (93.8)	63 (74.2)	0.01

Clinical Pharmacist Present	Clinical Pharmacist Not Present	
ACLS		
1	3	
0	1	
0	2	
Non-ACLS		
0	1	
0	8	
0	1	
1	6	

### References

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