

Introduction

- 28,000 medically delegated acts are reviewed annually in the Southwest Ontario Regional Base Hospital Program for adherence to a medical directive and standard of care
- Call volumes in the 11 ambulance services in Southwestern Ontario range from 300 to 83 000 calls annually and operate in both rural and large urban centers (pop. 350,000)
- All 11 services employ Primary Care Paramedics (PCPs), while 5 of 11 employ both PCPs and Advanced Care Paramedics (ACPs)

Objectives

- To determine if there is a difference in error rates between low call volume services and high call volume services
- To determine if the error rate differs between services that employ only PCPs with those that employ both PCPs and ACPs

Methods

- All EMS calls over a 2 year period (April 1, 2008 to March 31, 2010) were reviewed through a computer based filtering (INOFAS) process to identify any errors
- Calls that involved a medically delegated act or were considered high risk (no service calls, field pronouncements) were manually audited by trained individuals
- Errors were classified as critical (action or lack of action likely to produce mortality or increased morbidity, or performance of a controlled act that a paramedic is not authorized to perform), major (action or inaction that may cause morbidity, but not life or limb threatening), or minor (action or inaction that likely did not affect patient morbidity)
- Errors that occurred in high-call-volume services (> 25 000 calls/year) were compared with those occurring in low call volume services (> 25 000 calls/year)
- Services were classified as those employing PCPs only and those employing both PCPs and ACPs
- The error rates between the two types of services were compared

Results

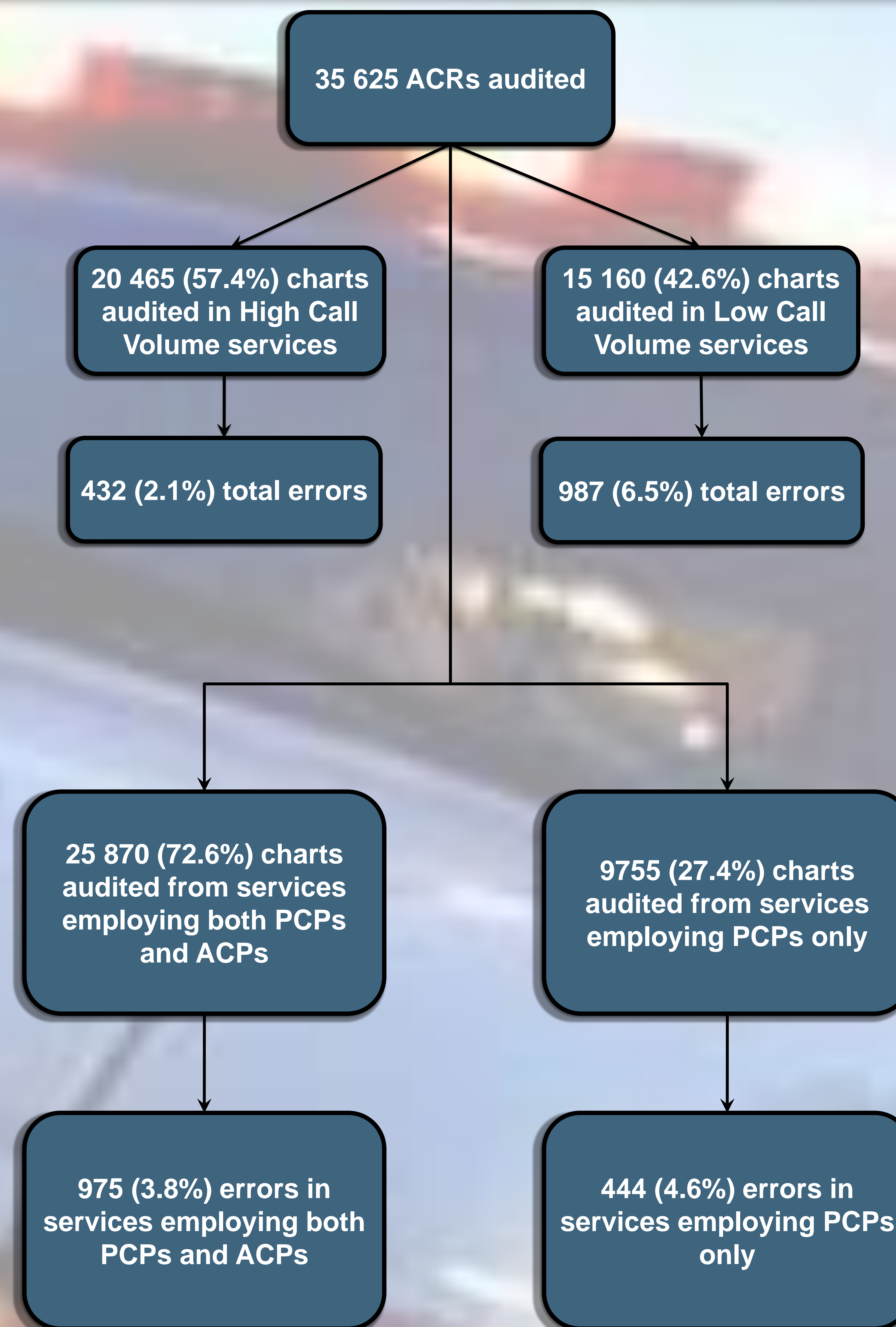


Figure 1: flow diagram of retrospective findings

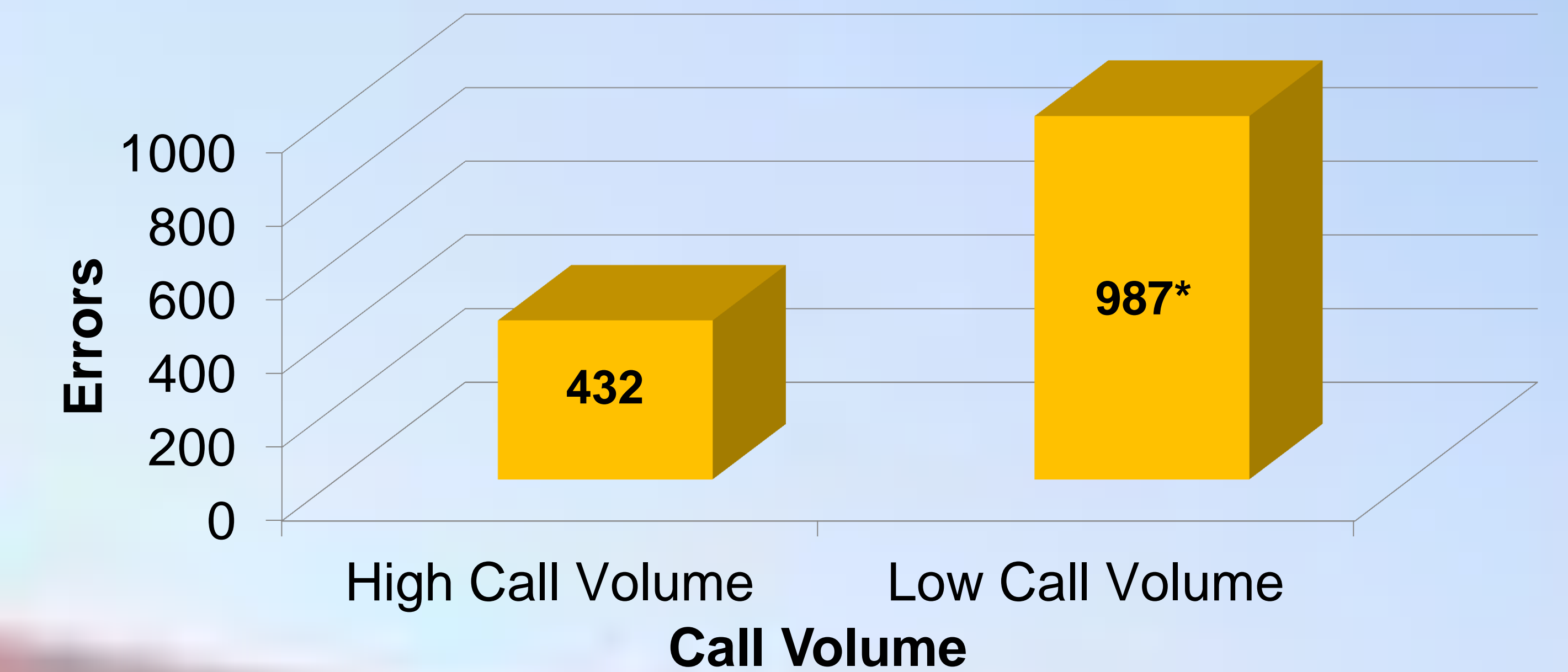


Figure 2: Errors committed in High and Low Call Volume EMS Systems
*p<0.01

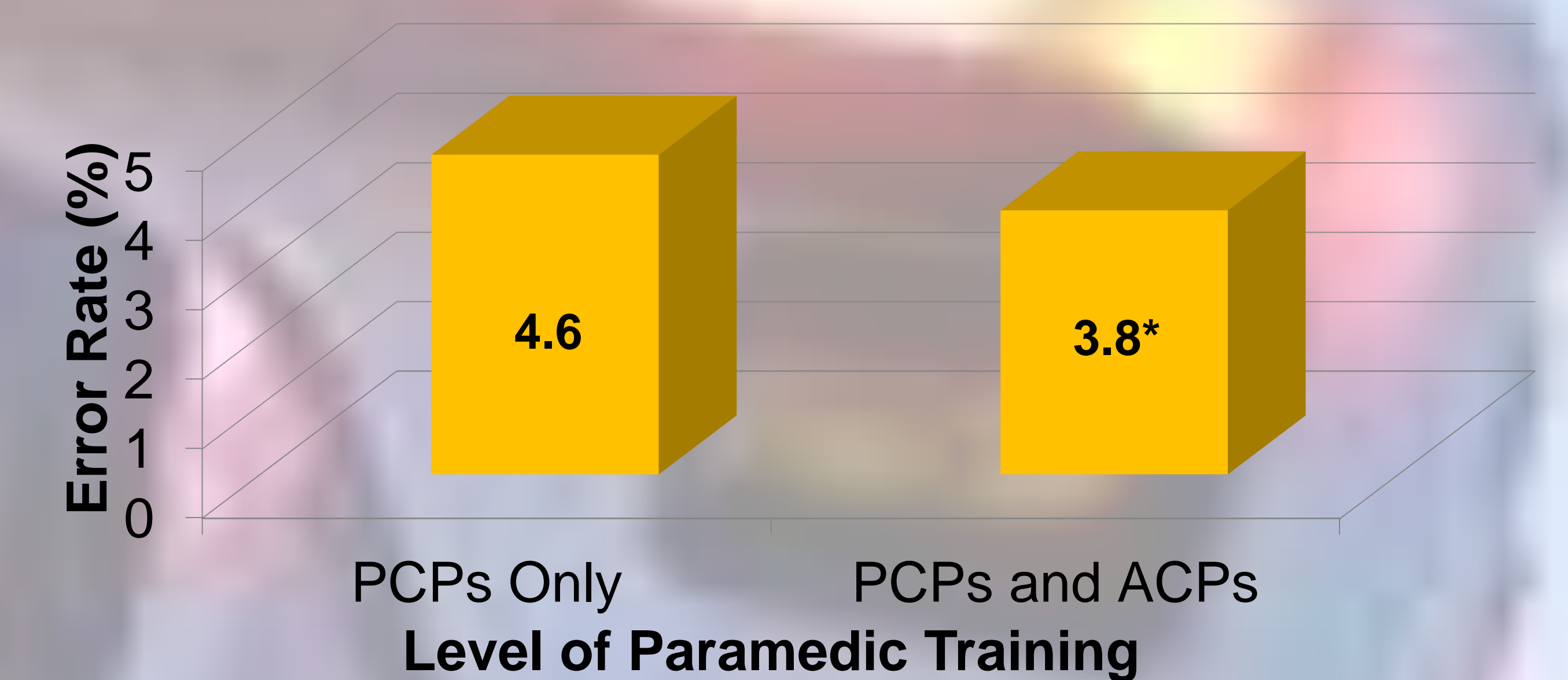


Figure 3: Error rate in services employing PCPs only and those that employ both PCPs and ACPs
*p<0.01

Limitations

- Unknown if errors caused by PCPs or ACPs in services employing both levels of paramedics
- Low Call Volume services employ PCPs only, therefore it is difficult to determine if call volume or level of training has greater impact on error rate in this type of study

Conclusions

In this retrospective study:

- Low call volume services had a significantly higher rate of medical directive errors
- Services employing only PCPs had a significantly higher rates of error than those that employ both PCPs and ACPs