Background/Rationale
In the hospital:
• 1 in 9 patients receives the wrong medications or the wrong dose
• 9,250 to 23,700 people died in a Canadian hospital as a result of a medication error
• 38% of adverse events were determined to be preventable
• 24% of AEs related to medication errors

Source: Canadian Adverse Event Study (2004)
23% of patients in a study of 328 patients had an AE after discharge
72% of all AEs were related to medication side effects of medications and what action to take
72% of AE related to medication errors
9,250 to 23,700 people died in a Canadian hospital due to poor memory, recall in-hospital difficult due to poor memory, recall in-hospital difficult due to poor memory, recall in-hospital difficult due to poor memory, recall in-hospital difficult due to poor memory, recall in-hospital difficult due to poor memory, recall in-hospital difficult due to poor memory, recall in-hospital difficult due to poor memory, recall in-hospital difficult due to poor memory, recall in-hospital difficult due to poor memory, recall in-hospital difficult due to poor memory, recall in-hospital difficult due to poor memory, recall in-hospital difficult due to poor memory, recall

Focus group themes:
• 72% of all AEs were related to medication
• 9,250 to 23,700 people died in a Canadian hospital
• 1 in 9 patients receives the wrong medications or the wrong dose

Research Question
1. Does the use of an interactive voice response (IVR) system improve medication compliance and reduce adverse events?

Method
• Enrolment occurred from June 06 to May 07
• RCT with 2 groups: IVR follow-up and Usual Care (UC)
• Inclusion: All patients over 18 discharged from the UOH with CABG and/or vascular surgery with telephone service in their home and speaking English or French
• Exclusion: Other surgeries (cardiac transplantation), and/or discharged to a care facility or other institution
• Approval by the UOHU Human Research and Ethics Board was obtained

Treatment Group
• Automated calls at 1, 2, 3, 4, 6, 8, 10, 12, 14, and 20 weeks after discharge
• Patients’ answers to reminder questions that were recorded into a database

Goal
• To identify the need for medication follow-up
• To determine the demographics of patients who are at risk for medication errors

Usual Care
• All cardiac surgery patients at the UOHU receive an IVR call day 3 and 10 after discharge for symptom screening
• Currently, there are no questions on medications or information given on medications during this symptom screening call

Statistical Analysis
Conducted on an intention-to-treat basis
Primary outcome: Composite based on increased medication compliance and decreased adverse events
Secondary outcomes: Medication compliance, ER visits, hospitalizations
Event rate of 50% in UC group was used with alpha-value of 0.05 and power of 90%

Participants
330 patients (UC n = 167; IVR n = 163)
Mean age = 63.8 yrs (range 36–86)
73% male
73% CABG
83% had high school or higher education
53% retired

Results
• 53% retired from their jobs at the age of 63
• 83% had high school or higher education
• 73% male
• 73% CABG
• 70% male

Conclusion
• There is a statistical difference between the 2 groups for the primary outcome and the secondary outcome of medication compliance
• IVR technology improves medication safety and provides extended patient follow-up
• The number and frequency of calls is an important consideration for future algorithms

Components of this algorithm can be inserted into other existing condition-specific IVR programs such as the Heart Failure Follow-up program

Outcome Analysis
Primary outcome
IVR (%) UC (%) p
Iodine 131 uptake 41 69 0.001
Medication compliance 26.8 9.0 0.0001
Dosage 24.5 11.1 0.017
Diabetes control 15.0 11.0 0.109

**CALLBACK** RESPONSES

Ivr (%) UC (%) p
15% complete 163 161 1
14% calls back 41 69 0.001
54% general reminder
93% would prefer an IVR follow-up to no telephone follow-up
97% were satisfied with the information provided
92% would prefer an IVR follow-up to no telephone follow-up

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Contact Information
Heather Sherrard
613-761-4826
hsherrard@ottawaheart.ca

Christine Struthers
APN Cardiac Telehealth
Funded by the Canadian Patient Safety Institute