



Automating Post Discharge Calls to Patients in Home and Community Care using IVR

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Champlain CCAC

Presentation Outline

- Review the business opportunity
- Describe the implementation of automated processes for completing post discharge calls
- Present the Pilot evaluation results
- Going Forward

Business Opportunity

- Champlain CCAC (with other CCACs) introduced Standards of Care (SOC, now “Guidelines of Care”) calls in April 2013
- Increase contact with patients
 - Only about 15% of calls were being completed due to human resource constraints
 - Require ability to quickly identify and address patient experience and quality issues
 - Identify the subset of patients who require personal follow-up
- Save cost
 - Estimated that completing 75% of the proposed SOC calls would cost ~ \$194,000/year

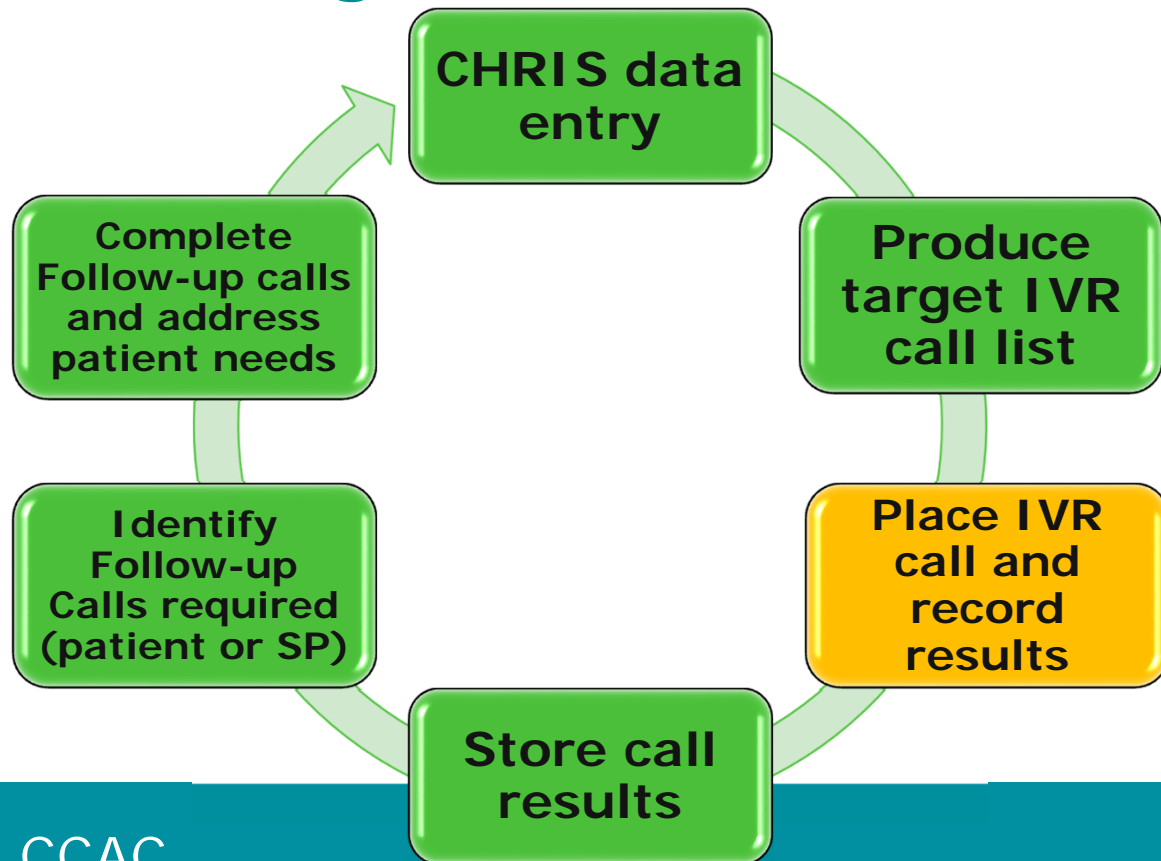
Call Automation Project Objectives

- Assess technical and economic feasibility of the application of Interactive Voice Response technology
 - Effectiveness of the technology at contacting and completing calls to patients
 - Effectiveness of identifying appropriate patients for personal follow-up
 - Efficiency of the solution – technology plus related Staff costs
- Patient acceptance of the technology
- Minimize risk – cost, staff disruption and CCAC reputation

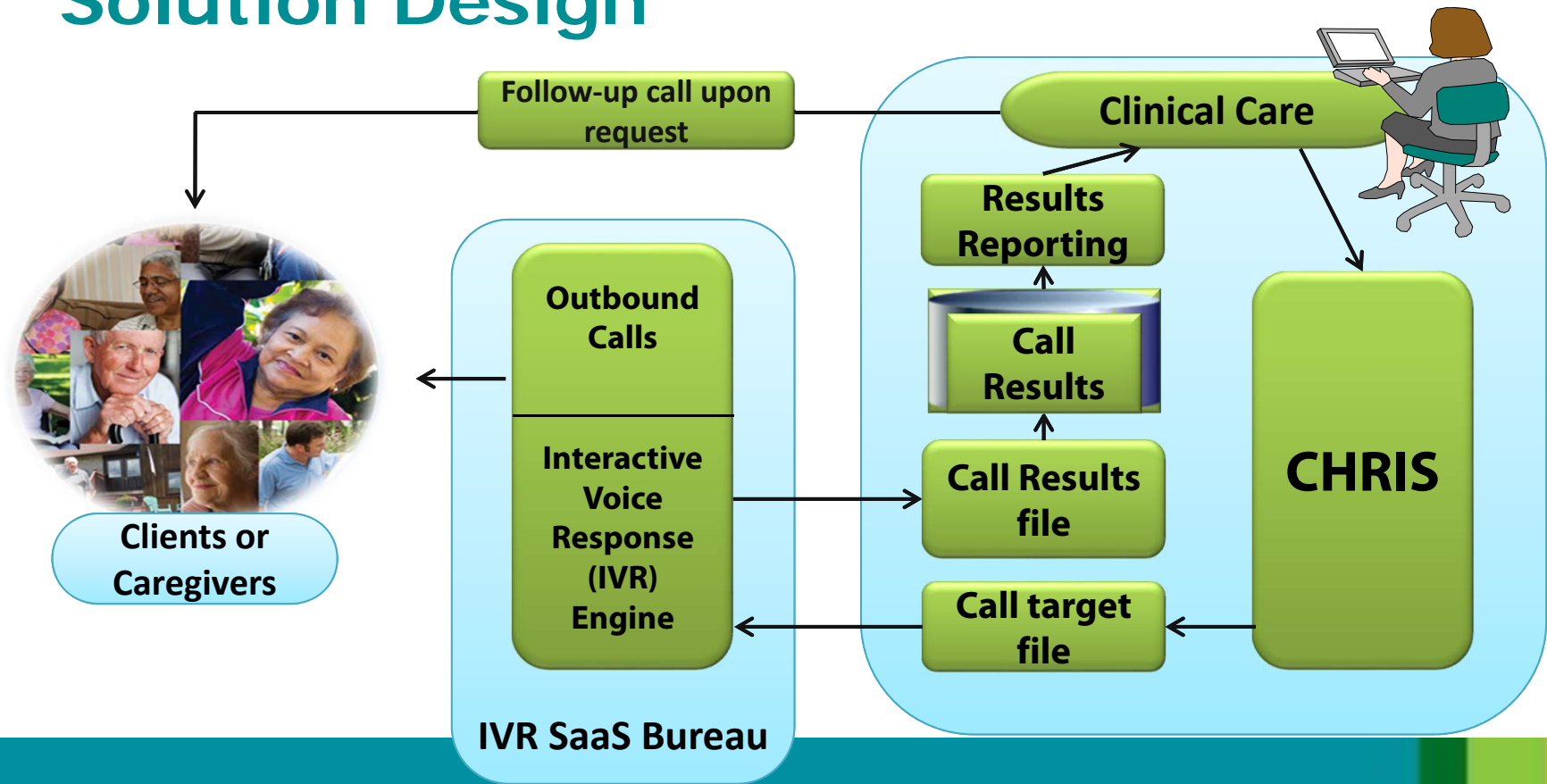
Call Automation Project Activities

- Selected an IVR Partner through Merx process - Vocantas
 - Health care experience
 - Employ speech recognition in all calls
 - Service bureau model (no major up front investment for the CCAC)
- Design
 - Interactive call scripts
 - Business processes, roles and responsibilities
 - Detailed Evaluation Framework
- Development
 - Education materials/eLearning, educated staff
 - Solution design and data tracking
- Implement ~ 90 day pilot project for each type of call
- Complete detailed evaluation
- Go/No Go decision for production by call type

Process Design



Solution Design



Evaluation Framework

- Specific to each Call Type

- **Achieving the guidelines of care targets (statistical)**
 - Did we meet the guidelines of care for call completion?
 - Were the Questions appropriate?
 - What is the utility of IVR calls?
- **Clinical Value (chart reviews)**
 - Did the Post discharge calls provide clinical value?
 - Are we targeting the right patient populations?
 - Which patient populations benefit the most from the calls?
 - Did we improve patient outcomes?
- **Patient Perceptions (follow-up telephone survey)**
 - Was the IVR system acceptable?
 - What was the patients' perceived value of the IVR Calls?
 - What is the patient perception of the IVR technology?
- **Economics and Efficiency (cost/benefit)**
 - What is the feasibility of using the IVR for SOC calls?
 - What is the net benefit of using the IVR system to support SOC calls?
 - What was the impact of the use of IVR on staff workload?
 - Are there cost savings?

First IVR Application

- Post Discharge Calls

- **Approach** – followed existing provincial approach to post discharge call questions
 - Questions to determine if patient is managing well at home and if their condition has worsened
 - Ask patient if they have questions or concerns
- **Patient population focus**
 - Short Stay adult patients
 - Select Long Stay adult populations
- **Pilot project scope**
 - 90 day pilot, about 1200-2000 calls
 - Executed pilot – April 28 - July 31, 2014

Post Discharge Call Flow

- **Introduction**
- **Ask for/confirm patient (or primary caregiver)**
- **Q1. Are you Managing well at home?**
Answer: Yes or No
- **Q2. Has your condition worsened since your discharge?**
Answer: Yes or No
- **Q3. Would you like someone from the CCAC to contact you?**
Answer: Yes or No
- (If no to Q3) **Q4. Do you need any further information related to health services available in your community?**
Answer: Yes or No
- **Closing**

What Did the Post Discharge Calls Sound Like?

- Post Discharge call Pilot – English
- Post Discharge call Pilot – French



Pilot Call Completion Results – All Patient Populations

Call Result	Manual process	Counts	% of Total
Unique Patients called		1224	
Answered Call*		902	74 %
Answered all Questions	13%	537	44 %
Patient Requested call-back		121	9.9 %
Answering Machine/voicemail	3%	218	18 %
No Answer/Contact		104	8.5 %
Total clients Contacted**	16%	1120	91.5 %

*An 'Answered Call' is when the person answering the phone acknowledges they are the past Patient or Caregiver during the call introduction

** 'Clients Contacted' includes 'Answered' and when Voicemail was left

Pilot Call Completion Results

– Comparing Population Segments

Call Result	Short Stay (SS)		Long Stay (LS)	
Unique Patients called	585		634	
Answered Call	449	77 %	450	71 %
Answered all Questions	295	50 %	242	42 %
Patient Requested call-back	46	7.9 %	75	11.8 %
Answering Machine/voicemail	102	17 %	115	18 %
No Answer/Contact	34	5.8 %	69	11 %
Total clients Contacted	551	94 %	565	89 %

Not a large statistical difference of Short Stay and Long Stay patient populations from overall results

Requested Call-Back Results – Chart Note Analysis

- **118 CHRIS notes analyzed**
- **90 Follow-up calls - Reasons for requested call-back:**
 - New referral for same client – 5
 - Request for spouse to be assessed for services – 2
 - Request an increase in services – 2
 - Medical questions from patients – 5
 - CCAC services questions – 8
 - General questions – 6
 - Questions related to CSS/potential other services – 11

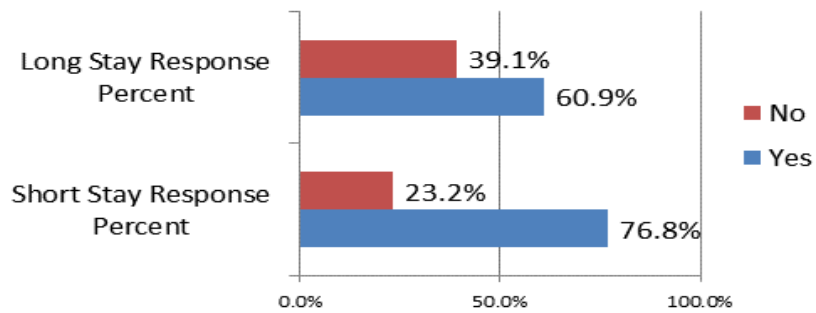
- Voicemail left or could not reach patient – 13
- No reason or action recorded by TA in CHRIS – 10
- Call-backs requested by patient in error or patient indicated call back not really required – 22
- SDM wanted to update CCAC on patient's condition – 6

Post Pilot Telephone Survey – Results

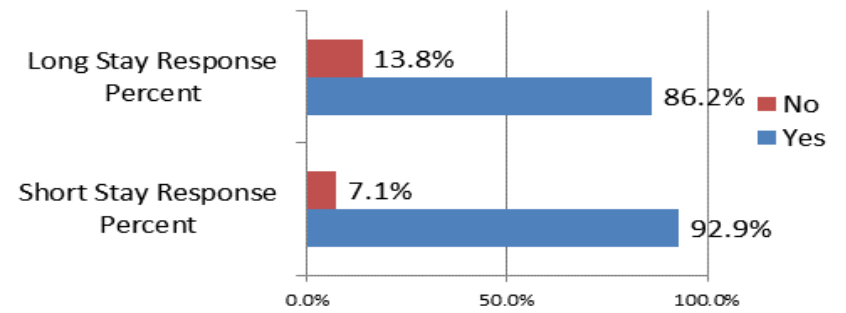
- Conducted a manual telephone survey to evaluate patients' views of the value of IVR
- Total patients contacted: n = 169
 - Short Stay population = 65
 - Long Stay population n = 104
- Patients who answered/completed the calls: n = 143
 - SS = 56
 - LS = 87
- Patients who did not answer or hung up: n = 26
 - SS = 9
 - LS = 17

Telephone Survey Results – Completed IVR Calls

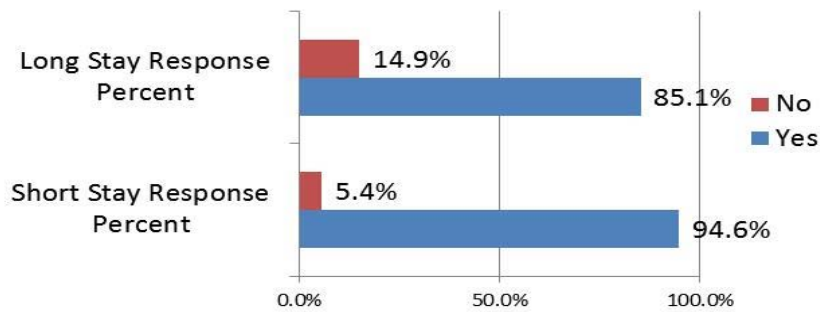
Did you find the automated call useful?



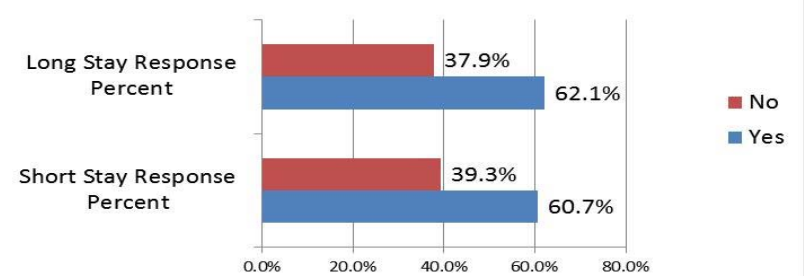
At the time of the call, did you understand the questions?



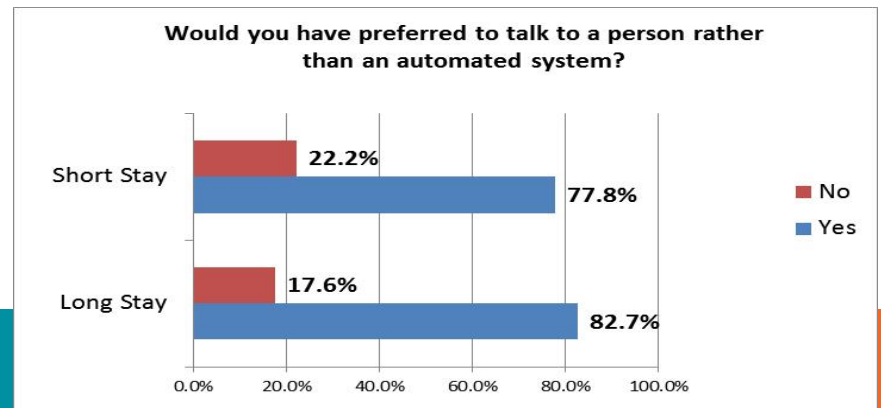
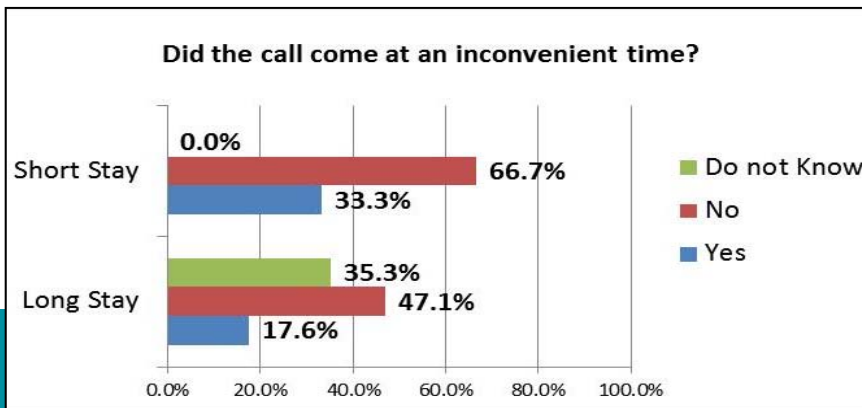
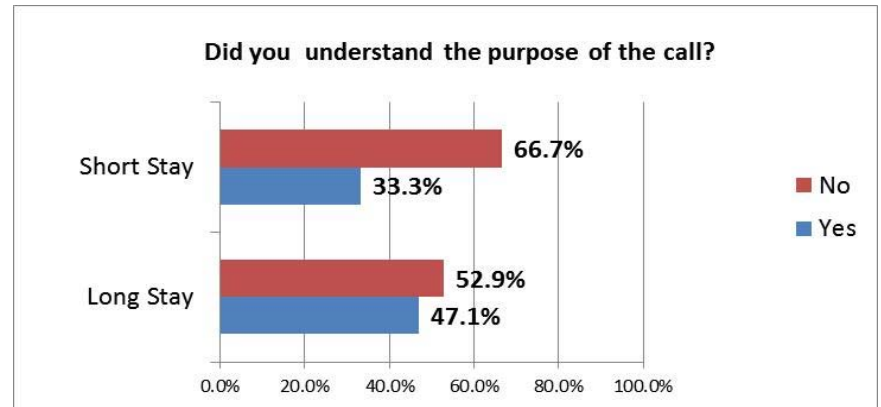
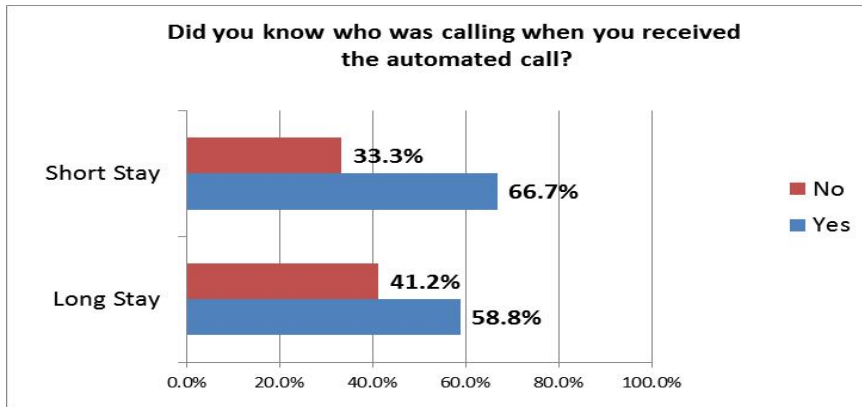
Did you find the call easy to use?



Would you have preferred to talk to a person rather than an automated system?



Telephone Survey Results – Hang-ups/Incomplete Calls



Evaluation Conclusions (1/4) – Achieving SOC Targets

- Did we meet the guidelines of care for call completion? – **Yes**
- Were the questions appropriate? – **For the most part Yes**
 - Area for improvement identified - Replace the second question which proved of limited value
- What is the utility of IVR Post Discharge? – **High**

Evaluation Conclusions (2/4)

– Clinical Value

- Did the Post Discharge calls provide clinical value – **Limited**
- Are we targeting the right patient populations? – **Yes**
- Which patient populations benefit the most from the post discharge calls? – **Long Stay Populations**
- Did we improve patient outcomes? – **No evidence observed**

Evaluation Conclusions (3/4) – Patient Perceptions

- Was the IVR system acceptable to patients? – **Yes**
- What was the patients' perceived value of the IVR Calls? – **Useful**
- What is the patient perception of the IVR technology?
– **Positive**

Evaluation Conclusions (4/4)

– Economics and Efficiencies

- What is the net benefit of using the IVR system to support SOC Post Discharge calls? – **High**
- What is the feasibility of using the IVR for post discharge and Initial Contact calls? – **High**
- What was the impact of the use of IVR on staff workload? – **Significant Reduction**
- Are there cost savings? – **No, but significant cost containment**

Going Forward

- Post Discharge calls – production
 - Statistical evaluation on a quarterly basis – continued successful contact rates
 - Minor changes to the Post Discharge call script prior to production
 - Full re-evaluation approaching end of first year
- Initial Contact/Initial Visit Verification calls
 - Successful Initial Contact Call Pilot: Sept – Dec. 2014
 - moved to production on Jan. 2, 2015
- Implemented pilot using IVR for Waitlisted Patient follow-up calls
 - Began March 30, 2015 –> target completion July 2015

Acknowledgements

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Project Governance

- Kim Petersen
- Sophie Parisien
- Glenda Owens
- Claire Ludwig
- Jamie Stevens
- Paula Greco
- Paul Boissonneault



Questions?

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Appendix A

Initial Production Statistical Results

Champlain CCAC

Call Completion Results

- Post Discharge Production

Call Result	Manual	Pilot		Production Q3 2014-15		Production Q4 2014-15	
		Count	%	Count	%	Count	%
Unique Patients called		1224		2314		2251	
Answered Call		902	74 %	1761	76%	1729	77%
Ans. all Questions	13%	537	44 %	1265	55%	1260	56%
Requested call-back		121	9.9 %	226	9.8%	251	11%
Answering Mach./VM	3%	218	18 %	393	17%	410	18%
No Answer/Contact		104	8.5 %	150	6.9%	112	5.0%
Total Patients Contacted	16%	1120	91.5%	2154	93.1%	2139	95%

- Continued minor statistical differences between Short Stay and Long Stay patient populations