



Niagara  
Emergency  
Medical  
Services

Niagara  Region

# Innovating to Better Address the Current and Future Health Care Needs of Niagara

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# Demographics

- Over the next 20 years Niagara's population is expected to increase by roughly 79,000 people or 17.8 per cent(1).
- In Niagara, Seniors 65y+ will account for 60 per cent of the population growth (approximately 47000 people).
- Increase in the senior population is the result of an aging baby boomer population and the migration of individuals 55y+ from the surrounding regions as they make the decision to retire in Niagara(2).

1. Region of Niagara Sustainable Community Policies (2009): Policy Plan Amendment.
2. The Regional Municipality of Niagara: Growth Management Strategy



# Trends Specific to Niagara

- 45% increase in lower acuity transports to ED since 2013
- These patients invariably end up on off load delay – 2017  
- 16 000 hours in offload delay!
- Need to address the gaps and provide innovative *upstream* solutions



# Uniquely positioned to address identified needs

- Integrated Land Ambulance Service With Communication Center
- Through Technological Innovation
- Through System Transformation and Key Programs both “scheduled” and “unscheduled”



# Wainfleet “Scheduled” CP Program Demographics

- 1 ACP 0800 – 2000, 7 days/week – 63 clients
- Seniors (65 and older) or any “at risk”
- Complex medical conditions with a primary focus of:
  - Falls prevention
  - Heart disease
  - COPD





# Key Performance Indicators

- Average of 45 home visits/month
- 60% ↓ 911 calls
- 30% ↑ new services accessed for clients



# Regional Community Paramedic Program Demographics

- 1 ACP Regionally – Monday to Friday 0830 – 1630
- 121 clients enrolled
- High Users of Prehospital and Hospital Services
- 39% live alone (social isolation)
- 46% are receiving < \$30,000
- 29% did not complete high school



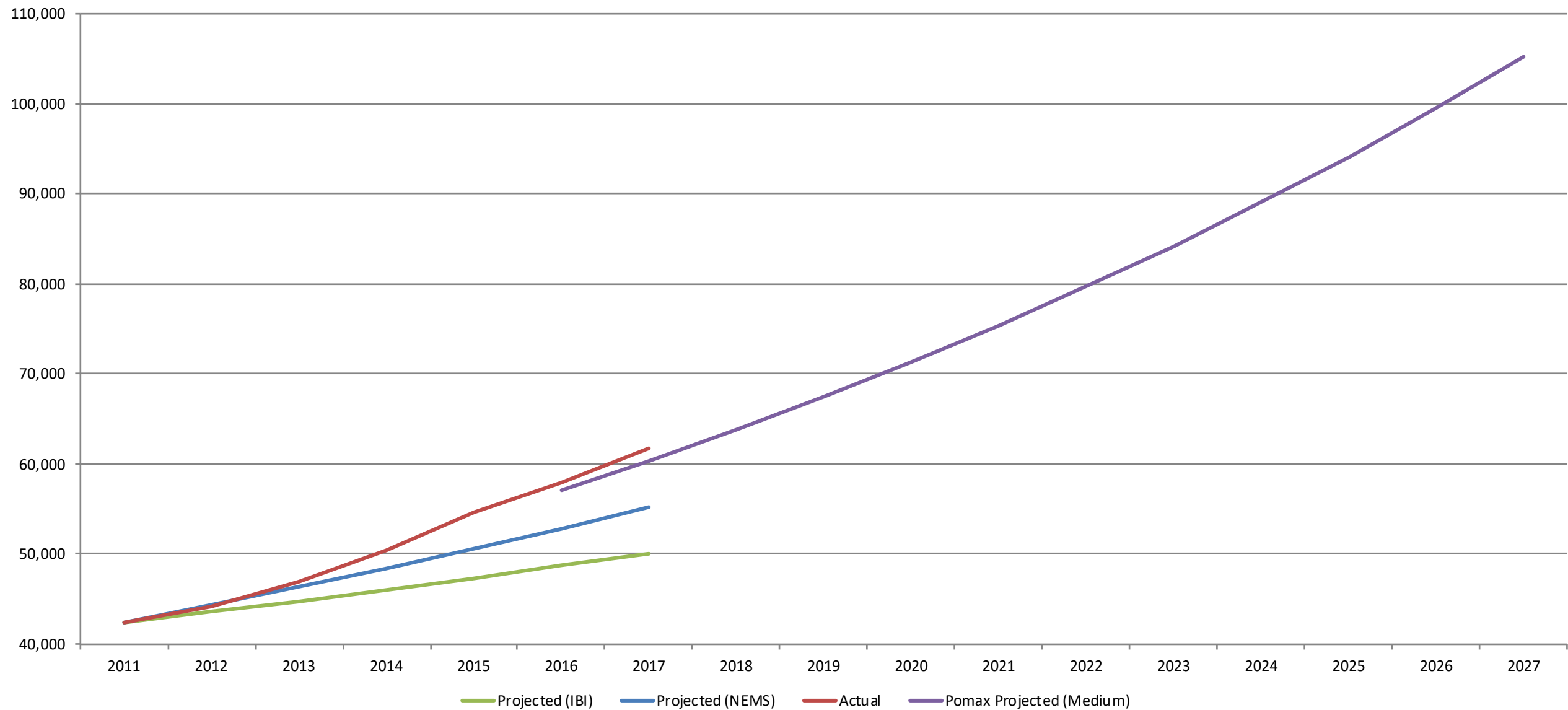
# Key Performance Indicators

- 53% ↓ 911 calls
- 59% ↓ in ED visits
- 49% ↓ hospital admission days



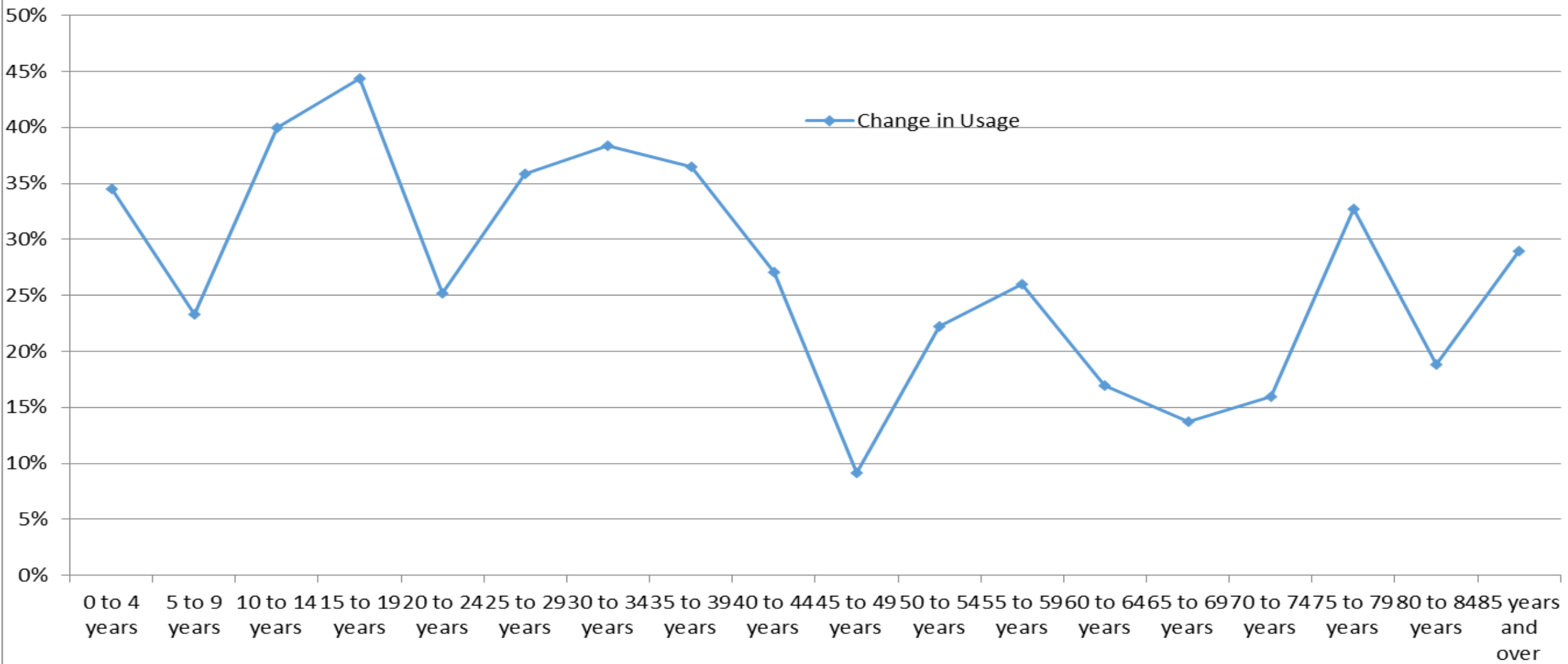


EMS Call Volume Projected vs Actual





## Change in Usage Rate - Niagara 2011 v 2016





## Top Five EMS Transports to EDs in Niagara (2013-2015)

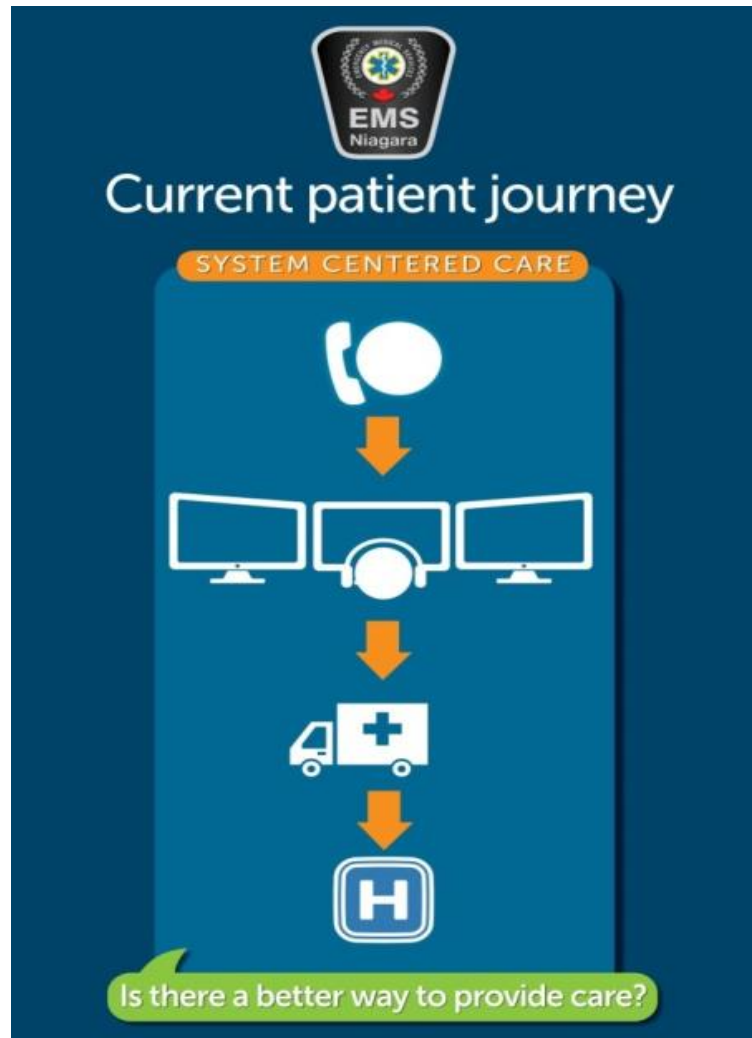
Niagara	1	2	3	4	5
0<1 years	Resp. Distress	Seizure/Post Ictal	General Illness/ Weakness	Other Medical/ Trauma	Newborn/Neonatal
1-4 years	Seizure/Post Ictal	General Illness/ Weakness	Resp. Distress	Soft Tissue Pain/ Trauma/Edema	Other Medical/ Trauma
5-9 years	Musculoskeletal Trauma	Seizure/Post Ictal	Soft Tissue Pain/ Trauma/Edema	Behaviour/ Psychiatric	Resp. Distress
10-14 years	Musculoskeletal Trauma	Behaviour/ Psychiatric	Soft Tissue Pain/ Trauma/Edema	Syncope	Seizure/Post Ictal
15-19 years	Musculoskeletal Trauma	Behaviour/ Psychiatric	Alcohol Intoxication	Soft Tissue Pain/ Trauma/Edema	Drug Overdose
20-24 years	Musculoskeletal Trauma	Behaviour/ Psychiatric	Abdominal Pain NYD	Soft Tissue Pain/ Trauma/Edema	Seizure/Post Ictal
25-44 years	Musculoskeletal Trauma	Abdominal Pain NYD	Behaviour/ Psychiatric	Soft Tissue Pain/ Trauma/Edema	GI Problems/Pain/ Vomiting/Nausea
45-64 years	General Illness/ Weakness	Musculoskeletal Trauma	Abdominal Pain NYD	Soft Tissue Pain/ Trauma/Edema	Ischemic Chest Pain
65-74 years	General Illness/ Weakness	Resp. Distress	Musculoskeletal Trauma	Abdominal Pain NYD	GI Problems/Pain/ Vomiting/Nausea
75-84 years	General Illness/ Weakness	Musculoskeletal Trauma	Resp. Distress	GI Problems/Pain/ Vomiting/Nausea	Abdominal Pain NYD
85+ years	General Illness/ Weakness	Musculoskeletal Trauma	Resp. Distress	Soft Tissue Pain/ Trauma/Edema	GI Problems/Pain/ Vomiting/Nausea

*Mental  
Health*

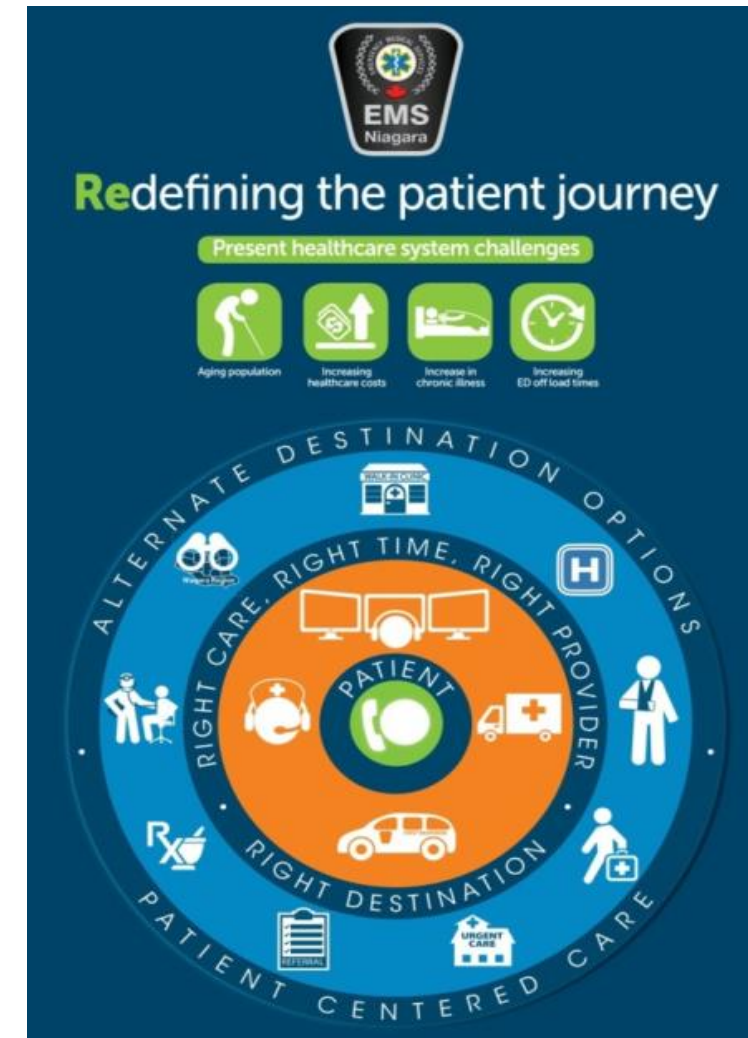
*Falls &  
Generally  
Unwell*



# The Future of NEMS



**“Central to each (country’s) vision is the concept of providing pre-hospital care as a system, rather than just a single service type, that can provide a flexible response to a wide with other related healthcare providers.” (Sheffield, pg. 44)**





# Systems Planning

- Regional survey
- Formation of key committees and relationships
- Value stream mapping with partners and patients
- Formation of new “unscheduled” CP teams
- Increasing efficiency and decreasing duplication



## System Transformation – “Unscheduled” Community Paramedicine

- Multidisciplinary teams – designed for purpose – alternative response to low acuity 911 calls
  - Falls Response Team (Paramedic/OT) – “FIT”
  - Mental Health and Addictions Response Team (Paramedic/MH Nurse) – “MHART”
  - Community Assessment and Response Team (Paramedic) – “CARE”
- Continue to expand Community Paramedic Programs



# Early Results

- ✓ 2018 **2.8%** volume increase compared to **6.6%** yearly average from 2011-2017
- ✓ **10 %** reduction overall of mental health transports to hospital to ED despite a **7%** increase in mental health calls coming into our communication centre
- ✓ increase of **0%** in calls for falls and a **2%** decrease in transports to ED - the previous year saw an increase of **9%** in falls
- ✓ **0%** increase of calls for general unwell patients but an overall decrease in transports to ED of **6%** for this cohort



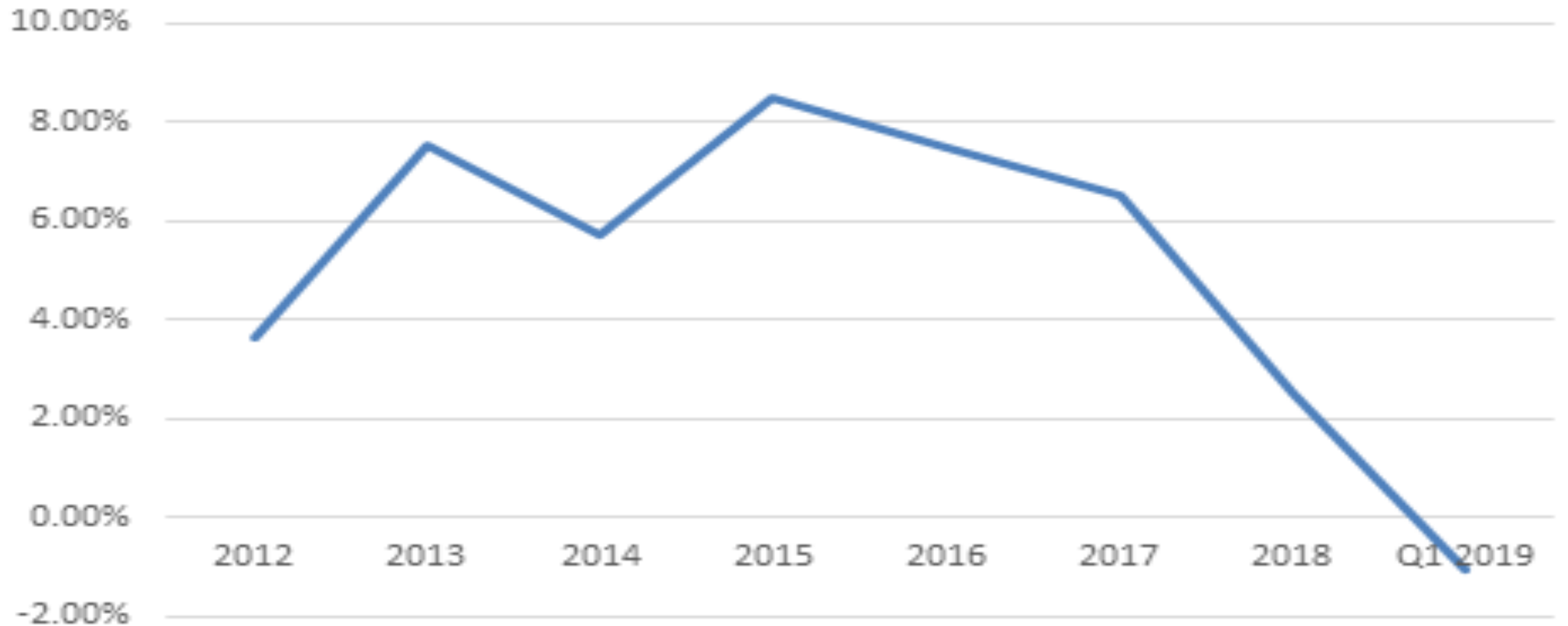


# Decreases in Repeat Callers

- From 2016 to end of 2017, increase of 15% in repeat calls and an increase of 12% in unique callers
- 5 months after implementation, have only seen a 4 % increase in repeat calls and a 6.3% increase in repeat callers – while still an increase – rate of increase is improving!
- Collectively – they have referred patients 690 times for other, more appropriate community services



## Call Volume Increase by Year



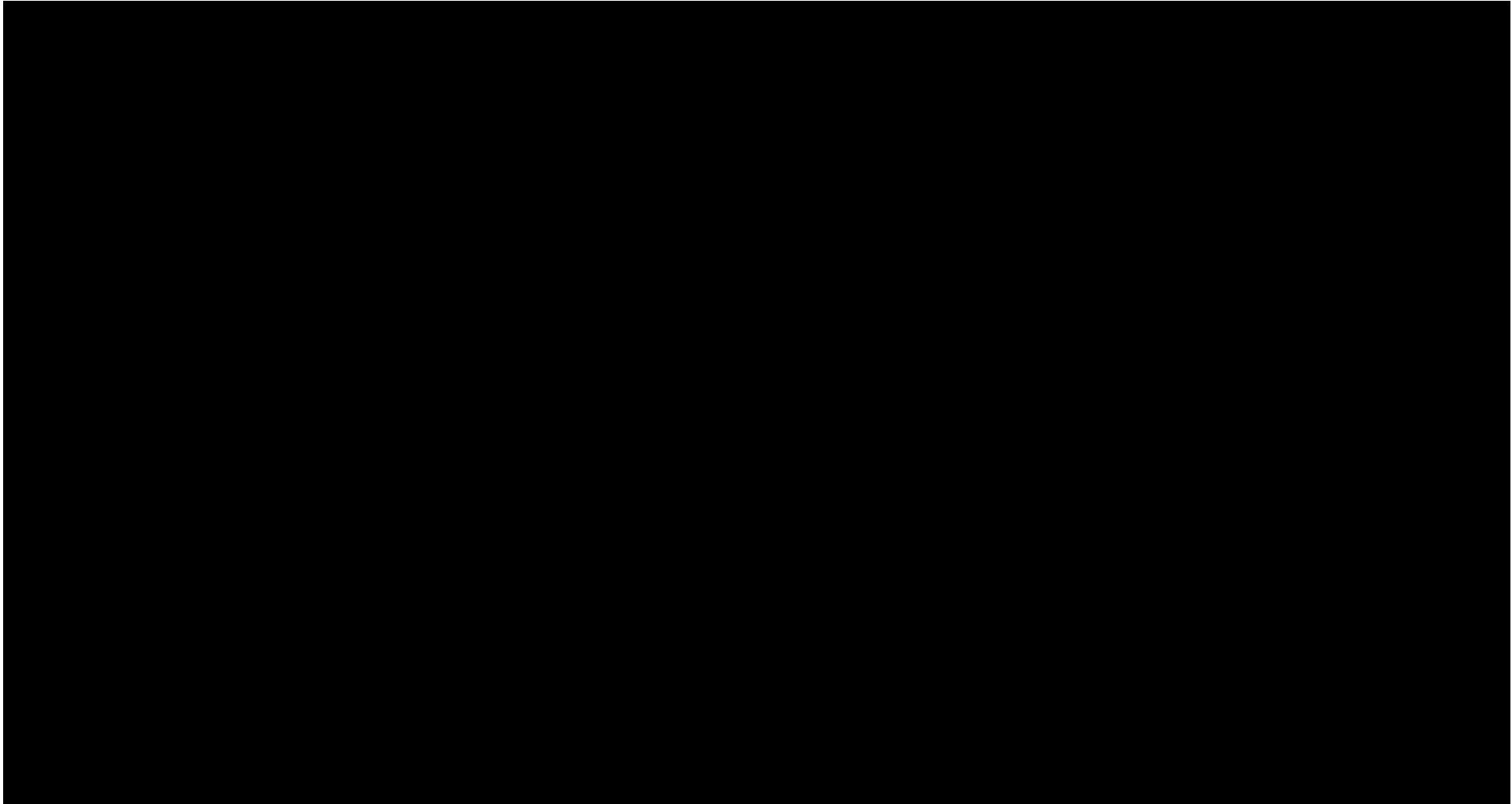


# Summary of QA Findings to date

- 22 Calls Identified eligible for medical director review
- ***% of Patient interactions that resulted in re-contact post 24 hours and CTAS transport 1 or 2 = 0***
- % of Total Calls Audited where an error was assigned by the Medical Director – 0%
- % of Total Calls Audited that resulted in a recommendation of Remediation – 0%



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# Thank You!

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