



Getting Ready for Big Data

A Journey through Data Governance

By
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Peel Senior Link



Agenda

1. Peel Senior Link
2. Big Data in Seniors Community Care
3. Data governance
4. Data privacy and security



1.

Peel Senior Link

Helping Seniors Live Independently



“Quality and valued assisted living services by helping seniors live independently with dignity and respect”

Incorporated

Incorporated and received charitable status

Funding from United Way of Peel, Ministry of Health, grants and donations

SDL

SDL Model developed – 24/7 – also known as hub & spoke model.

Growing

11 locations with a capacity of 325 clients, Bathing program, Integrated Seniors Team, Creditvale Mills Hub

1991

1993

1998

2008

2010

2018

Need

Supportive Housing for Seniors identified as a Community need

24 hours

Moved from 12 + 12 service to 16 hours and then 24 hours on-site service in 13 buildings across the Region of Peel

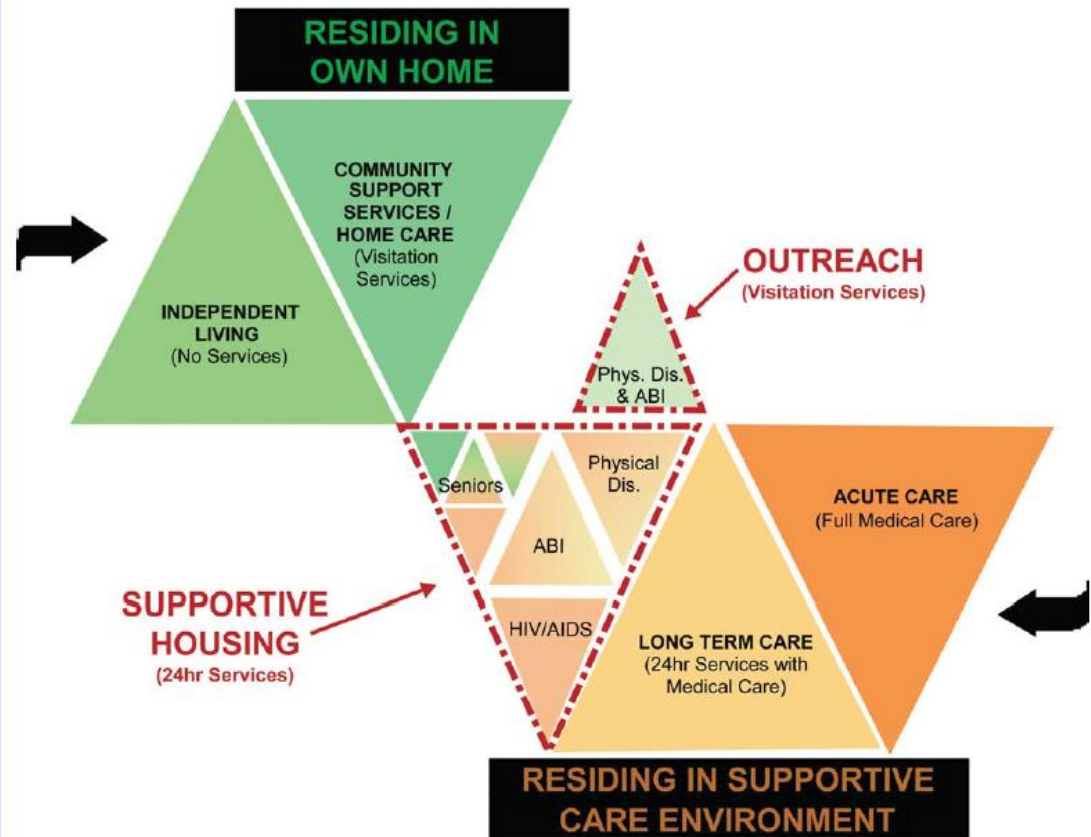
Accreditation

First accreditation – 3 year status

Supports for Daily Living (SDL) Model Pre-2008

Pre-SDL Framework

Diagram of Supportive Housing within the Continuum of Care

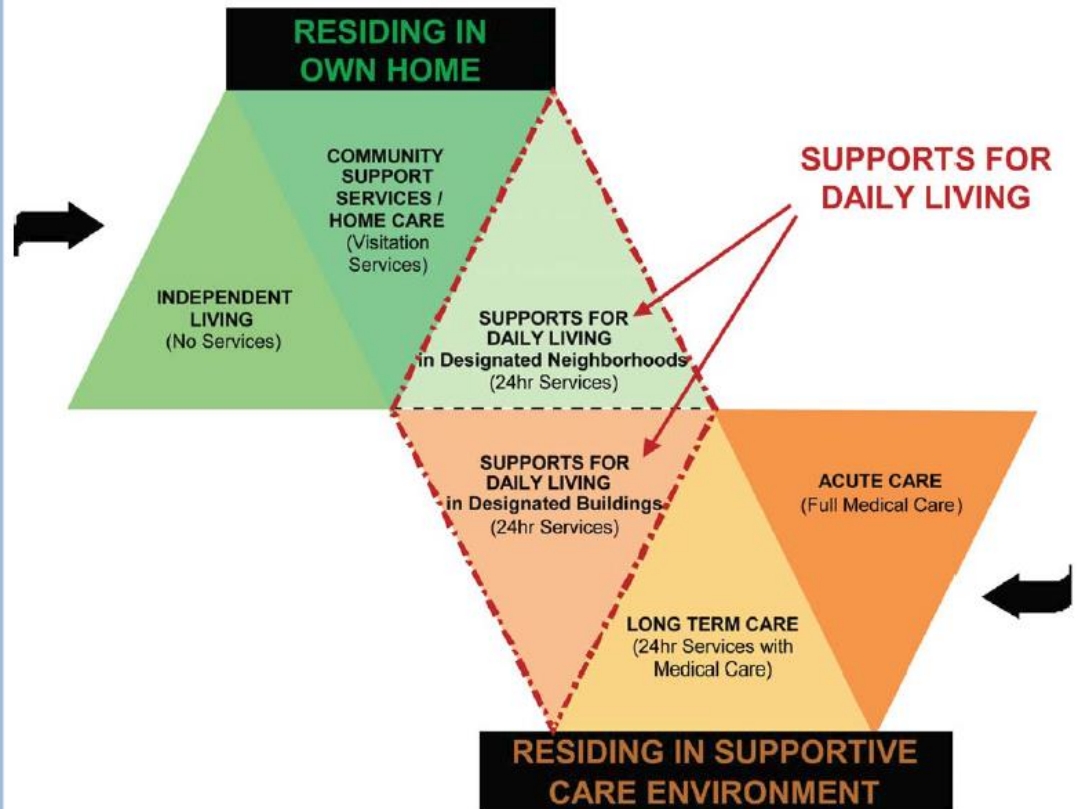


Developed by Lisa Gammage, Nucleus Independent Living 2007

Post-2008

Post-SDL Framework

Diagram of Supports For Daily Living
within the Continuum of Care



Developed by Lisa Gammage, Nucleus Independent Living 2007

Hub and Spoke Model

	Personal Hygiene Activities	Personal Routine Activities of Daily Living
Personal Support Services	<ul style="list-style-type: none">• washing• bathing• mouth care• hair care• preventative skin care• changing dressings (not wound care)• routine hand and foot care	<ul style="list-style-type: none">• transferring/positioning• turning• dressing/undressing• assistance with eating• assistance with toileting (diapering, emptying/change leg bag, catheterization, bowel routine)• assistance with exercise• escort to medical appointments• medication reminders; assistance with pre-measured medications
Homemaking Services	Light dusting, sweeping, vacuuming, mopping floors, washing dishes/ countertops, clean and disinfecting bathrooms Laundry and planning/preparing meals	
Attendant Services	Combination of personal support and homemaking services offered at clients' preferred, pre-determined time and pre-determined task they cannot physically do for self	

Our Impact



Total Clients Served
325



New Clients Served
103



**Long-Term Care
Diversions**
36



ER Visits Diverted
103



**Dollars Saved With
Diverting ER Visits**
\$40,929*



**Total Resident Days
Per year**
117,530



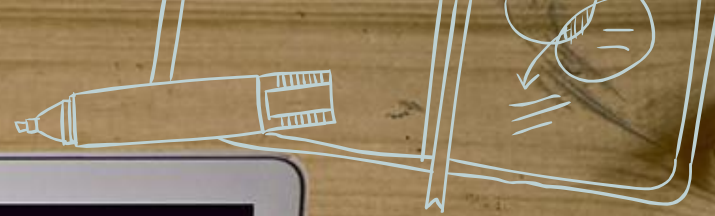
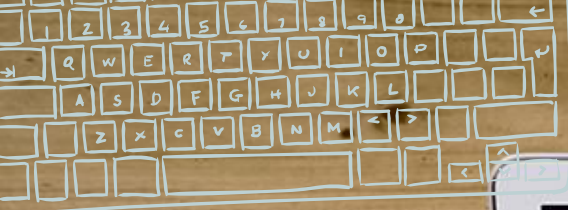
Recognition

- 2009–2011: Best Small & Medium Employers in Canada
- 2011: Quality Team Award 3M Health Care
- 2014: Minister's Medal Excellence in Health Care Quality & Safety
- 2015: MH LHIN Person Centred Care Quality Award
- Accreditation: 2 consecutive Exemplary standings (2013–17 & 2017–21)
- 2017: CEO – 25th Anniversary Leadership Award – OCSA
- 2017: IDEAS & HQO
- 2009–2010: E-health and Metamorphosis network



Baby Boomers More seniors than kids under 15

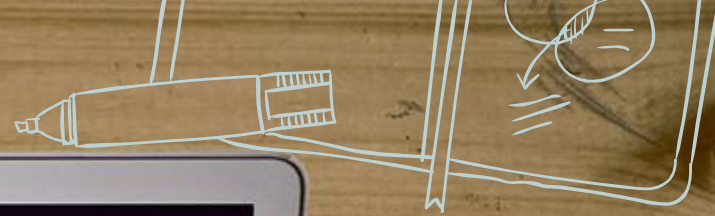
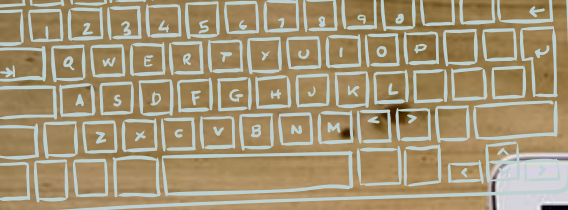
MacBook Air





2024
Seniors 20.1% of entire
population

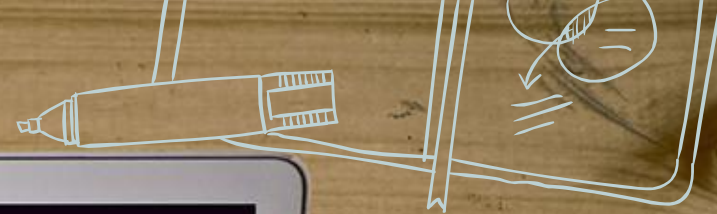
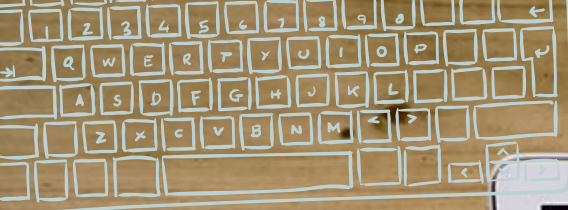
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Chronic
75-80% have more than one

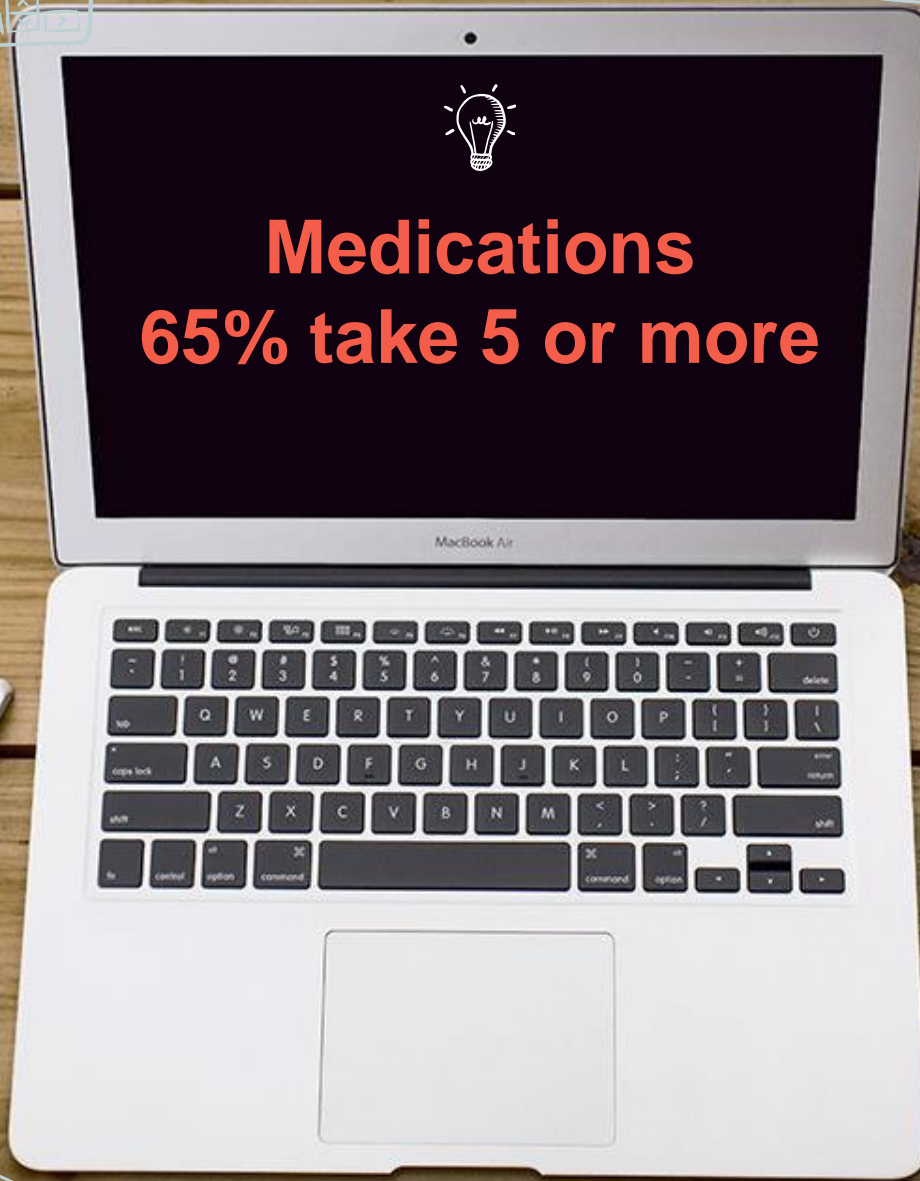
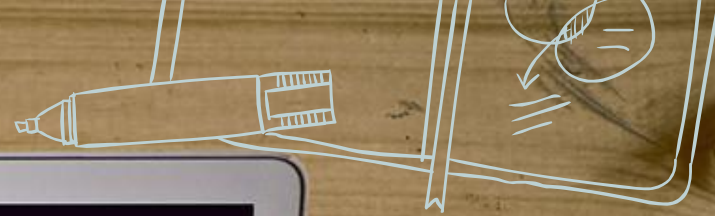
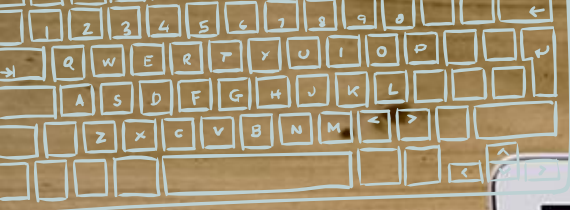
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Medications

65% take 5 or more





At Home
2.2 Million, 15% unmet



2.

Big Data

Use in Seniors Community Care



Big Data in Seniors

Improve
Health of
Population

Enhance
care
experience

Reduce
cost of
doing both



Advantages of Big Data in Seniors Community Care

Client Perspective

- Meaningful patterns
- Improved caregiving
- Better outcomes

Operational Perspective

- Efficiencies
- Reducing medication errors
- Identification of service capacity

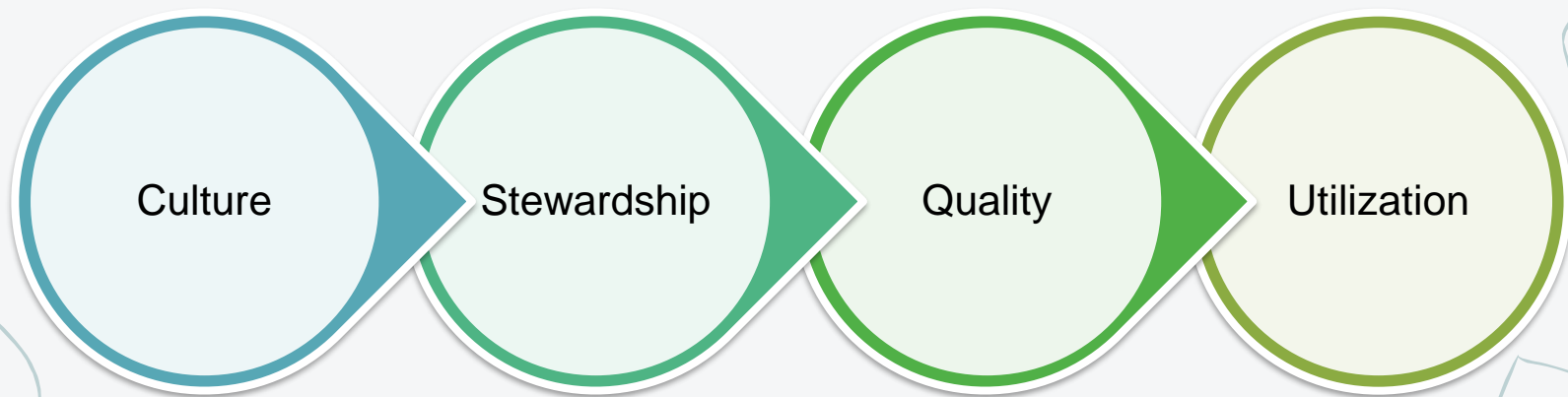


3.

Data Governance

Getting Ready

Steps in Data Governance





Culture

- Executive leadership and support
- Utilizing communication strategies with all levels of staff to reinforce importance of data in driving decisions
- Hiring of specialized staff



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- CEO and COO highly involved
- Quality Assurance & Data Analyst
- Setting a culture of data-driven decision making



Stewardship

- Identification of data stewards
 - Client data
 - HR data
 - Finance data
- Typically in the director or manager level
- Early identification



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Client Data

Employee data

Finance data

Staff scheduling

Supervisors

Director, HR

Director, Finance/I&IT

Scheduling Officer

Quality





Quality

- Consider handling by a specialized position
- Early identification on key data



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Prior to 2016

- Messy data
- Lack of appropriate formatting for analytics or trends analysis
- Data input inconsistent



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- Hiring of Quality Assurance & Data Analyst
- Determined what data was pertinent to collect
- Included all “necessary” data to be collected – funder requirements
- Generating common understanding through definitions
- Assessed areas that intersect and can provide insight into clientele
- Ongoing cycle of ensuring appropriate information is collected and is clean



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of Referrals by Referral Source

Number of ER visits

Number of clients returned back to
SDL from hospital

Number of clients removed from LTC
Home waitlist

Client capacity

Total number of admits

Total number of clients on waitlist

CHESS scores of clients

Average length of stay

Languages spoken

Falls



admissions by referral source

Number of clients on SDL Service
entering hospital

Number of clients with SDL/CCAC
Wait at Home Service

Number of clients diverted from LTC

Total clients on service

Total number of discharges

MAPLe scores of clients

Admission age and gender

Discharge reasons

Medication errors





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Number of ER visits

Client capacity

Total number of admits

Total number of clients on waitlist

CHESS scores of clients

Average length of stay

Languages spoken

Number of clients diverted from LTC

Total clients on service

Total number of discharges

MAPLe scores of clients

Medication errors

Falls



2018-





Utilization

- Final step in governance
- Organization ready to exploit and utilize the data
- Internal management dashboards can be produced
- External reporting becomes consistent and less error-prone
- Negotiations with funders become data-driven and transparent
- Lean processes become apparent



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- Need completion of quality work
- New client and HR management system
- Board Scorecard will continue to be refined as quality improves
- Data analysis and performance improvement



Performance Scorecard (FY17-18)

View: Board of Directors



GOALS

RESULTS

Category (dark fill) Performance Indicator (light fill)		Key	Unit of Measure	PSL Goal	Avg. Q1 17-18	Avg. Q2 17-18	Oct.	Nov.	Dec.	Avg. Q3 17-18	YTD Avg. Completed QTRS or <u>YTD</u> <u>Total</u>	Desired Direction of Success
B- Service Excellence [Quality Committee]												
B1	Client Care Risk Index		#	5.80 Mth	3.45	3.67	5.25	2.25	3.55	3.68	3.56	↓
CEO B1	Client Care Risk Index		#	5.80 Qtr	3.45	3.67	5.25	2.25	3.55	3.68	3.56	↓
B2	Complaints		#	4.0 Year	0	1	0	0	0	0	1	↓
CEO B2	Client Satisfaction		%	90.0 4th Qtr Annual	n/a	N/A	n/a	n/a	n/a	N/A	N/A	↑
B3	Satisfaction											
B3.a1	% Satisfaction via Client Survey - MH LHIN (Annually - March)		%	90 4th Qtr Annual	n/a	n/a	n/a	n/a	n/a	n/a	n/a	↑
B3.a2	% Satisfaction via Client Survey - CW LHIN (Annually - March)		%	90 4th Qtr Annual	n/a	n/a	n/a	n/a	n/a	0.0	n/a	↑
B3.a3	% Satisfaction via Caregiver / Family Survey		%	85 Biennial	n/a	n/a	n/a	n/a	87.0	87	87%	↑
B4	CEO Performance: Quality - Service Excellence											↑
CEO B4.a	Collaborative Research		#	1 Annual	1	0.0	0.0	0.0	0.0	0.0	1	↑
CEO B4.b	QIP		Y/N	Y Annual	Y	Y	0.0	0.0	Y	Y	Y	✓
CEO B4.c	Execute QIP		Y/N	Y Annual	Y	Y	0.0	0.0	Y	Y	Y	✓
CEO B4.d	Execute Health Equity Plan		Y/N	Y Annual	N	Y	0.0	0.0	Y	Y	Y	✓
CEO B4.e1	Document and present medication management		Y/N	Y Annual	Y	Y	0.0	0.0	Y	Y	Y	✓
CEO B4.e2	Accreditation		Y/N	Y Annual	Y	Y	N	N	N	N	Y	✓





4.

Data Privacy and Security

Policies & Procedures



Data Privacy and Security

- Understanding Consent
- Understanding sensitivity of data
- Implementing appropriate security safeguards (e.g. access on a need to know basis)



Wrap Up

- Training
 - Communicating policies and procedures
 - Start from the leadership group
- For us
 - Training of all front-line staff following introduction of new system
 - Timeframe to ensure complete data governance process in place is 1-2 years



Thank you! Any questions?

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