

Title:

The use of a frailty digital pathway in managing residents within an older person's care home in England

Aims:

To assess the impact on care quality and resource use in deploying a digital platform when managing frailty in residents within a care home.

Methods:

Review of health utilisation and quality markers for 26 care home residents with pre and post data over two 6-month periods: pre-covid-19 pandemic (1/9/2019-28/2/2020) and during covid-19 pandemic (1/9/2020-28/2/2021).

Data was audited from information entered onto the Electronic Medical Records (SystemOne) and digital platform (CliniTouch Vie).

The quality markers were aligned to the Enhanced Care in Care Homes Designated Enhanced Service, which provides funding to primary care (GP) practices to improve care quality for care home residents.

Clinical management was provided by a GP practice.

Results:

All GP appointments and virtual calls were within the designated weekly GP session (4 hours). Despite two outbreaks of Covid-19 in the home, there was a reduction in home visiting for the GP (15) and practice nurses (35). There was increased preventative activity; medication reviews (9), GP patient reviews (103).

There was an increase in urgent calls (13) and hospital admissions (3), primarily driven by Covid-19 outbreaks; see table 1. The resource use implications are shown in table 2.

Overall, the practice reduced its costs, despite the pandemic by \$7,946 (13%). There was evidence of improvement in care quality markers, see table 3. Particularly noteworthy, were the 204% increase in the review of a wide range of frailty markers and the number of patients with advanced and end of life advance care plans, (all $p < 0.003$).

Conclusions:

This study suggests that utilising a digital pathway for managing residents of a care home is cost saving for practices whilst improving care quality even within the context of a pandemic.

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Table 1 Activity

Activities	6 months pre	6 months post	Absolute difference	Relative difference	Paired, 2 tailed p value ($\alpha = 0.05$)
No. of virtual calls with a GP / GP appointments	40	143	103	258%	$p < 0.001$
No. of virtual calls with a practice nurse/ nurse appointments	23	10	-13	-57%	$p = 0.21$
No. of nursing home visits by Health Care Assistant	6	21	15	250%	$p < 0.001$
No. of nursing home visits by practice nurse	54	19	-35	-65%	$p = 0.01$

No. of nursing home visits by GP	35	20	-15	-43%	p=0.13
No. of medication reviews	14	23	9	64%	p=0.09
No. of 111 calls	17	30	13	76%	p=0.20
No. of A&E attendances	15	12	-3	-20%	p=0.71
No. of unscheduled hospital admissions	6	9	3	50%	p=0.52
No. of scheduled hospital admissions	0	0	0	0%	p=N/A

Table 2: Resource Use

Resource Use	Costs prior AUS \$	Costs Post AUS \$	Difference AUS \$
No. of virtual calls with a GP / GP appointments	\$40,397	\$40,397	\$0
No. of virtual calls with a practice nurse/ nurse appointments	\$399	\$173	\$225
No. of nursing home visits by Health Care Assistant	\$322	\$1,127	-\$805
No. of nursing home visits by practice nurse	\$5,606	\$1,973	\$3,634
No. of nursing home visits by GP	\$13,595	\$7,769	\$5,826
No. of medication reviews	\$1,453	\$2,388	-\$934
No. of 111 calls	\$405	\$715	-\$310
No. of A&E attendances	\$2,846	\$2,277	\$569
No. of unscheduled hospital admissions	\$21,480	\$32,220	-\$10,740
No. of scheduled hospital admissions	\$0	\$0	\$0
Total Costs	\$86,504	\$89,038	-\$2,535
Total Practice Costs & Savings	\$61,772	\$53,826	\$7,946
Total Practice Costs & Savings Annualised	\$123,545	\$107,652	\$15,892

Costs attributed to other providers in red text

Table 3 Quality Measures

Enhanced Services	Completed 6M to Sep 20	Completed 6M to Feb 21	Absolute Difference	Relative Difference	Two tailed p-values, $\alpha=0.05$
Temperature	13	17	4	31%	p=0.2
Pulse	9	17	8	89%	p=0.018
Systolic BP	12	16	4	33%	p=0.29
Diastolic BP	12	16	4	33%	p=0.29
Oxygen saturation	8	14	6	75%	p=0.083
Respiratory rate	6	14	8	133%	p=0.029
Structured medication review completed	4	15	11	275%	p=0.002
Nutritional assessment	0	10	10	∞	p<0.001
Hydration assessment	0	8	8	∞	p=0.003
Oral assessment	0	8	8	∞	p=0.003
Pain assessment	0	10	10	∞	p<0.001
Mobility assessment	1	11	10	1000%	p<0.001
Activities of Daily Living assessment	0	10	10	∞	p<0.001
Behavioural change assessment	0	10	10	∞	p<0.001
Cognition assessment	0	10	10	∞	p<0.001
Dementia review (care plan)	5	10	5	100%	P=0.17
Mood change assessment	0	10	10	∞	p<0.001
Advance Care Plan completion (RESPECT)	8	19	11	138%	p=0.0029
End of Life advance care plan	5	17	12	240%	p<0.001
DNACPR decision made completion	0	10	10	∞	p<0.001
Completed and Recorded Totals	83	252	169	204%	p<0.001

Most relevant metrics highlighted in yellow