

# SMILE

Supporting multi-morbidity self-care through Integration,  
Learning and eHealth

*IFIC Ireland*

Realising Integrated Care

Digital Solutions Supporting Self-Management

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# SMILE

Supporting Multi-morbidity self-care through Integration, Learning and eHealth

- ▶ A new innovative way for citizens to proactively self-manage their care
- ▶ Sláintecare funded project

## Objectives

- ▶ Empower citizens to engage with their own health within the community setting
- ▶ Early identification of a deterioration in participants health
- ▶ Reduction in unscheduled hospital attendances

Supported by Dundalk Institute of Technology (NetwellCASALA) and Trinity College Dublin

# Building on our healthcare services

- ▶ Caredoc is a not for profit GP co-operative (450 GP Members)
- ▶ OOH's - South East, North West, South Wicklow
- ▶ Provide triage services - North Dublin , North East
- ▶ Community Intervention Teams - Carlow, Kilkenny, Tipperary, Waterford, Wicklow & Wexford
- ▶ Integration - HSE Primary Care, Public Health, Acute Hospitals, NAS, Mental Health, Tusla

# Stakeholders

## GP's & Practice Nurses

- ▶ Building on existing relationships
- ▶ Scheduling Information Meetings with GP's & Practice Nurses
- ▶ Involved in Chronic disease clinics

## Hospital Consultants & Nurse Specialists

- ▶ Using opportunities to speak to clinicians at clinical and governance meetings
- ▶ OPD Clinics
- ▶ Grand Round Meetings

# Criteria for SMILE participant enrolment

Total population over 18years old

One or more chronic disease conditions

- ▶ Respiratory conditions - Chronic Obstructive Pulmonary Disease(COPD)/Chronic Bronchitis/Emphysema/Asthma
- ▶ Cardiac conditions - Congestive Heart Failure(CHF), Coronary Artery Disease
- ▶ Diabetes Type 1/ Type 2

Identified through GP practices, outreach clinics , hospital consultants, nurse specialists

# Triage Nurse support & Wearable Technology



## ▶ Health Monitoring devices

- ▶ Pulse Oximeters
- ▶ Blood pressure monitors
- ▶ Smart Watches
- ▶ Blood glucose monitors
- ▶ Weighing scales



## ▶ ProACT App

- ▶ Developed by DKiT and TCD
- ▶ CABIE SIMS - software

# Measurement device and data captured

<b>Measurement Device</b>	<b>Data captured</b>	<b>Frequency</b>
<b>Smart Watch</b>	Steps	Continuous
	Distance	
	Sleep Quality	
	Hours in bed	
	Restlessness	
<b>Blood Pressure Cuff</b>	Blood Pressure	1-2 /day
	Heart Rate	
<b>Blood Glucose</b>	Blood Glucose Levels	Meal times
<b>Pulse Oximeter</b>	Blood oxygen levels	1-2 /day
	Pulse	
<b>Self reporting on ProACT App</b>	Mood	daily
	Pain	
	Social	

# Original plan: 2 cohorts

- ▶ Technology and nursing support
- ▶ No intervention
- ▶ Both would receive a health questionnaire at the beginning and end of the project to compare their progress
  - ▶ EQ-5D-DL health questionnaire, comorbidity index, technology usage questionnaire
- ▶ 136 patients are now receiving an intervention from the SMILE project
  - ▶ all categorised in an at-risk group and are vulnerable patients.
- ▶ Patients were nervous and worried about their health
  - ▶ opportunity to support the patient, educate them about their conditions, the impact of COVID-19 and how they could reduce their risk of infection.
- ▶ Participants - 155 identified in total
  - ▶ 106 - technology and nurse support
  - ▶ 30 - nurse support
  - ▶ 19 - not eligible



# Evaluation of the SMILE project

- ▶ 1. Engagement with the ProAct CareApp and monitoring devices
- ▶ 2. Trends of symptoms and physical activity
- ▶ 3. Quality of life, mobile device proficiency and comorbidities
- ▶ 4. Qualitative analysis

# Engagement with the ProAct CareApp and monitoring devices

- ▶ Set up on software personalised and threshold alerts set by the triage nurse
- ▶ Monitoring devices selected in accordance with the participants chronic condition/s
- ▶ Highest overall daily engagement was in the 50-74 age group
- ▶ On average 63% of all participants interacted with the platform once a day
- ▶ Triage nurse support tailored to the needs of each participant
- ▶ All participants engaged with the triage nursing team

# Trends of symptoms and physical activity

- ▶ Within SIMS platform vital signs configured by the triage nurse to trigger alerts outside of expected thresholds
- ▶ Over time the frequency and the pattern of alerts stabilised over time
- ▶ Blood Glucose - 49 participants monitored BG
- ▶ Blood pressure and Pulse - 73 participants monitored B/P & Pulse
- ▶ SpO2 - 28 participants monitored SpO2
- ▶ Activity increased across all participants and all conditions
- ▶ Participants with hypertension and/or diabetes had a higher average step count than those with other conditions

# Qualitative evaluation

- ▶ Participation in the SMILE project
  - ▶ Positively impacted on participants
  - ▶ Increased their confidence in self-management
  - ▶ Reduced fears of illness
  - ▶ Increased awareness of clinical conditions and indicators of well being and stabilising symptoms
  - ▶ Empowered participants to be the coordinator of their care

# Future work - extension of SMILE Project

- ▶ Continue research
- ▶ Expand the number of participants in the SMILE service to achieve economy of scale
- ▶ Reduce the nursing support as participants become self empowered and educated with improved health and wellbeing
- ▶ Measure continuing self monitoring and engagement with reduced nursing support
- ▶ Focus on reduction in hospital visits and admissions

# Participant Testimonials

- ▶ P30: has reduced her cigarettes with a view to giving them up completely. She has also increased her exercise. Very happy to be part SMILE and very grateful to have interaction with nursing team.
- ▶ P57: Delighted to have people looking after her. Has a difficult home life. Has 2 grandchildren living with her one of whom has mental health issues. Her husband has had a recent dx of prostate CA. SMILE has made her realise the importance of looking after herself.
- ▶ P83: Delighted to have been selected to partake in SMILE project. Has sent a thank you letter to his GP.
- ▶ P01: Fantastic project to be involved in. Anxious that it would not be stopped after 6 months.
- ▶ P54: Delighted to be part of SMILE as he had been non-compliant with his medication and diet. Smile helping him understand his condition and has increased his motivation to improve his health.

Thank you

Questions  
& Answers