

## Deliverable 4.4:

# Third Iteration Report

## WP 4: Transfer of Good Practices & Data Analytics

ACT@Scale  
Advancing Care Coordination  
and Telehealth @ Scale



European Innovation  
Partnership on Active  
and Healthy Ageing

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### Short description of the Deliverable:

Work package 4 (WP4) contributes to the transfer of good practices and data analytics in the ACT@Scale project. This document describes the data collection and analysis process, the preliminary results and dashboards of the evaluation engine related to the third data collection round (2nd iteration).

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## Executive Summary

The specific objective of Workpackage 4 (WP4) is to engage the consortium and collaborating regions in collecting the relevant data to measure experience, status, progress and success of scaling-up integrated care delivery. This deliverable is a comprehensive overview of the collected data and preliminary dashboard visualizations.

The evaluation follows the classical conceptual Donabedian process-structure-outcome framework for examining health services and evaluating healthcare (Donabedian, 1966.; A., 1980). The Donabedian framework allows us to track differences and changes in the process and structure, while monitoring the outcomes. Furthermore, the outcomes collection followed the Triple Aim from the Institute of Health Improvement (IHI). This IHI framework is an approach to optimize health system performance, where the patient experience of care, the health of populations and reducing per capita cost of healthcare must be developed simultaneously.

We collected process and experience data by means of surveys, that were distributed to patients, staff and program managers. The results were stored in the survey database of the central engine. Population data (aggregates) were reported by the programs in excel files, that were later imported in the database of the central engine. The central engine also facilitates storage of aggregated patient results, reported by the regions.

Besides the surveys, aggregated population data were reported from 2015, 2016 and 2017 have been collected by the regions. These data are used to monitor the population, scaling, coverage and cost of the programs. These are very general data from all participating programs, even though they have different target populations and aims.

We defined three data collection periods defined during the project. Figure 6 Depicts the four project phases. Data were collected in the first three phases. This report summarises the collection process and results related to iteration 2.

1. **Baseline data.** We collected these data before the first PDSA cycle, the baseline phase.
2. **Iteration 1 data.** We collected these data during the first (learning) PDSA cycle.
3. **Iteration 2 data.** We collected these data during the second (coaching) PDSA cycle.

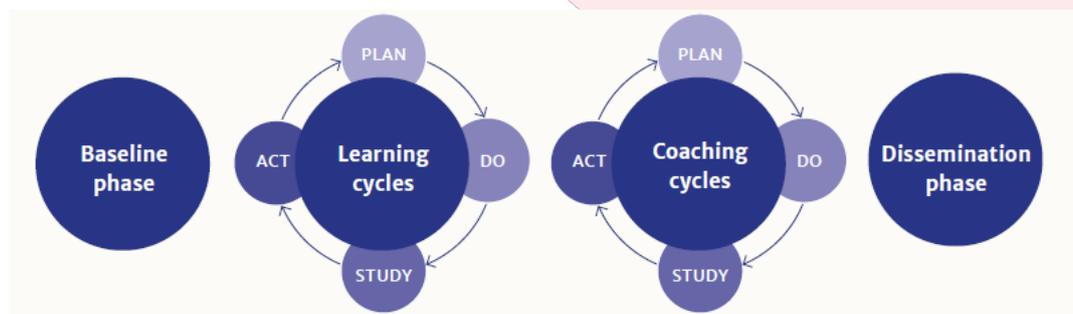


Figure 1

## Iteration 2

At the start of the second PDSA (iteration 2)– September 2017 to September 2018, a new wave of programs joined the consortium. In the overview of iteration 2 the new regions and programs are also presented

### Program Manager surveys:

During iteration 2, we collected the responses in all participating regions and programs. In the Basque Country one of the four program managers did not fill in the survey. However, with 3 responses for the Multimorbid Integration program, the response rate was considered sufficient for further analysis. A total of 18 surveys were collected.

		Program managers				
		N	T	%T	R	%R
<b>Basque Country</b>		100%				
BAS MM IC	Multimorbid integration	4	4	4	3	75
BAS CARD TH	CHF telemonitoring	2	2	2	2	100
<b>Catalonia</b>		100%				
CAT IL SUP	Nursing homes	1	1	1	1	100
CAT CHRON IC	Chronic care	1	1	1	1	100
CAT CHRON CM	Complex case management	1	1	1	1	100
CAT CHRON LS	Physical activity	1	1	1	1	100
CAT IL IC	Frail older adults	1	1	1	1	100
<b>Northern Netherlands</b>		100%				
NNL RESP TH	Asthma / COPD	1	1	1	1	100
NNL IL IC	Embrace	1	1	1	1	100
NNL CARD TH	Effective cardio	1	1	1	1	100
<b>Northern Ireland</b>		100%				
NIRE RESP TH	COPD telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE DM TH	Diabetes telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE PREG TH	Weight management telemonitoring	N/A	N/A	N/A	N/A	N/A
<b>South Denmark</b>		100%				
RSD MH TH	Telepsychiatry	N/A	N/A	N/A	N/A	N/A
RSD RELAT TH	Video-consultation with relatives	1	1	1	1	100
<b>Gesundes Kinzigtal</b>		100%				
DEGK MYHEALTH POP	My Health	1	1	1	1	100
DEGK TRAINING POP	World of training	1	1	1	1	100
<b>Scotland</b>		100%				
SCO MYDM TH	My Diabetes My way	1	1	1	1	100
SCO MYDM FC	MYDM foot care	1	1	1	1	100

Figure 2 Iteration 2 program manager survey responses.

### Staff surveys:

In total 181 surveys were collected in iteration 2.

Most of the programs in Basque Country and Catalonia fully achieved their objective, as well as the Effective cardio program in the Netherlands. A high response rate (>70%) was achieved Multimorbid Integration (BAS), Chronic Care (CAT) and World of Training (DE). My Health (DE) and Video Conferencing with Relatives (RSD) achieve half of the targeted responses. The Footcare program (SCO) was just established at the moment of the survey. They had recruited the staff, but patients were not yet included in the program.

There are no responses for the programs that dropped out during the first iteration. Also for 2 programs in the Netherlands there are no responses. The Embrace program ended during this second PDSA and will be continued in another form, with the core elements from the program, at another location with new staff and patients. For the Asthma/COPD program it was not possible to collect the results due to an organizational change in the program.

Note that the total number of staff involved in the Scottish programs is much higher. Only the representatives were approached for the surveys.

		Healthcare professionals / Staff				
		N	T	%T	R	%R
<b>Basque Country</b>		100%		30%		
BAS MM IC	Multimorbid integration	350	350	105	86	82
BAS CARD TH	CHF telemonitoring	40	40	12	12	100
<b>Catalonia</b>		100%				
CAT IL SUP	Nursing homes	12	3	3	3	100
CAT CHRON IC	Chronic care	62	30	30	21	70
CAT CHRON CM	Complex case management	8	8	8	8	100
CAT CHRON LS	Physical activity	6	6	6	6	100
CAT IL IC	Frail older adults	8	8	8	8	100
<b>Northern Netherlands</b>		90%				
NNL RESP TH	Asthma / COPD	350	10	9	N/A	N/A
NNL IL IC	Embrace	30	10	9	N/A	N/A
NNL CARD TH	Effective cardio	2	2	2	2	100
<b>Northern Ireland</b>						
NIRE RESP TH	COPD telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE DM TH	Diabetes telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE PREG TH	Weight management telemonitoring	N/A	N/A	N/A	N/A	N/A
<b>South Denmark</b>		100%		50%		
RSD MH TH	Telepsychiatry	N/A	N/A	N/A	N/A	N/A
RSD RELAT TH	Video-consultation with relatives	42	15	15	14	93
<b>Gesundes Kinzigtal</b>		100%				
DEGK MYHEALTH POP	My Health	2	2	2	1	50
DEGK TRAINING POP	World of training	5	5	5	4	80
<b>Scotland</b>						
SCO MYDM TH	My Diabetes My way	14	14	14	10	71
SCO MYDM FC	MYDM foot care	14	14	14	7	50

Figure 3 Iteration 2 staff survey responses.

### Patient surveys:

During the second PDSA (iteration 2), nearly all participating regions collected patient surveys. In total 417 surveys were collected. The Video Consultation program from region of South Denmark did not participate in the patient surveys, because this program is targeted at the relatives instead of the patients. The patient survey was not appropriate for this purpose.

A note on the interpretation of N is necessary here. In Scotland, the full diabetes population (~300k) is eligible for the My Diabetes My Way program, however, not all patients register for the program and an even smaller group is active user (~5k). Only active users were approached for the patient survey. Similarly, in Germany, the full population is approximately 33k patients of which more than 8k are included per program. A minimum response rate of 10% was expected, while the desired number of responses was 25.

		Patients				
		N	T	%T	R	%R
<b>Basque Country</b>		60%				
BAS MM IC	Multimorbid integration	6200	180	108	96	89
BAS CARD TH	CHF telemonitoring	150	20	12	20	167
<b>Catalonia</b>		10% 25%				
CAT IL SUP	Nursing homes	3563	N/A	N/A	N/A	N/A
CAT CHRON IC	Chronic care	445	40	10	N/A	N/A
CAT CHRON CM	Complex case management	500	50	13	51	392
CAT CHRON LS	Physical activity	200	20	5	21	420
CAT IL IC	Frail older adults	700	30	8	22	275
<b>Northern Netherlands</b>		90%				
NNL RESP TH	Asthma / COPD	11500	30	27	18	67
NNL IL IC	Embrace	1500	N/A	N/A	N/A	N/A
NNL CARD TH	Effective cardio	214	200	150	70	47
<b>Northern Ireland</b>						
NIRE RESP TH	COPD telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE DM TH	Diabetes telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE PREG TH	Weight management telemonitoring	N/A	N/A	N/A	N/A	N/A
<b>South Denmark</b>						
RSD MH TH	Telepsychiatry	N/A	N/A	N/A	N/A	N/A
RSD RELAT TH	Video-consultation with relatives	N/A	N/A	N/A	N/A	N/A
<b>Gesundes Kinzigtal</b>		10-25%				
DEGK MYHEALTH POP	My Health	8292	100	25	22	88
DEGK TRAINING POP	World of training	8549	100	25	13	52
<b>Scotland</b>		50%				
SCO MYDM TH	My Diabetes My way	5000	250	125	84	67
SCO MYDM FC	MYDM foot care	N/A	N/A	N/A	N/A	N/A

Figure 4 Staff survey responses for iteration 2.

The following table summarises the collected surveys throughout the project:

Table 1 Overview of all collected surveys.

Iteration	Program manager	Staff	Patients
Baseline	19	N/A	N/A
Iteration 1	17	173	99
Iteration 2	18	181	417
<b>TOTAL: 924</b>	<b>54</b>	<b>354</b>	<b>516</b>

Over 900 surveys were collected, giving a unique insight in the process of scaling-up. Aggregated population outcomes, in particular at population level are not difficult to extract and can be reported in the next deliverable. As future work we will complete the program dashboards and we will link all program dashboards to the data collected.

We present in this report an overview of initial dashboard visualizations of the data collected so far. These data were stored in the database of the central evaluation engine. The evaluation engine front-end visualizes dashboards for each program. The interpretation of the collected results is reported by the associated WPs in the corresponding deliverables.



Figure 5 A program dashboard in the evaluation engine.

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## 1 – Introduction

The ACT@Scale project measures the experience, status, progress and success of scaling-up integrated care delivery. Workpackage 4 (WP4) defined the data collection framework and organized the data collection throughout the project.

### Data Collection Framework

The evaluation follows the classical conceptual Donabedian process-structure-outcome framework for examining health services and evaluating healthcare (Donabedian, 1966.; A., 1980). The Donabedian framework allows us to track differences and changes in the process and structure, while monitoring the outcomes. Furthermore, the outcomes collection followed the Triple Aim from the Institute of Health Improvement (IHI). This IHI framework is an approach to optimize health system performance, where the patient experience of care, the health of populations and reducing per capita cost of healthcare must be developed simultaneously.

Indicator selection has been based on (1) the literature, (2) the experience of data availability from the ACT project, (3) estimated data availability in the ACT@Scale region, and (4) the input from domain experts. Where available, existing scales have been selected for the selected indicators.

### Data Collection

We collected process and experience data by means of surveys, that were distributed to patients, staff and program managers. The results were stored in the survey database of the central engine. Population data (aggregates) were reported by the programs in excel files, that were later imported in the database of the central engine. The central engine also facilitates storage of aggregated patient results, reported by the regions.

### Document Structure

Chapter 2 describes the execution and process for the data collection. We provide an overview of the responses and data collected in Chapter 3. Chapter 4 provides intermediate results visualized in the evaluation engine. Conclusions and future work are described in Chapter 4.

## 2 – Data Collection

This chapter first describes the planning of the data collection. The remainder of the chapter provides a more detailed description of which data were collected when and how.

### Planning

We defined three data collection periods defined during the project.

4. **Baseline data.** We collected these data before the first PDSA cycle, the baseline phase.
5. **Iteration 1 data.** We collected these data during the first (learning) PDSA cycle.
6. **Iteration 2 data.** We collected these data during the second (coaching) PDSA cycle.

Figure 6 Depicts the four project phases. Data were collected in the first three phases.

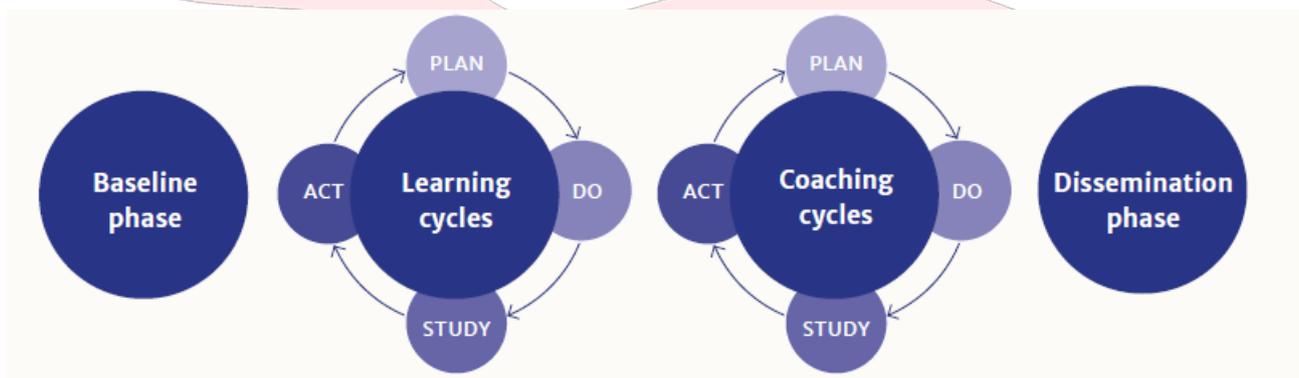


Figure 6

**Error! Reference source not found.** presents an overview of the different elements of the data collection: surveys (blue), population data (orange) and patient data extraction (yellow).

	Iteration 1			Iteration 2				Iteration 3						
iteration	2016 <sup>1</sup>	2017	2017	2017	2017	2017	2017	2017	2017	2018	2018	2018	2018	2018
year	3	1	2	2	3	3	2-->4	4	4	2	2	2 <sup>3</sup>	3	3
quarter	program manager	program manager	staff			program manager	patient			program manager	staff	patient		
SURVEYS														
POPULATION DATA REPORTING				2015 pop data	2016 pop data									2017 pop data
PATIENT DATA EXTRACTION								2015 patient extract <sup>4</sup>	2016 patient extract <sup>4</sup>					2017 patient extract <sup>4</sup>

Figure 7 Elements of the data collection during the project phases.

### Second wave programs

Some of the participating programs entered during the project, we call these programs "second wave programs". These programs joined during or after the first PDSA cycle. The second wave programs participated in the second PDSA cycle only. The planning for these programs is depicted in Tabel 1. There was a baseline collection in the first year where we distributed a survey to the program manager. Similar to the other programs, we distributed a program manager, staff and patient survey during the second PDSA. All population data extraction were completed in Q4 2018.

Tabel 1 Planning for the second wave programs, in expanded view showing the details of the surveys and population data reporting.

iteration	Baseline				Iteration 2					
	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018
	year	2018	2018	2018	2018	2018	2018	2018	2018	2018
quarter	oktober	2	2	2 <sup>3</sup>	3	3	3	3	3	3
<b>SURVEYS</b>	program manager / researcher	program manager / researcher	staff	patient						
stakeholder management	x	x								
change management (EIP-AHA)	x	x								
staff engagement	x	x	x							
service selection	x	x								
sustainability (SUSTAIN)	x	x								
financial flow and business models	x	x								
caregiver activation (CSPAM)			x							
patient activation (PAM)				x						
psycho-social factors (MAY)				x						
patient satisfaction (NPS)				x						
health system structure (EIP-AHA/SCIROCCO)	region									
<b>POPULATION DATA REPORTING</b>					2015 pop data	2016 pop data	2017 pop data			
Population size					x	x	x			
Population stratified by the population tool (size)					x	x	x			
Number of stratification levels					x	x	x			
Population per risk stratum 1 (lowest)					x	x	x			
Population per risk stratum 2					x	x	x			
Population per risk stratum 3					x	x	x			
Population per risk stratum 4					x	x	x			
Target population (size)					x	x	x			
Population served (size)					x	x	x			
Population diagnosed with target disease (size)					x	x	x			
Incidence					x	x	x			
Prevalence					x	x	x			
Cost per program					x	x	x			
Cost per user					x	x	x			
<b>PATIENT DATA EXTRACTION</b>								2015 patient extract <sup>4</sup>	2016 patient extract <sup>4</sup>	2017 patient extract <sup>4</sup>
program specific defined extraction per program								x	x	x

## Survey Data

### Data Elements

Surveys were deployed in the regions to program managers, staff and patients. To reduce the effort for the the regions and respondents, several topics were combined into one survey for each respondent.

*Tabel 2 presents an overview of all topics included by the surveys, the source of the survey and the respondent for each survey. Surveys marked by an \* were developed for ACT@Scale.*

Tabel 3 depicts the planning of the survey data collection and shows which topics were included during each collection round.

*Tabel 2 Overview of survey data collection.*

SURVEY TOPIC	RESPONDENT GROUP \ SOURCE	program manager / researcher	staff	patient
stakeholder management	*	x		
change management	EIP-AHA	x		
staff engagement	ACT		x	
service selection	*	x		
sustainability	SUSTAIN	x		
financial flow and business models	*	x		
staff attitude vs patient activation	CSPAM		x	
patient activation	PAM			x
psycho-social factors	MAY			x
patient satisfaction	NPS			x
health system structure	EIP-AHA (SCIROCCO)	x		

Tabel 3 Survey planning (detailed view).

	iteration	Iteration 1						Iteration 2							
	year	2016 <sup>1</sup>	2017	2017	2017	2017	2017	2017	2017	2018	2018	2018	2018	2018	
	quarter	3	1	2	2	3	3	2->4	4	4	2	2	2 <sup>3</sup>	3	3
<b>SURVEYS</b>		program manager / researcher	program manager	staff			program manager / researcher	patient			program manager / researcher	staff	patient		
stakeholder management		x									x				
change management (EIP-AHA)		x									x				
staff engagement			x	x							x	x			
service selection		x					x <sup>2</sup>				x				
sustainability (SUSTAIN)			x								x				
financial flow and business models			x								x				
caregiver activation (CSPAM)				x								x			
patient activation (PAM)								x					x		
psycho-social factors (MAY)								x					x		
patient satisfaction (NPS)								x					x		
health system structure (EIP-AHA/SCIROCCO)							region								

### Method

Survey data were collected by Lime Survey and stored in a central Lime Survey database. Lime Survey is published under the GNU GPL license. Central data collection was decided to avoid the GNU GPL license to affect local software in the regions. In addition, deployment of the PAM and CSPAM surveys was only possible under an existing license agreements between Philips and Insignia, on a dedicated server at Philips. Other scenarios were discussed in the consortium but the central data collection was the preferred option.

WP4 implemented the surveys in LimeSurvey. Each survey was implemented with a click-through consent. Each of the surveys was tested with the involved WP leaders and additional links for testing were provided to the regions for testing. WP4 generated the links for the participants and distributed the participant links to the regions. The regions the links to the relevant program managers, staff and patients, respectively. The respondents used the secured link to access the survey and provided their responses. The responses were stored in the LimeSurvey database. During the data collection process, WP4 monitored and reported data collection. If necessary, the regions reminded participants to complete the survey. At the end of the data collection, WP4 extracted the data from of the LimeSurvey database for further analysis by the workpackages.

### Population Data

#### Data Elements

Aggregated population data were reported from 2015, 2016 and 2017 have been collected by the regions. These data are used to monitor the population, scaling, coverage and cost of the programs. These are very general data that are relevant to all participating programs, even though they have different target populations and program aims.

The 2015, 2016 and 2017 reported aggregated population data:

Table 2 Population data aggregates.

Indicator	Description
Population size	The size of the total population in the region
Population stratified	Number of people stratified by the tool program/region <sup>13</sup>
Number of stratification levels	The number of stratification levels in the tool
Population per risk stratum 1	The number of people in the lowest risk stratum: level 1
Population per risk stratum 2	The number of people in the lowest risk stratum: level 2
Population per risk stratum 3	The number of people in the lowest risk stratum: level 3
Population per risk stratum 4	The number of people in the lowest risk stratum: level 4
Target population (size) <sup>3</sup>	Number of people identified for the program
Population served (size)	Number of people served by the program
Population diagnosed with target disease (size)	The number of people diagnosed with the target condition in the program's area
Cost per program	The total cost of the program (euro)
Cost per user	The total cost of the program per user (euro)

It should be noted that the program cost aggregates are intended to track the program cost over time. Regions have provided supplementary material how these aggregates were defined, these descriptions are outside the scope of this report and further details can be found in the reports of WP7, in particular for programs that have worked in the area for sustainability and financial models.

### Method

Initially, a spreadsheet was developed by WP4 for the regions to report the aggregated population data, see Figure 8. WP4 distributed the empty templates for each program to the regions. Regions completed these templates and provided these to WP4 for aggregation of all programs per year in one single file for the WPs for further analysis.

For convenience, the excel template was later in the project replaced by LimeSurvey, see Figure 9. LimeSurvey supports updates of data fields, data storage and extraction. This allowed us to report up-to-date population data aggregates on request in a consistent manner, while enabling dashboard visualization algorithms direct access to these data, see Chapter 4. Earlier provided data were transferred to LimeSurvey by WP4. For new programs, WP4 provided the link to the regions.

Set	Framework	Level	Aim	Indicator	Value	Description	Note
			Program nam <i>fill in your program name here</i>				
MDS	Outcome	Scaling	Population	Population size	<i>enter value</i>	The size of the total population in the region	
MDS	Outcome	Scaling	Population	Population stratified by the population tool (size)	<i>enter value</i>	The number of people in the region that were stratified by the tool	
MDS	Outcome	Scaling	Population	Number of stratification levels	<i>enter value</i>	The number of stratification levels in your tool: 1, 2, 3, ...	Depending on the number of risk strata you may remove or add more risk strata rows below. 1 is the lowest risk stratum, the higher the number the higher the risk
MDS	Outcome	Scaling	Population	Population per risk stratum 1 (lowest)	<i>enter value</i>	The number of people in the lowest risk stratum: level 1	
MDS	Outcome	Scaling	Population	Population per risk stratum 2	<i>enter value</i>	The number of people in the lowest risk stratum: level 2	
MDS	Outcome	Scaling	Population	Population per risk stratum 3	<i>enter value</i>	The number of people in the lowest risk stratum: level 3	
MDS	Outcome	Scaling	Population	Population per risk stratum 4	<i>enter value</i>	The number of people in the lowest risk stratum: level 4	
MDS	Outcome	Scaling	Population	Population per risk stratum 5	<i>enter value</i>	The number of people in the lowest risk stratum: level 5	
MDS	Outcome	Scaling	Population	Population per risk stratum 6	<i>enter value</i>	The number of people in the lowest risk stratum: level 6	
MDS	Outcome	Scaling	Population	Population per risk stratum 7	<i>enter value</i>	The number of people in the lowest risk stratum: level 7	
MDS	Outcome	Scaling	Population	Population per risk stratum 8	<i>enter value</i>	The number of people in the lowest risk stratum: level 8	
MDS	Outcome	Scaling	Population	Population per risk stratum 9	<i>enter value</i>	The number of people in the lowest risk stratum: level 9	
MDS	Outcome	Scaling	Population	Population per risk stratum 10	<i>enter value</i>	The number of people in the lowest risk stratum: level 10	
MDS	Outcome	Scaling	Population	Population per risk stratum 11	<i>enter value</i>	The number of people in the lowest risk stratum: level 11	
MDS	Outcome	Scaling	Population	Population per risk stratum 12	<i>enter value</i>	The number of people in the lowest risk stratum: level 12	
MDS	Outcome	Scaling	Population	Population per risk stratum 13	<i>enter value</i>	The number of people in the lowest risk stratum: level 13	
MDS	Outcome	Scaling	Population	Population per risk stratum 14	<i>enter value</i>	The number of people in the lowest risk stratum: level 14	
MDS	Outcome	Scaling	Population	Population per risk stratum 15	<i>enter value</i>	The number of people in the lowest risk stratum: level 15	
MDS	Outcome	Scaling	Population	Target population (size)	<i>enter value</i>	The number of people that are eligible for your program	
MDS	Outcome	Scaling	Population	Population served (size)	<i>enter value</i>	The number of people that are serviced by your program	
MDS	Outcome	Scaling	Population	Population diagnosed with target disease (size)	<i>enter value</i>	The number of people diagnosed with the target disease in your region	
MDS	Outcome	Scaling	Cost	Cost per program	<i>enter value</i>	The total cost of the program (euro)	
MDS	Outcome	Scaling	Cost	Cost per user	<i>enter value</i>	The total cost of the program per user (euro)	

Figure 8 Excel template for reporting aggregated population data.

Pop data				
	2015	2016	2017	2018
population size	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
population stratified by pop tool	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
number of stratification levels	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
population per risk stratum 1 (lowest risk)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
population per risk stratum 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
population per risk stratum 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
population per risk stratum 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
target population	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
population served	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
population diagnosed with target disease	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
incidence	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
prevalence	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
cost per program	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
cost per user	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Figure 9 LimeSurvey for reporting aggregated population data.

## Patient Data

While patient data was envisioned to be collected and stored in the regions in local databases, this step has not happened yet due different reasons. The original idea of the evaluation engine was that scripts in the local databases would create aggregates and those aggregates would be reported to the central engine. At current time, we proposed the regions to extract and report the aggregates from their local systems directly. This proposal is in line with the original proposal and requires the same data elements to be reported, without the use of an evaluation engine in between. However, this approach is limited in additional follow-up analysis as there are only aggregates available.

### Data Elements

Patient data for each of the programs will be collected and aggregated by the regions. These aggregates report on service usage and resource utilization in primary care, secondary care and community care.

**Service data** for 2015, 2016 and 2017 were:

- The number of patients selected for the program.<sup>1</sup>
- The number of patients included in the program.
- The number of patients served in the programs.
- The number of patients that dropped out of the program.
- The reason for dropout:
  - o Program end
  - o Physician initiated stop of the program
  - o Patient initiated stop of the program
  - o Death
  - o Other

**Service utilization data** for 2015, 2016 and 2017 were:

- In primary care:
  - o The number of home visits
  - o The number of GP visits
  - o The number of nurse visits
- In secondary care:
  - o The number of outpatient visits
  - o The number of specialist visits
  - o The number of admissions
  - o The number of 30 day readmissions
- In community care:
  - o The number of community care referrals
  - o The number of home visits

---

<sup>1</sup> Identified by the stratification tool or by other means.

These numbers will be reported as a single aggregate (count) for the full population in the program. To enable subgroup analysis, the following elements will be requested in addition to the population aggregated:

- Per gender (male/female)
- Per age subgroup (<65, 65-85, >85)
- For COPD programs: per severity class (GOLD1,2,3,4)
- For cardiac programs: per severity class (NYHA1,2,3,4)
- For multi-morbid programs: per # comorbidities<sup>2</sup>

**Method**

WP4 developed the excel templates for the programs to report service usage data and resource utilization data. The empty templates were distributed to the regions. The completed templates were sent to WP4. WP4 merged all input and distributed the merged files with the WP leaders.

2015					2016					2017					
nr or patients selected					nr or patients selected					nr or patients selected					
report counts here					report counts here					report counts here					
nr of patients included					nr of patients included					nr of patients included					
report counts here					report counts here					report counts here					
nr of patients served					nr of patients served					nr of patients served					
will be taken from reported population data					will be taken from reported population data					will be taken from reported population data					
nr of dropouts					nr of dropouts					nr of dropouts					
report counts here					report counts here					report counts here					
reason for dropout	program end	physician stop	patient stop	death	other	program end	physician stop	patient stop	death	other	program end	physician stop	patient stop	death	other
	here	here	here	here	here	here	here	here	here	here	here	here	here	here	here

Figure 10 Excel template for service data reporting, mandatory items marked yellow.

	2015				2016				2017			
all patients	all				all				all			
	report counts here				report counts here				report counts here			
subgroup: gender	Male		Female		Male		Female		Male		Female	
	here		here		here		here		here		here	
subgroup: age	<65	65-85	>85		<65	65-85	>85		<65	65-85	>85	
	here	here	here	here	here	here	here	here	here	here	here	here
if applicabl subgroup: severity	NYHA 1	NYHA 2	NYHA 3	NYHA 4	NYHA 1	NYHA 2	NYHA 3	NYHA 4	NYHA 1	NYHA 2	NYHA 3	NYHA 4
	here	here	here	here	here	here	here	here	here	here	here	here
if applicabl subgroup: severity	GOLD 1	GOLD 2	GOLD 3	GOLD 4	GOLD 1	GOLD 2	GOLD 3	GOLD 4	GOLD 1	GOLD 2	GOLD 3	GOLD 4
	here	here	here	here	here	here	here	here	here	here	here	here

Figure 11 Excel template for population outcomes reporting, mandatory items marked yellow.

<sup>2</sup> Definition of severity classes in discussion.

### 3 – Results

In this chapter, we present an overview of collected data. In total 924 surveys have been collected during the project during different iterations and for different respondents. Table 3 gives an overview of all collected surveys.

In the remainder of this chapter, we provide more details of collected data. In the overviews, we present the number of potential respondents, or population size (N). In most cases, it was not feasible to target the full population for the surveys. We present the feasible target number of responses (T) as well as the expected response rate (%T) for the target population. The surveys were distributed to T respondents. The number of expected responses was our objective for the data collection. The actual responses (R) give the number of responses collected. Finally, we report the response rate (%R) based on actual responses and expected responses for each program.

N	the number of potential respondents / population size
T	targeted number of respondents (based on feasibility)
%T	expected response rate (% on top row, the number in the cells)
R	actual responses
%R	response rate

Table 3 Overview of all collected surveys.

Iteration	Program manager	Staff	Patients
Baseline	19	N/A	N/A
Iteration 1	17	173	99
Iteration 2	18	181	417
<b>TOTAL: 924</b>	<b>54</b>	<b>354</b>	<b>516</b>

#### Program manager surveys

##### Baseline

The baseline survey for program managers was distributed and collected on paper in 2016. Wave 2 programs joining in 2017 completed the baseline survey one year later. These were collected in LimeSurvey. Figure 12 shows full set of program manager surveys. The programs marked yellow represent the wave 2 programs. All baseline program managers surveys were completed. A total of 19 surveys were completed.

### Iteration 1

All program managers in the Basque Country, Catalonia, Northern Netherlands and the Region of South Denmark completed the program manager survey in iteration 1, see Figure 13. In Northern Ireland, the response of the program manager of the weight management program is missing. Due to the unexpected program stop in Northern Ireland, it was impossible to collect and add this response later. Wave 2 programs did not participate in ACT@Sale at the time of iteration 1 and are therefore omitted from this overview. We collected 17 program manager surveys.

### Iteration 2

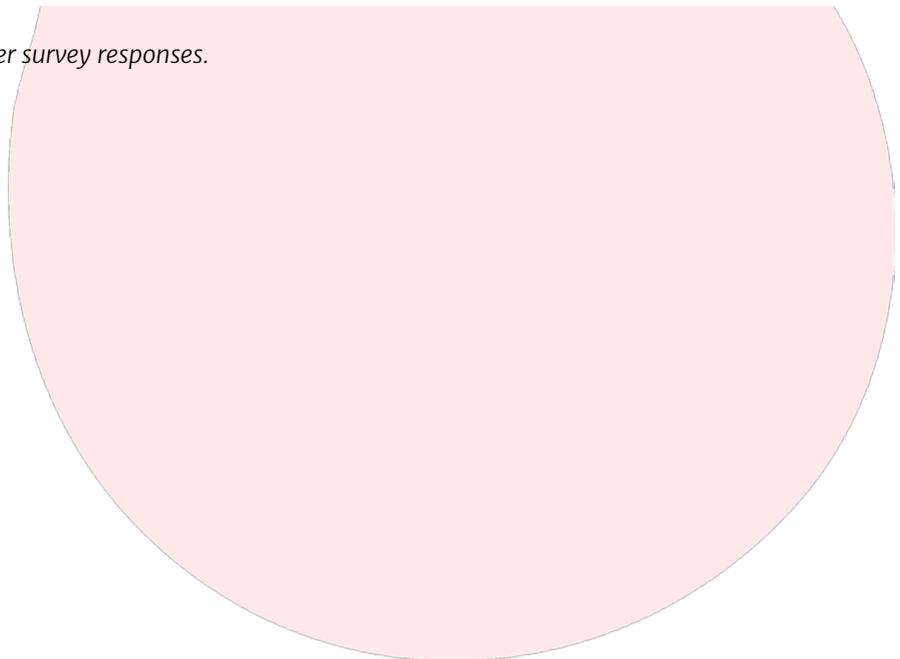
During iteration 2, we collected the responses in all participating regions and programs. In the Basque Country one of the four program managers did not fill in the survey. However, with 3 responses for the Multimorbid Integration program, the response rate was considered sufficient for further analysis. A total of 18 surveys were collected.

		Program managers				
		N	T	%T	R	%R
<b>Basque Country</b>		100%				
BAS MM IC	Multimorbid integration	4	1	4	1	1
BAS CARD TH	CHF telemonitoring	2	1	2	1	1
<b>Catalonia</b>		100%				
CAT IL SUP	Nursing homes	1	1	1	1	1
CAT CHRON IC	Chronic care	1	1	1	1	1
CAT CHRON CM	Complex case management	1	1	1	1	1
CAT CHRON LS	Physical activity	1	1	1	1	1
CAT IL IC	Frail older adults	1	1	1	1	1
<b>Northern Netherlands</b>		100%				
NNL RESP TH	Asthma / COPD	1	1	1	1	1
NNL IL IC	Embrace	1	1	1	1	1
NNL CARD TH	Effective cardio	1	1	1	1	1
<b>Northern Ireland</b>		100%				
NIRE RESP TH	COPD telemonitoring	1	1	1	1	1
NIRE DM TH	Diabetes telemonitoring	1	1	1	1	1
NIRE PREG TH	Weight management telemonitoring	1	1	1	1	1
<b>South Denmark</b>		100%				
RSD MH TH	Telepsychiatry	1	1	1	1	1
RSD RELAT TH	Video-consultation with relatives	1	1	1	1	1
<b>Gesundes Kinzigtal</b>		100%				
DEGK MYHEALTH POP	My Health	1	1	1	1	1
DEGK TRAINING POP	World of training	1	1	1	1	1
<b>Scotland</b>		100%				
SCO MYDM TH	My Diabetes My way	1	1	1	1	1
SCO MYDM FC	MYDM foot care	1	1	1	1	1

Figure 12 Baseline program managers survey responses. The wave 2 programs are marked in yellow.

		Program managers				
		N	T	%T	R	%R
<b>Basque Country</b>		100%				
BAS MM IC	Multimorbid integration	4	4	4	4	100
BAS CARD TH	CHF telemonitoring	2	2	2	2	100
<b>Catalonia</b>		100%				
CAT IL SUP	Nursing homes	1	1	1	1	100
CAT CHRON IC	Chronic care	1	1	1	1	100
CAT CHRON CM	Complex case management	1	1	1	1	100
CAT CHRON LS	Physical activity	1	1	1	1	100
CAT IL IC	Frail older adults	1	1	1	1	100
<b>Northern Netherlands</b>		100%				
NNL RESP TH	Asthma / COPD	1	1	1	1	100
NNL IL IC	Embrace	1	1	1	1	100
NNL CARD TH	Effective cardio	1	1	1	1	100
<b>Northern Ireland</b>		100%				
NIRE RESP TH	COPD telemonitoring	3	3	1	1	100
NIRE DM TH	Diabetes telemonitoring	3	3	1	1	100
NIRE PREG TH	Weight management telem	2	2	1	0	0
<b>South Denmark</b>		100%				
RSD MH TH	Telepsychiatry	1	1	1	1	100

Figure 13 Iteration 1 program manager survey responses.



		Program managers				
		N	T	%T	R	%R
<b>Basque Country</b>		100%				
BAS MM IC	Multimorbid integration	4	4	4	3	75
BAS CARD TH	CHF telemonitoring	2	2	2	2	100
<b>Catalonia</b>		100%				
CAT IL SUP	Nursing homes	1	1	1	1	100
CAT CHRON IC	Chronic care	1	1	1	1	100
CAT CHRON CM	Complex case management	1	1	1	1	100
CAT CHRON LS	Physical activity	1	1	1	1	100
CAT IL IC	Frail older adults	1	1	1	1	100
<b>Northern Netherlands</b>		100%				
NNL RESP TH	Asthma / COPD	1	1	1	1	100
NNL IL IC	Embrace	1	1	1	1	100
NNL CARD TH	Effective cardio	1	1	1	1	100
<b>Northern Ireland</b>						
NIRE RESP TH	COPD telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE DM TH	Diabetes telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE PREG TH	Weight management telemonitoring	N/A	N/A	N/A	N/A	N/A
<b>South Denmark</b>		100%				
RSD MH TH	Telepsychiatry	N/A	N/A	N/A	N/A	N/A
RSD RELAT TH	Video-consultation with relatives	1	1	1	1	100
<b>Gesundes Kinzigtal</b>		100%				
DEGK MYHEALTH POP	My Health	1	1	1	1	100
DEGK TRAINING POP	World of training	1	1	1	1	100
<b>Scotland</b>		100%				
SCO MYDM TH	My Diabetes My way	1	1	1	1	100
SCO MYDM FC	MYDM foot care	1	1	1	1	100

Figure 14 Iteration 2 program manager survey responses.

## Staff surveys

All staff surveys were collected in LimeSurvey. WP4 generated links for each programs based on the targeted number of respondents. The regions distributed the links to their program staff. Reminders were sent at the end of the collection to ensure the highest possible response rates.

### Iteration 1

A total of 173 surveys were collected. In most of the programs in the Basque Country and Catalonia the set response rates were met and in some cases even overachieved. In Northern Netherlands it was difficult to reach the target numbers. The Northern Netherlands partner collaborates with the programs, but in comparison Spanish partners they are organizationally further away from program management and that challenged the involvement of those programs.

During the first PDSA (iteration 1) we faced several dropouts in the ACT@Scale program. The Northern Ireland programs were stopped and these programs could no longer participate in the ACT@Scale program. The Telepsychiatry program from the Region of South Denmark dropped off because the program was actually too mature to further participate in the PDSA cycles and all related data collections.

		Healthcare professionals				
		N	T	%T	R	%R
<b>Basque Country</b>		100%		30%		
BAS MM IC	Multimorbid integration	350	350	105	110	105
BAS CARD TH	CHF telemonitoring	40	40	12	11	92
<b>Catalonia</b>		100%				
CAT IL SUP	Nursing homes	12	3	3	3	100
CAT CHRON IC	Chronic care	62	30	30	15	50
CAT CHRON CM	Complex case management	8	8	8	8	100
CAT CHRON LS	Physical activity	6	6	6	8	133
CAT IL IC	Frail older adults	8	8	8	6	75
<b>Northern Netherlands</b>		90%				
NNL RESP TH	Asthma / COPD	350	10	9	7	78
NNL IL IC	Embrace	30	10	9	4	44
NNL CARD TH	Effective cardio	2	2	2	1	50
<b>Northern Ireland</b>		100%		70%		
NIRE RESP TH	COPD telemonitoring	55	55	39	N/A	N/A
NIRE DM TH	Diabetes telemonitoring	40	40	28	N/A	N/A
NIRE PREG TH	Weight management telem	20	20	14	N/A	N/A
<b>South Denmark</b>		100%				
RSD MH TH	Telepsychiatry	25	6	6	N/A	N/A

Figure 15 Iteration 1 staff survey responses.

## Iteration 2

At the start of the second PDSA (iteration 2), a new wave of programs joined the consortium. In the overview of iteration 2 the new regions and programs are also presented in the overview. In total 181 surveys were collected.

Most of the programs in Basque Country and Catalonia fully achieved their objective, as well as the Effective cardio program in the Netherlands. A high response rate (>70%) was achieved Multimorbid Integration (BAS), Chronic Care (CAT) and World of Training (DE). My Health (DE) and Video Conferencing with Relatives (RSD) achieve half of the targeted responses. The Footcare program (SCO) was just established at the moment of the survey. They had recruited the staff, but patients were not yet included in the program.

There are no responses for the programs that dropped out during the first iteration. Also for 2 programs in the Netherlands there are no responses. The Embrace program ended during this second PDSA and will be continued in another form, with the core elements from the program, at another location with new staff and patients. For the Asthma/COPD program it was not possible to collect the results due to an organizational change in the program.

Note that the total number of staff involved in the Scottish programs is much higher. Only the representatives were approached for the surveys.

		Healthcare professionals / Staff				
		N	T	%T	R	%R
<b>Basque Country</b>				100%		30%
BAS MM IC	Multimorbid integration	350	350	105	86	82
BAS CARD TH	CHF telemonitoring	40	40	12	12	100
<b>Catalonia</b>				100%		
CAT IL SUP	Nursing homes	12	3	3	3	100
CAT CHRON IC	Chronic care	62	30	30	21	70
CAT CHRON CM	Complex case management	8	8	8	8	100
CAT CHRON LS	Physical activity	6	6	6	6	100
CAT IL IC	Frail older adults	8	8	8	8	100
<b>Northern Netherlands</b>				90%		
NNL RESP TH	Asthma / COPD	350	10	9	N/A	N/A
NNL IL IC	Embrace	30	10	9	N/A	N/A
NNL CARD TH	Effective cardio	2	2	2	2	100
<b>Northern Ireland</b>						
NIRE RESP TH	COPD telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE DM TH	Diabetes telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE PREG TH	Weight management telemonitoring	N/A	N/A	N/A	N/A	N/A
<b>South Denmark</b>				100%		50%
RSD MH TH	Telepsychiatry	N/A	N/A	N/A	N/A	N/A
RSD RELAT TH	Video-consultation with relatives	42	15	15	14	93
<b>Gesundes Kinzigtal</b>				100%		
DEGK MYHEALTH POP	My Health	2	2	2	1	50
DEGK TRAINING POP	World of training	5	5	5	4	80
<b>Scotland</b>						
SCO MYDM TH	My Diabetes My way	14	14	14	10	71
SCO MYDM FC	MYDM foot care	14	14	14	7	50

Figure 16 Iteration 2 staff survey responses.

## Patient Surveys

All patients surveys were collected in LimeSurvey. WP4 generated links for each programs based on the targeted number of respondents. The regions managed the links and arranged the distribution of the links for their patient population. In total 516 surveys were collected over 2 iterations.

### Iteration 1

During the first iteration, only the Basque Country had finalized ethical approval for the patient surveys. In total 99 surveys were collected. For the Multimorbid Integration program a high number of responses was achieved and the response rate was high (86%). The CHF Telemonitoring program has a 50% response rate with 6 responses in total.

		Patients				
		N	T	%T	R	%R
<b>Basque Country</b>		60%				
BAS MM IC	Multimorbid integration	6200	180	108	93	86
BAS CARD TH	CHF telemonitoring	150	20	12	6	50
<b>Catalonia</b>		10% 25%				
CAT IL SUP	Nursing homes	3563	300	75	N/A	N/A
CAT CHRON IC	Chronic care	445	40	10	N/A	N/A
CAT CHRON CM	Complex case management	500	50	13	N/A	N/A
CAT CHRON LS	Physical activity	200	20	5	N/A	N/A
CAT IL IC	Frail older adults	700	30	8	N/A	N/A
<b>Northern Netherlands</b>		90%				
NNL RESP TH	Asthma / COPD	11500	30	27	N/A	N/A
NNL IL IC	Embrace	1500	N/A	N/A	N/A	N/A
NNL CARD TH	Effective cardio	200	20	18	N/A	N/A
<b>Northern Ireland</b>		60% 25%				
NIRE RESP TH	COPD telemonitoring	600	N/A	N/A	N/A	N/A
NIRE DM TH	Diabetes telemonitoring	500	N/A	N/A	N/A	N/A
NIRE PREG TH	Weight management telem	200	N/A	N/A	N/A	N/A
<b>South Denmark</b>						
RSD MH TH	Telepsychiatry	N/A	N/A	N/A	N/A	N/A

Figure 17 Patient survey responses for iteration 1.

### Iteration 2

During the second PDSA (iteration 2), nearly all participating regions collected patient surveys. In total 417 surveys were collected. The Video Consultation program from region of South Denmark did not participate in the patient surveys, because this program is targeted at the relatives instead of the patients. The patient survey was not appropriate for this purpose.

A note on the interpretation of N is necessary here. In Scotland, the full diabetes population (~300k) is eligible for the My Diabetes My Way program, however, not all

patients register for the program and an even smaller group is active user (~5k). Only active users were approached for the patient survey. Similarly, in Germany, the full population is approximately 33k patients of which more than 8k are included per program. A minimum response rate of 10% was expected, while the desired number of responses was 25.

		Patients				
		N	T	%T	R	%R
<b>Basque Country</b>		60%				
BAS MM IC	Multimorbid integration	6200	180	108	96	89
BAS CARD TH	CHF telemonitoring	150	20	12	20	167
<b>Catalonia</b>		10% 25%				
CAT IL SUP	Nursing homes	3563	N/A	N/A	N/A	N/A
CAT CHRON IC	Chronic care	445	40	10	N/A	N/A
CAT CHRON CM	Complex case management	500	50	13	51	392
CAT CHRON LS	Physical activity	200	20	5	21	420
CAT IL IC	Frail older adults	700	30	8	22	275
<b>Northern Netherlands</b>		90%				
NNL RESP TH	Asthma / COPD	11500	30	27	18	67
NNL IL IC	Embrace	1500	N/A	N/A	N/A	N/A
NNL CARD TH	Effective cardio	214	200	150	70	47
<b>Northern Ireland</b>						
NIRE RESP TH	COPD telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE DM TH	Diabetes telemonitoring	N/A	N/A	N/A	N/A	N/A
NIRE PREG TH	Weight management telemonitoring	N/A	N/A	N/A	N/A	N/A
<b>South Denmark</b>						
RSD MH TH	Telepsychiatry	N/A	N/A	N/A	N/A	N/A
RSD RELAT TH	Video-consultation with relatives	N/A	N/A	N/A	N/A	N/A
<b>Gesundes Kinzigtal</b>		10-25%				
DEGK MYHEALTH POP	My Health	8292	100	25	22	88
DEGK TRAINING POP	World of training	8549	100	25	13	52
<b>Scotland</b>		50%				
SCO MYDM TH	My Diabetes My way	5000	250	125	84	67
SCO MYDM FC	MYDM foot care	N/A	N/A	N/A	N/A	N/A

Figure 18 Staff survey responses for iteration 2.

## Population data

Aggregated population data were reported for on the baseline (2015), iteration 1 (2016) and iteration 2 (2017) by all participating programs. All service selection elements were well available in the regions for all programs, however, cost data were difficult to obtain. For population data, we collect in all 15 active programs.

Table 4 Population data availability.

Indicator	# reported	Note
Population size <sup>1</sup>	15/15	
Population stratified <sup>2</sup>	13/15	Stratification not applicable in 2 RSD programs
Number of stratification levels <sup>2</sup>	13/15	Idem
Population per risk stratum 1 <sup>2</sup>	13/15	Idem
Population per risk stratum 2 <sup>2</sup>	13/15	Idem
Population per risk stratum 3 <sup>2</sup>	13/15	Idem
Population per risk stratum 4 <sup>2</sup>	13/15	Idem
Target population (size) <sup>3</sup>	15/15	
Population served (size) <sup>3</sup>	15/15	
Population diagnosed with target disease (size) <sup>4</sup>	15/15	
Cost per program	11/15	No cost data available for NNL (1 <sup>3</sup> ) and CAT (3 <sup>4</sup> )
Cost per user	12/15	Idem, user cost reported for A/C program NNL

## Patient data

We had sessions with each of the regions to understand the local availability of patient service and patient resource utilization data and we agreed on an aggregation plan. For example, the GP visits were aggregated to a total at population level. The aggregated data were shared with WP4 and were converted to the intended JSON structured. That allowed us to fully use the central evaluation engine for uploading, storing aggregated results in a consistent way and visualization of the results on the program dashboards.

<sup>3</sup> No cost data for Asthma/COPD in Northern Netherlands.

<sup>4</sup> No cost data for Chronic Care, Nursing Homes and Frail Older Adults in Catalonia.

## 4 - Intermediate Visualization

Here we present an overview of initial dashboard visualizations of the data collected so far. These data were stored in the database of the central evaluation engine. The evaluation engine front-end visualizes dashboards for each program. The snapshots in this section are intended to give an impression of how collected data is represented on the program dashboards. The snapshots have been created for the preparation for this report and contain test data and should not be used to draw conclusions of program performance. The interpretation of the collected results is reported by the associated WPs in the corresponding deliverables.

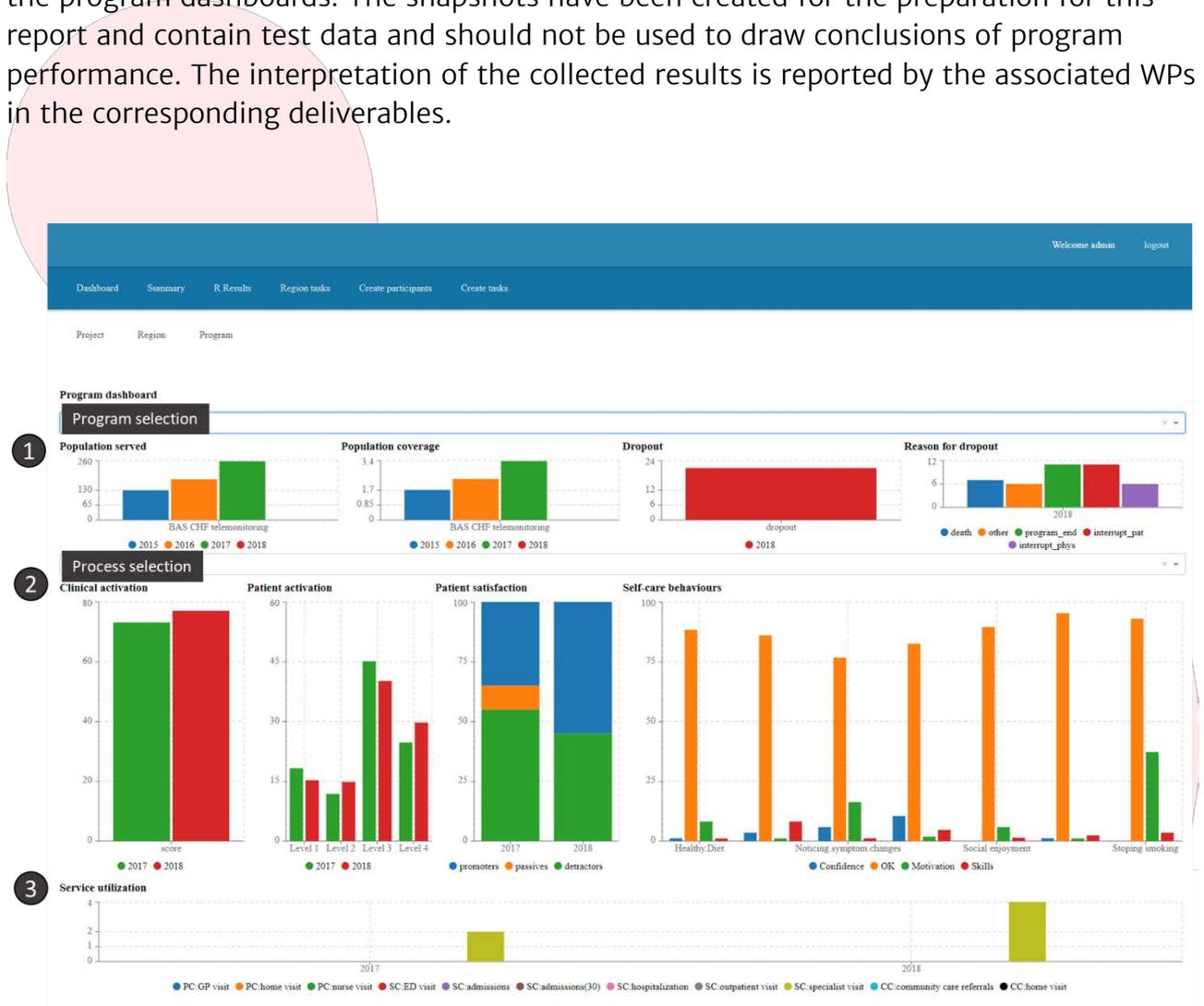


Figure 19 A program dashboard in the evaluation engine.

Figure 19 shows a program dashboard for a selected program. Each program dashboard design has the same structure:

1. Scaling visualizations
2. Process visualizations, where of the following process areas can be selected:
  - Stakeholder and change management
  - Service selection
  - Sustainability
  - Citizen empowerment (default selection)
3. Service utilization visualizations

There are two dropdown selections (depicted as grey box): the first to select the program, the second to select the process visualization.

Figure 19 is a screenshot of a (test) program dashboard, implemented in the evaluation engine. The program dashboards are available online<sup>5</sup> for consortium members. The screenshots in the remainder of this chapter are also screenshots from the evaluation engine.

All graphs are interactive, meaning that elements of the graph can be (de)selected for visualization. A colour scheme for the years has been consistently applied across all figures:

- 2015 Blue
- 2016 Orange
- 2017 Green
- 2018 Red<sup>6</sup>

### Scaling visualizations

The goal of the ACT@Scale project is to scale up existing and operational integrated care programs. We track the scaling based on service data available in the regions. In the service data we have made the distinction between patients being selected for the program (selected), patients being included in the program (active) and patients quitting the program (out) and a set of reasons for dropping of the program.

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<sup>5</sup> <https://www.actatscale-digilabs.com/engine/#/login>

<sup>6</sup> 2018 was not required for the project, but the evaluation engine does allow reporting, if necessary

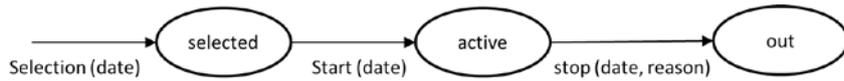
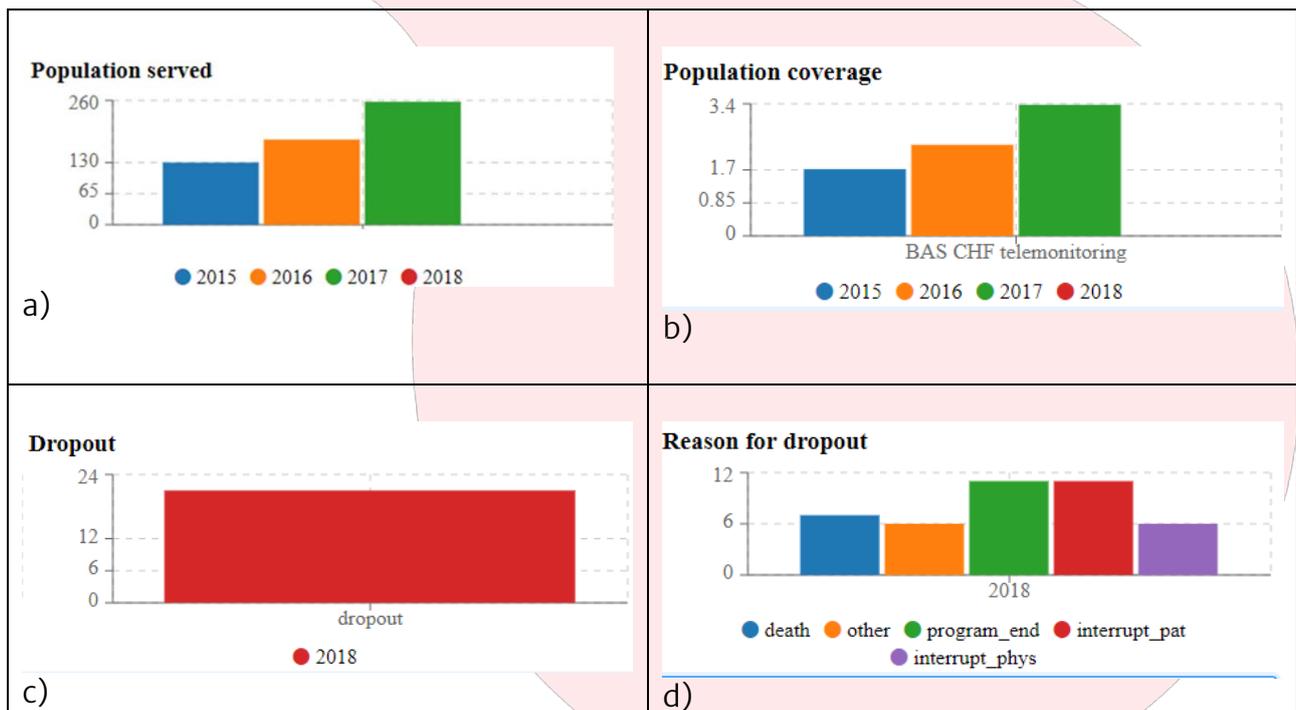


Figure 20 Service participant model.

Table 5 depicts the scaling visualizations in a bit more detail. In Figure (a) the population served is depicted of the years of the project, with the option to included and report 2018 data, though this is not required for the project. Here we expect increasing trends. In Figure (b), the program coverage is depicted as the ration between the population served and target population. Figure (c), depicts the number of dropouts over the years. The current visualization only depicts one year, but after these service data aggregates are available, the figure will show all available years. Finally, Figure (d) visualizes the reasons for dropout. Please note, that these data are for testing purposes and should not be used to draw conclusions.

Table 5 Scaling visualizations.



### Stakeholder and change management graphs

These graphs are based on the program manager and staff survey results. The first graph represents the staff view, see Figure 21. The other graph represents the program manager view, see Figure 22. Different colours represent the year of data collection. In this example, the first figure has data from 2 years and the second figure only from one year.

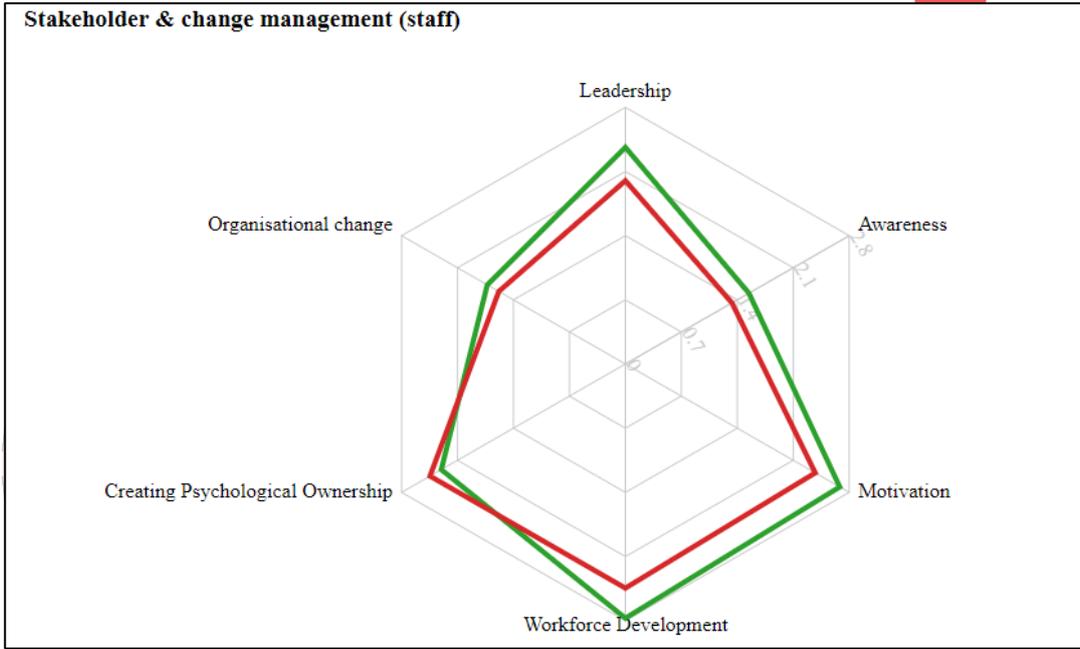


Figure 21 Stakeholder and change management spider chart, staff perspective

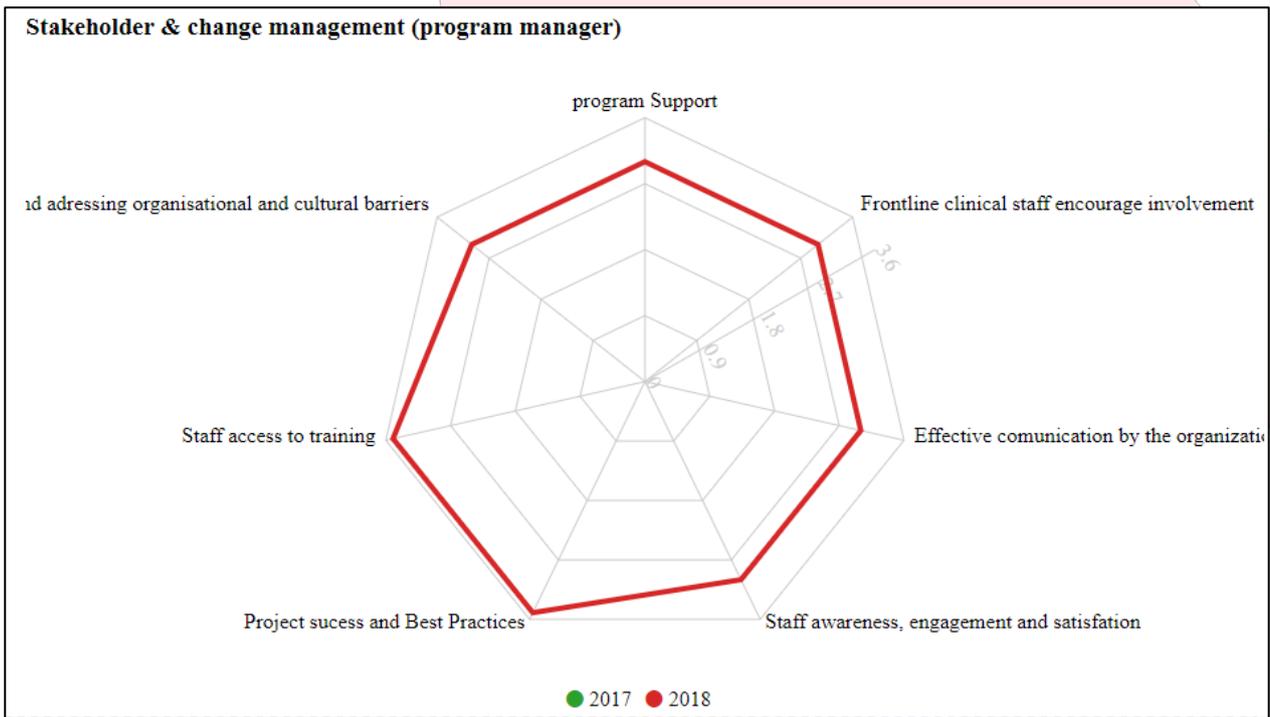


Figure 22 Stakeholder and change management spider chart, program manager perspective.

## Service selection graphs

Figure 23 depicts the total scores for the service selection survey. The years are represented by the colours. These graphs will be replaced by the radar charts showing better how the score was obtained, similar to the stakeholder and change management graphs.

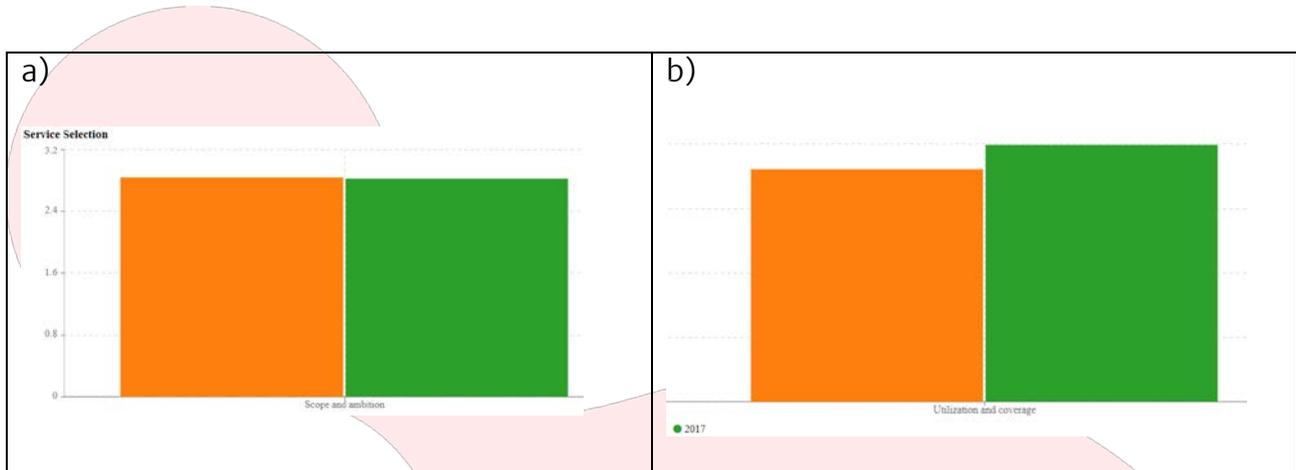


Figure 23 Service selection graphs. Figure (a) the total score for **scope and ambition** in 2016 (orange) and 2017 (green). Figure (b) the total scores for **utilization and coverage** in 2016 (orange) and 2017 (green).

## Sustainability graphs

Currently there is only one graph in the Sustainability section. In the next version of the evaluation engine, there will be two radar charts, one for program sustainability and one for payment models. Figure 24 depicts changes in program sustainability over several dimensions. These results were obtained from the program manager survey. Input for the payment models is currently collected by WP7 and will be added soon.

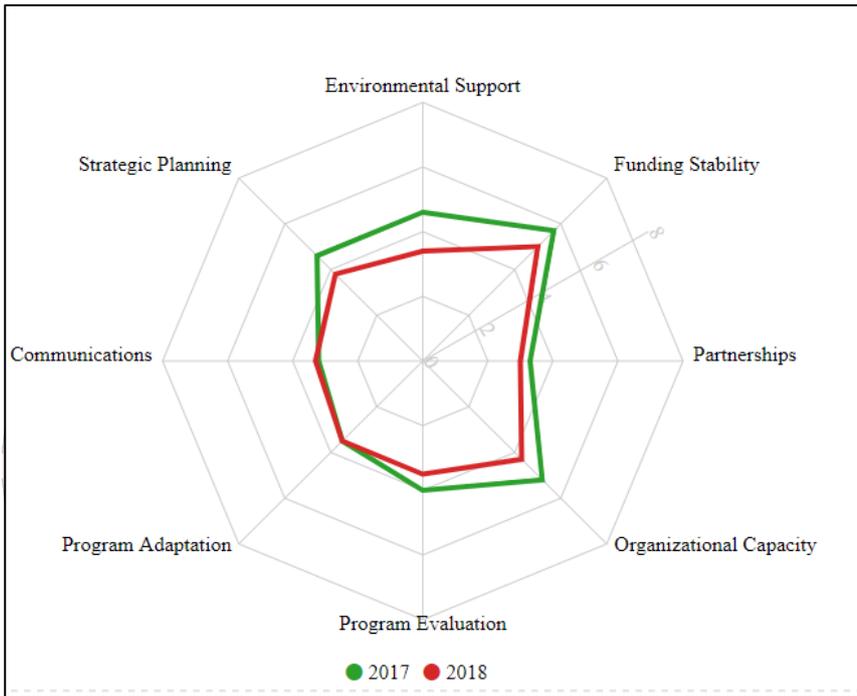


Figure 24 Sustainability graph displaying results of the Sustain survey.

### Citizen empowerment graphs

Figure 25 depicts the citizen empowerment graphs. Figure (a) shows clinical activation is the result from the staff survey (CSPAM section). Figure (b-d) represent the results from the patient survey (PAM, NPS and MAY). Figure (b) depicts patient activation (PAM). Figure (c) depicts patient satisfaction, measured as Net Promotor Score (NPS). These all depict the progress over the different years. Self-care behaviours, as shown in Figure (d) is the results from the MAY survey and only shows the current year.

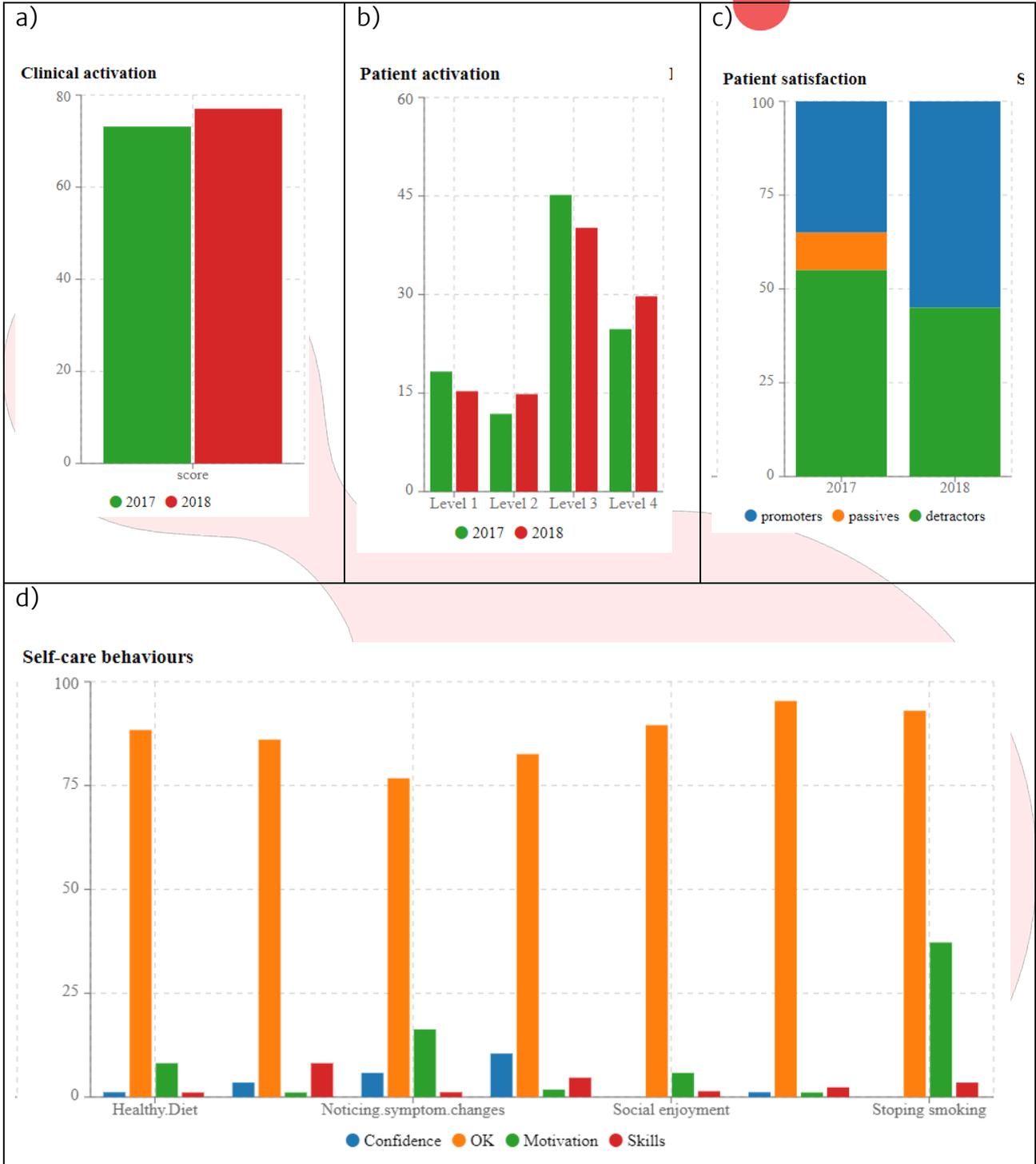


Figure 25 Citizen empowerment graphs.

### Service utilization graphs

The final section of the dashboard is the service utilization graph, see Figure 26. Here all available service utilization from primary care, secondary care and community care is reported.

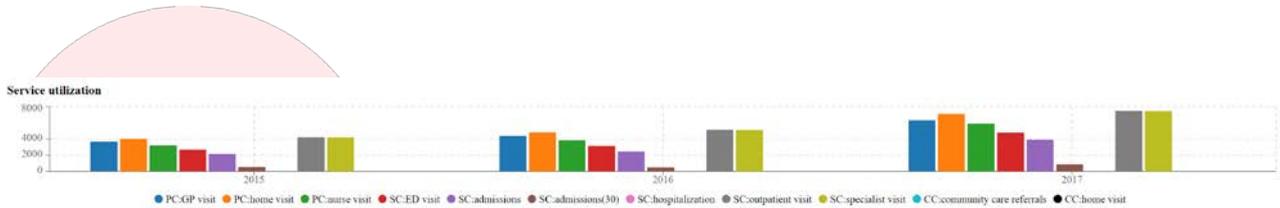


Figure 26 Service utilization graph (fragment only).

## 6 – Conclusions & Future Work

The data collection for ACT@Scale has nearly completed. Over 900 surveys were collected, giving a unique insight in the process of scaling-up. For final deliverable, we will complete the program dashboards and we will link all program dashboards to the data collected.

