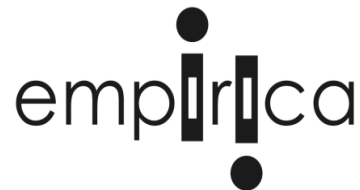




ASSIST - assessment and evaluation tools for telemedicine

5 April 2011

ARTES Workshop, Noordwijk



ISTITUTO REGIONALE
DI RICERCA
DELLA LOMBARDIA

ASSIST - What for?

- Project funded by the ESA GSP programme for
- Results assessment of telemedicine pilots
 - Not project evaluation
- Support the business case
 - Optimise relation of cost and benefits over time
- Aim - turning pilots into viable and sustainable services

Hypothetical scenario - GP telemedicine

- Telemonitoring undertaking that supports GPs in caring for their patients with heart conditions
- Start as pilot project in Jan 2012 with 5 GPs
- Today we have Jan 2013 and got results from our pilot phase
- We are preparing market entry for July 2013 and are in discussion with the regional health authority. They want a prove that it is viable to reimburse telemedicine
- We projected Jan-2013 to Dec-2018 based on our business plan

Getting started with ASSIST



Project funded by the ESA GSP programme

Follow these steps

Setting up your assessment

Stakeholder analysis

Data collection

Analysis and reporting

Setting up the assessment

Experience Select your experience level for this assessment. The beginner level is the default configuration. The higher levels expand the number of stakeholders and indicators that require a wider range of patient groups and rare or second order stakeholders.

Advanced

Duration The assessment should cover a time span from the start of planning the undertaking well into full operation.

Start of assessment Enter the year in which you started planning your undertaking 2012 year as yyyy

Enter start month in that year 1 month as mm

Duration of assessment We recommend to look at least at 36 months but you cannot look more than 84 months ahead 84 no. of months

Currency The currency applicable for your business case €

Discounting Discounting is needed to reflect the changes in the value of money over time

Discount rate for socio-economic return 3.50%

Discount rate for return on investment 5.00%

Working time Most employers have specific values for the following questions

Hours in working-day Probably around 8 hours 7.7 Hours per day

Working days in week In most cases 5 days 5 Days per week

Holidays Add bank holidays and private holidays; In most European countries between 20 and 40 30 Days per year

Employer contribution Employer contributions for social security in percent added to gross annual wage 20% percent

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Microsoft Excel - ASSIST_tool_version-2-14 with example.xls [Kompatibilitätsmodus]

Stakeholder analysis

Please specify all stakeholders that participate in your telemedicine service. To include a stakeholder in your assessment tick the box on the right side. You can rename stakeholders, but you cannot extend the number of stakeholders. In case you have ticked a box a new sheet should appear in Excel, which is named according to the acronym of the stakeholder. If you have finalised the stakeholder analysis go on with entering data for each stakeholder.

Groups	Subgroups	Worksheet	Description	Applicable
Individuals		IND		
	Heart Disease Patients	IND_pat_1	e.g. a group of Diabetes patients	<input checked="" type="checkbox"/>
	Patients 2	IND_pat_2		<input type="checkbox"/>
	Patients 3	IND_pat_3		<input type="checkbox"/>
	Patients 4	IND_pat_4		<input type="checkbox"/>
	Informal carers 1	IND_ica_1	carer of Heart Disease Patients	<input type="checkbox"/>
	Informal carers 2	IND_ica_2	carer of Patients 2	<input type="checkbox"/>
	Informal carers 3	IND_ica_3	carer of Patients 3	<input type="checkbox"/>
	Informal carers 4	IND_ica_4	carer of Patients 4	<input type="checkbox"/>
Health Provider Organisations (HPOs) & staff		HPO		
	Telemedicine centres	HPO_tcr		<input checked="" type="checkbox"/>
	Telemonitoring Cardiologist	IND_hpr_11	to be defined; e.g. telemonitoring nurse	<input checked="" type="checkbox"/>
	Telemonitoring Nurse	IND_hpr_12	to be defined; e.g. telemonitoring physician	<input checked="" type="checkbox"/>
	Technician	IND_hpr_13	to be defined; e.g. technician	<input checked="" type="checkbox"/>

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Groups	Subgroups	Worksheet	Description	Applicable
Individuals		IND		
	Heart Disease Patients	IND_pat_1	e.g. a group of Diabetes patients	<input checked="" type="checkbox"/>
	Patients 2	IND_pat_2		<input type="checkbox"/>
	Patients 3	IND_pat_3		<input type="checkbox"/>
	Patients 4	IND_pat_4		<input type="checkbox"/>
	Informal carers 1	IND_ica_1	carer of Heart Disease Patients	<input type="checkbox"/>
	Informal carers 2	IND_ica_2	carer of Patients 2	<input type="checkbox"/>
	Informal carers 3	IND_ica_3	carer of Patients 3	<input type="checkbox"/>
	Informal carers 4	IND_ica_4	carer of Patients 4	<input type="checkbox"/>
	Health Provider Organisations (HPOs) & staff	HPO		
	Telemedicine centres	HPO_tcr		<input checked="" type="checkbox"/>
	Telemonitoring Cardiologist	IND_hpr_11	to be defined; e.g. telemonitoring nurse	<input checked="" type="checkbox"/>
	Telemonitoring Nurse	IND_hpr_12	to be defined; e.g. telemonitoring physician	<input checked="" type="checkbox"/>
	Technician	IND_hpr_13	to be defined; e.g. technician	<input checked="" type="checkbox"/>
	Primary care organisations	HPO_pco		<input checked="" type="checkbox"/>
	General practitioner	IND_hpr_1	work in Primary care organisations	<input checked="" type="checkbox"/>
	Primary care nurses	IND_hpr_2	work in Primary care organisations	<input type="checkbox"/>
	Specialist care organisations	HPO_sco		<input type="checkbox"/>
	Specialist physicians	IND_hpr_3	work in Specialist care organisations	<input type="checkbox"/>
	Specialist nurses	IND_hpr_7	work in Specialist care organisations	<input type="checkbox"/>
	Hospitals	HPO_hos		<input checked="" type="checkbox"/>
	Hospital doctors	IND_hpr_4	work in Hospitals	<input type="checkbox"/>

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Patients 2	IND_pat_2		<input type="checkbox"/>
Patients 3	IND_pat_3		<input type="checkbox"/>
Patients 4	IND_pat_4		<input type="checkbox"/>
Informal carers 1	IND_ica_1	carer of Heart Disease Patients	<input type="checkbox"/>
Informal carers 2	IND_ica_2	carer of Patients 2	<input type="checkbox"/>
Informal carers 3	IND_ica_3	carer of Patients 3	<input type="checkbox"/>
Informal carers 4	IND_ica_4	carer of Patients 4	<input type="checkbox"/>

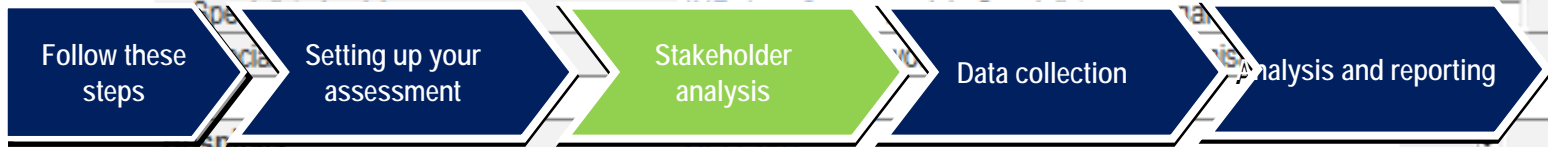
Health Provider Organisations (HPOs) & staff

Health Provider Organisations (HPOs) & staff		HPO		
Telemedicine centres		HPO_tcr		<input checked="" type="checkbox"/>
Telemonitoring Cardiologist	IND_hpr_11	to be defined; e.g. telemonitoring nurse		<input checked="" type="checkbox"/>
Telemonitoring Nurse	IND_hpr_12	to be defined; e.g. telemonitoring physician		<input checked="" type="checkbox"/>
Technician	IND_hpr_13	to be defined; e.g. technician		<input checked="" type="checkbox"/>
Primary care organisations		HPO_pco		<input checked="" type="checkbox"/>
General practitioner	IND_hpr_1	work in Primary care organisations		<input checked="" type="checkbox"/>
Primary care nurses	IND_hpr_2	work in Primary care organisations		<input type="checkbox"/>
Specialist care organisations		HPO_sco		<input type="checkbox"/>
Specialist physicians	IND_hpr_3	work in Specialist care organisations		<input type="checkbox"/>
Specialist nurses	IND_hpr_7	work in Specialist care organisations		<input type="checkbox"/>
Hospitals		HPO_hos		<input checked="" type="checkbox"/>
Hospital physicians 1	IND_hpr_5	work in Hospitals		<input type="checkbox"/>
Hospital physicians 2	IND_hpr_6	work in Hospitals		<input type="checkbox"/>
Hospital nurses	IND_hpr_8	work in Hospitals		<input type="checkbox"/>
Ambulance service		HPO_esa		<input type="checkbox"/>
Paramedics	IND_hpr_4	work in Ambulance service		<input type="checkbox"/>



Health Provider Organisations (HPOs) & staff

Telemedicine centres		HPO_tcr		<input checked="" type="checkbox"/>
Telemonitoring Cardiologist	IND_hpr_11	to be defined; e.g. telemonitoring nurse		<input checked="" type="checkbox"/>
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Primary care organisations		HPO_pco		<input checked="" type="checkbox"/>
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Primary care nurses	IND_hpr_2	work in Primary care organisations		<input type="checkbox"/>
Specialist care organisations		HPO_sco		<input type="checkbox"/>
Specialist physicians	IND_hpr_3	work in Specialist care organisations		<input type="checkbox"/>
Specialist nurses	IND_hpr_7	work in Specialist care organisations		<input type="checkbox"/>
Hospitals		HPO_hos		<input checked="" type="checkbox"/>
Hospital physicians 1	IND_hpr_5	work in Hospitals		<input type="checkbox"/>
Hospital physicians 2	IND_hpr_6	work in Hospitals		<input type="checkbox"/>
Hospital nurses	IND_hpr_8	work in Hospitals		<input type="checkbox"/>
Ambulance service		HPO_amb		<input type="checkbox"/>
Paramedics	IND_hpr_4	work in Ambulance service		<input type="checkbox"/>
Nursing homes		HPO_nho		<input type="checkbox"/>
Care professionals	IND_hpr_10	work in Nursing homes		<input type="checkbox"/>
Community Nursing Services (CNS)		HPO_cns	outpatient healthcare service operated by nurses seeing patients in their home	<input type="checkbox"/>
Community nurses	IND_hpr_9	work in Community Nursing Services (CNS)		<input type="checkbox"/>



Hospitals			
Hospital physicians 1	IND_hpr_5	work in Hospitals	<input type="checkbox"/>
Hospital physicians 2	IND_hpr_6	work in Hospitals	<input type="checkbox"/>
Hospital nurses	IND_hpr_8	work in Hospitals	<input type="checkbox"/>
Ambulance service			
Paramedics	IND_hpr_4	work in Ambulance service	<input type="checkbox"/>
Nursing homes			
Care professionals	IND_hpr_10	work in Nursing homes	<input type="checkbox"/>
Community Nursing Services (CNS)			
Community nurses	IND_hpr_9	work in Community Nursing Services (CNS)	<input type="checkbox"/>
Payers			
Regional health authority	PAY_hpa		<input checked="" type="checkbox"/>
Social care payers	PAY_spa		<input type="checkbox"/>
Social security offices	PAY_sso		<input type="checkbox"/>



Entering data For each stakeholder you now fill in a specific questionnaire

Hospitals in Health Provider Organisations (HPOs) & staff		Go back to Settings	Stakeholder list	View results Overview	Details	Charts
Inpatient department - Forgone income from avoided admissions	Telemedicine is expected to lead to savings in healthcare resources. One aspect of this is avoidance of unnecessary visits to healthcare facilities. In many healthcare systems, these lead to a direct reduction in the income of the organisations. This is a continuous economic and financial cost to HPOs, valued at average reimbursement rates per visit			Jan-12	Dec-18	Date as mm-yyyy
Reimbursement rate for consultations at the inpatient department of Hospitals	This should be an average rate for a standard consultation in the field of the addressed diseases without complications				3961	€ per consultation
Number of avoided admissions of Heart Disease Patients at Hospitals	Average admissions of one patient without telemedicine minus average admissions with telemedicine				0.2	number per year



Finalising a stakeholder sheet

In the top right corner you get a quick feedback how a single stakeholder is doing.

Min	Max	Unit	Time period	Data source	Person in charge	Deliver by	Notes	Status
<p>The cumulative socio-economic return for Hospitals is -99% Your socio-economic return is negative. Continue to optimize this stakeholder</p>								

In this case the number is -99% which means that the stakeholder is not yet profiting from the telemedicine service.

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Socio Economic Return by Stakeholders

Core performance measures for your assessment are socio-economic return and return on investment. For a first rough analysis look at coloured arrows. If they are green the stakeholder is likely to profit; yellow needs a closer look and red means that the stakeholder is negatively affected by the newly introduced telemedicine service. If veto players are red they might hinder you in putting the service in place.

Groups	Subgroups		Cumulative socio-economic return	Cummulative net-benefit	Link to summary
Individuals					
	Heart Disease Patients	↑	137%		Details >>
Health Provider Organisations (HPOs) & staff					
	* Telemedicine centres	→	2%	143,256 €	Details >>
	Telemonitoring Cardiologist	→	0%		Details >>
	Telemonitoring Nurse	→	0%		Details >>
	Technician	→	0%		Details >>
	Primary care organisations	↑	854%	549,603 €	Details >>
	General practitioner	↑	33%		Details >>
	Hospitals	↓	-94%	-4,769,444 €	Details >>
Payers					
	Regional health authority	↓	-40%	-3,228,345 €	Details >>
ICT industry					
	* Eurotelsat	→	15%	221,321 €	Details >>
	* Philstals	↑	1883%	1,305,684 €	Details >>

Follow these steps

Setting up your assessment

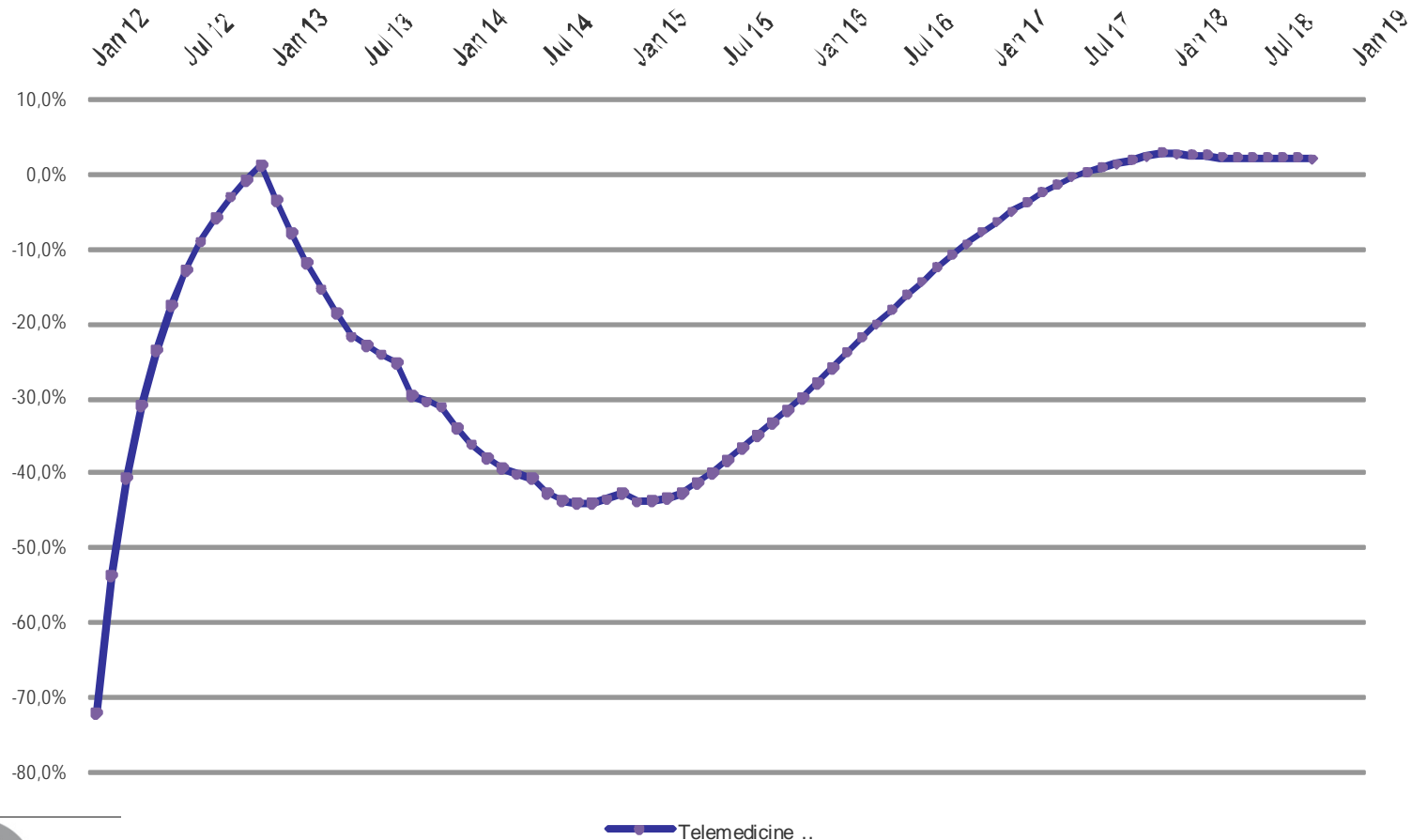
Stakeholder analysis

Data collection

Analysis and reporting

Telemedicine centre

Return on investment



—●— Telemedicine ..

Follow these steps

Setting up your assessment

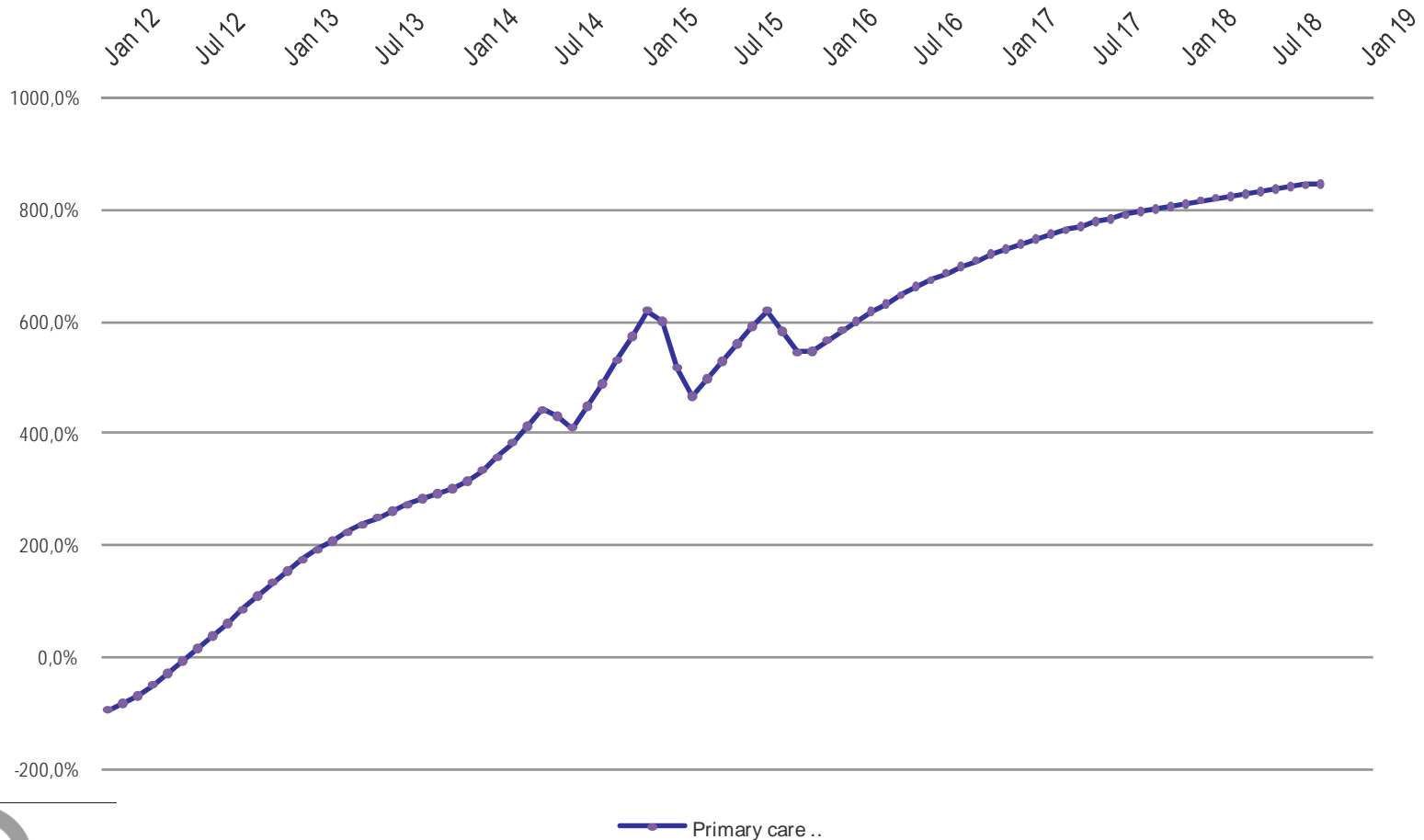
Stakeholder analysis

Data collection

Analysis and reporting

Primary care organisation

Socio-economic return



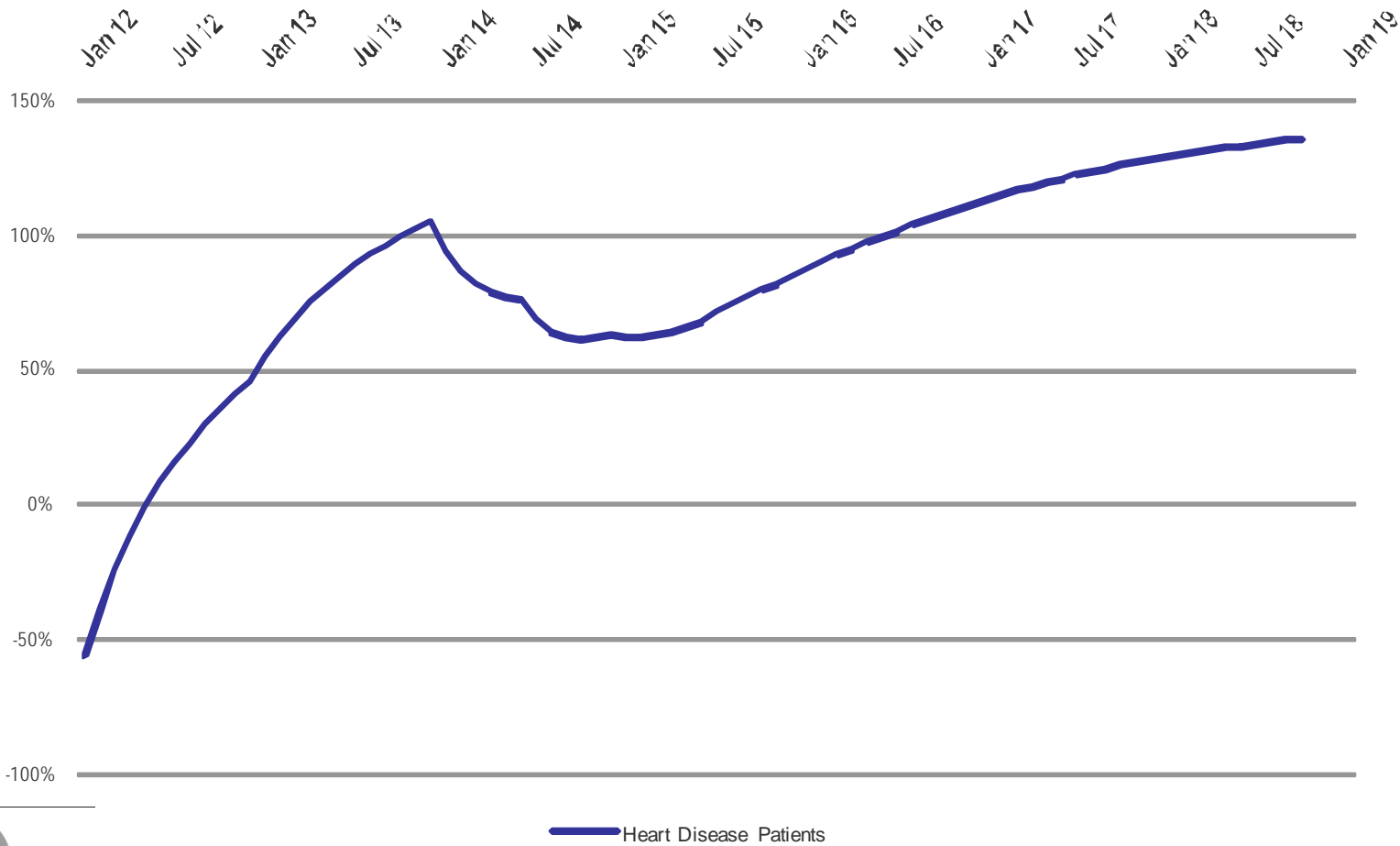
Primary care ..

Project funded by the ESA GSP programme



Patients

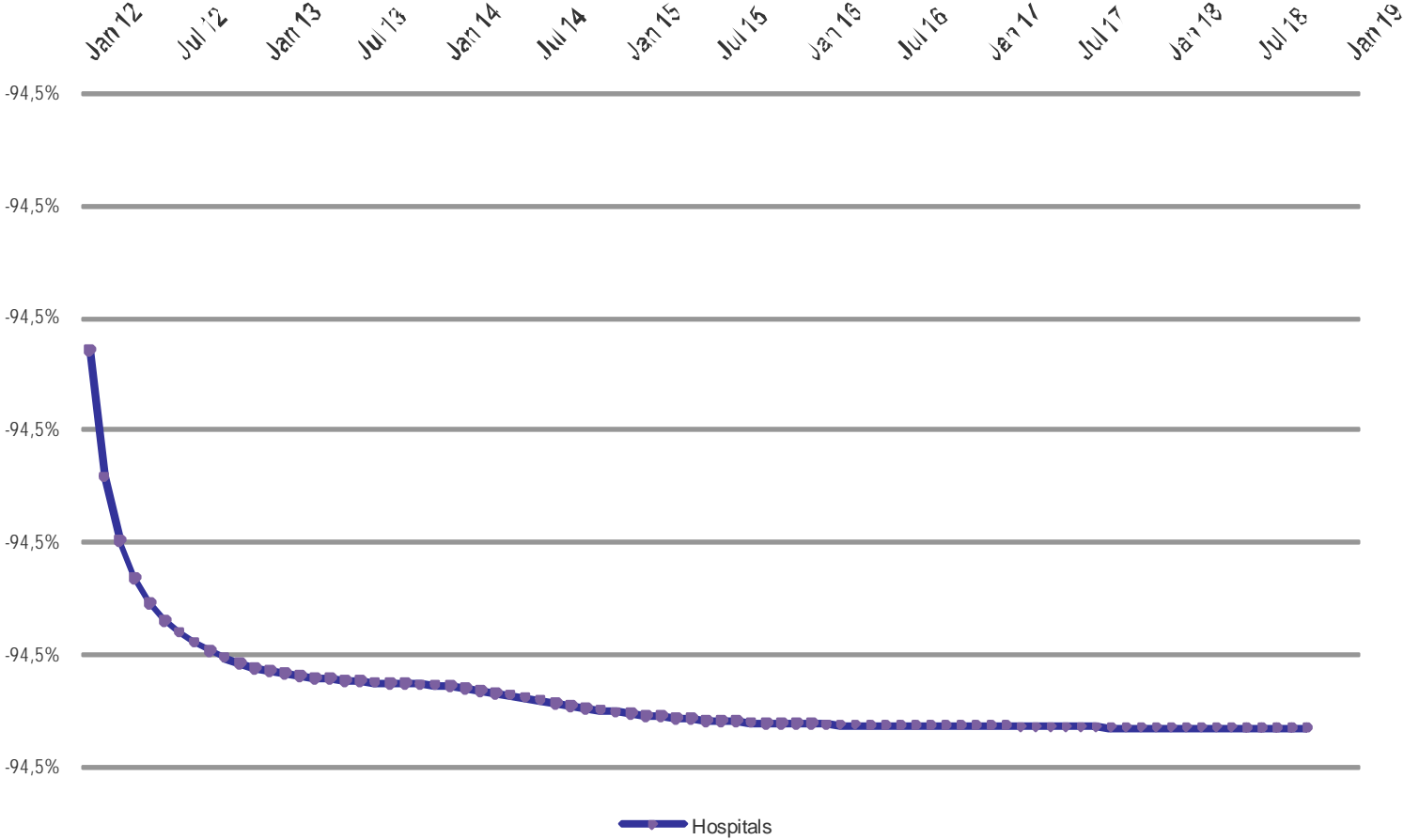
Socio-economic return





Hospitals

Socio-economic return

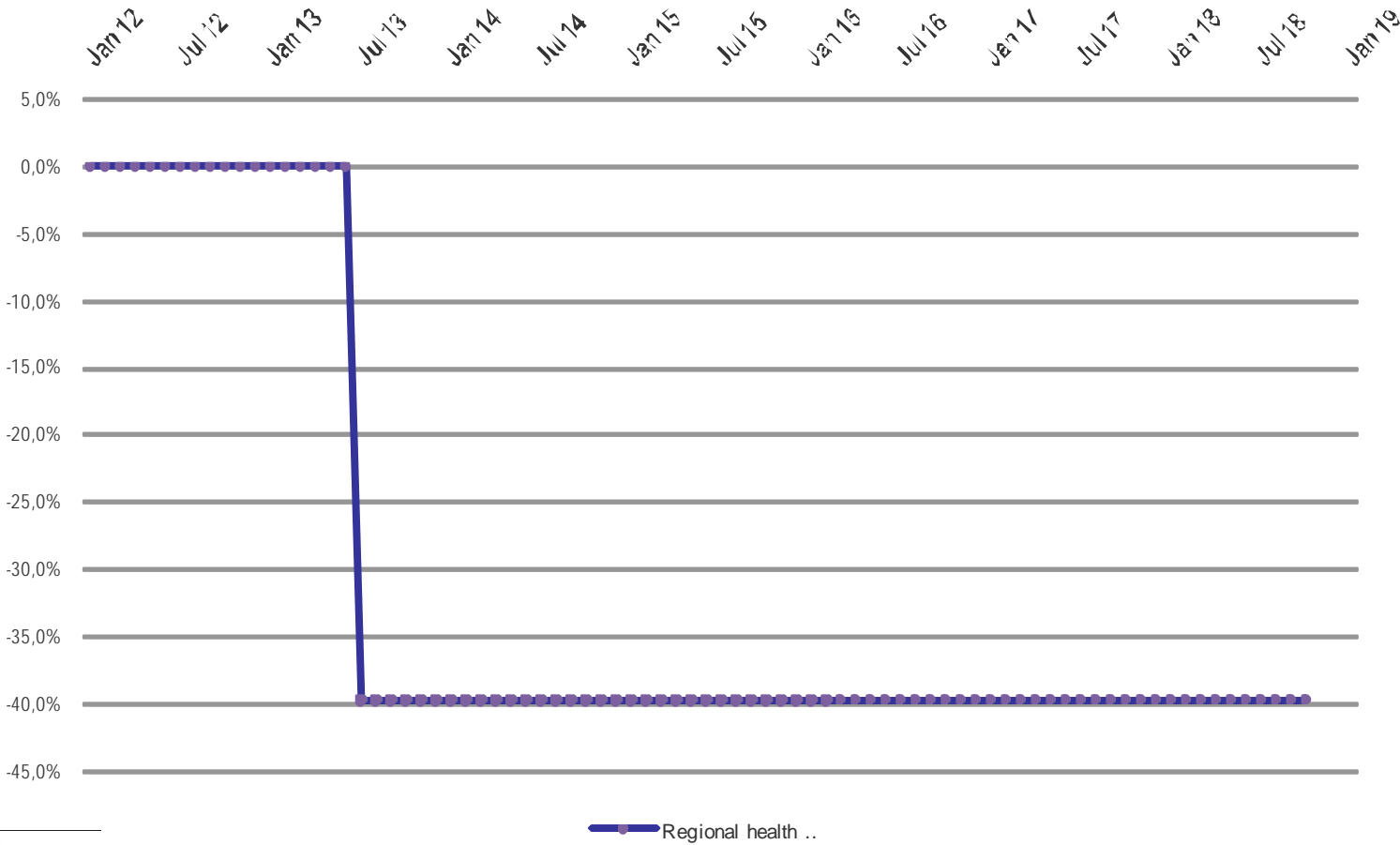


Hospitals



Healthcare payer

Socio-economic return

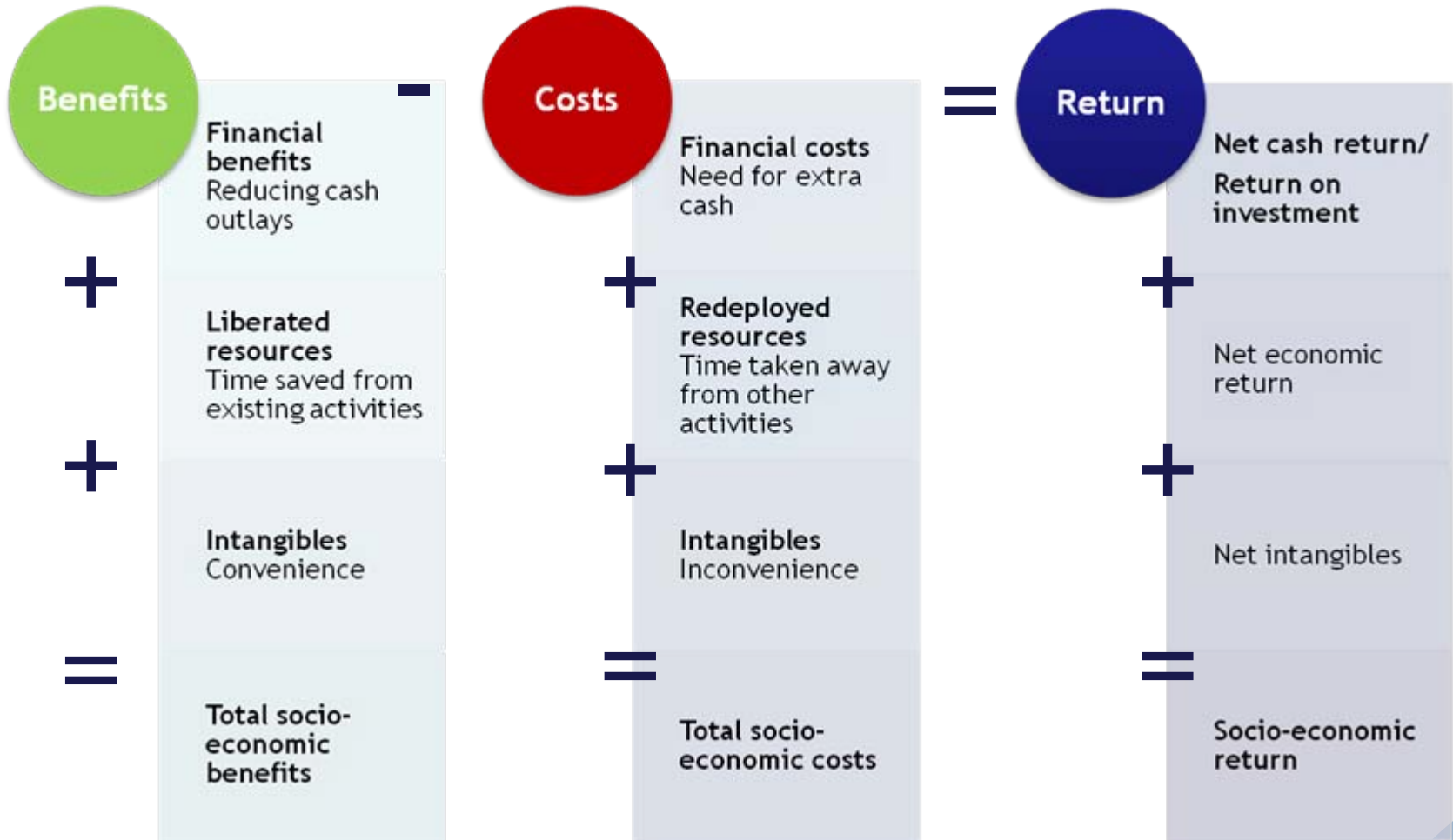


Regional health ..

ASSIST - Methodological founding

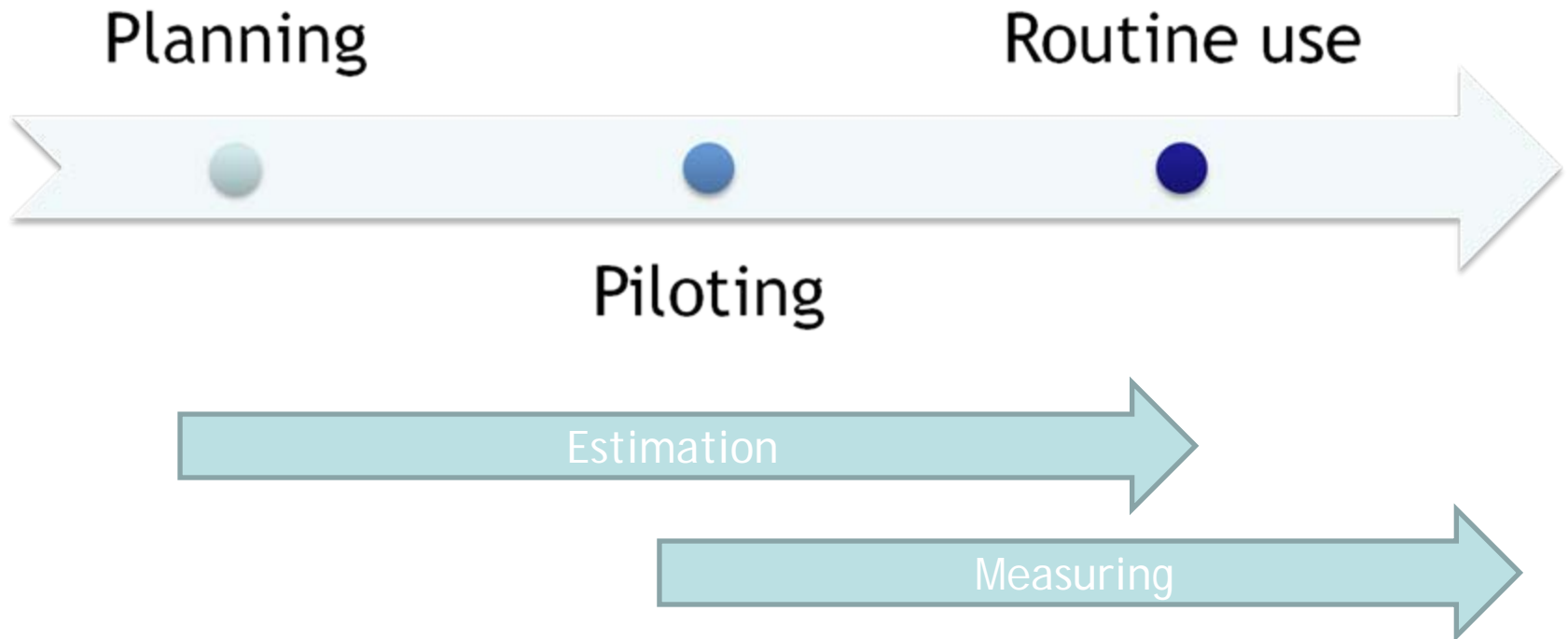
- ASSIST relies on Cost-Benefit Analysis (CBA)
 - As recommended by
 - UK Green Book - Appraisal and Evaluation in Central Government
 - German WiBe – Konzept zur Wirtschaftlichkeitsberechnung
 - Hanover Health-economic consensus
 - White House Office of Management and Budget - G19 guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs

Costs and benefits



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Assessment along the development line



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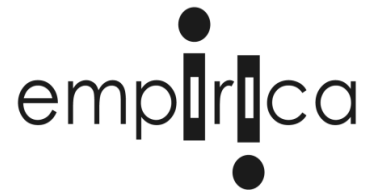
Next steps: validation with telemedicine projects

Project Name	Country	Telemedicine Domain	Clinical Domain	Funding Agency
I-DISCARE	F	H2H	Emergency	ESA
IGEA-SAT	I	P2H	Tele-home care for chronic	ESA
REACH	CDN	P2H	Tele-home care for psychiatric patients	ESA
AMAZON	UK	H2H	Second opinion/Teleconsultation	ESA
Telemaco	I	H2H	Second opinion/Teleconsultation	Lombardy Region
ROL	I	H2H	Second opinion/Teleconsultation	Lombardy Region
EUOL	I	H2H	Emergency	Lombardy Region
MEDFORGE	I	H2H	Second opinion/Teleconsultation	ENI
T4MOD	D-F-I-E	H2H	Second opinion/Teleconsultation (Military)	ESA

Project funded by the ESA GSP programme

Thank you

- For more information:
 - See us at the demo corner
 - Contact us:



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