



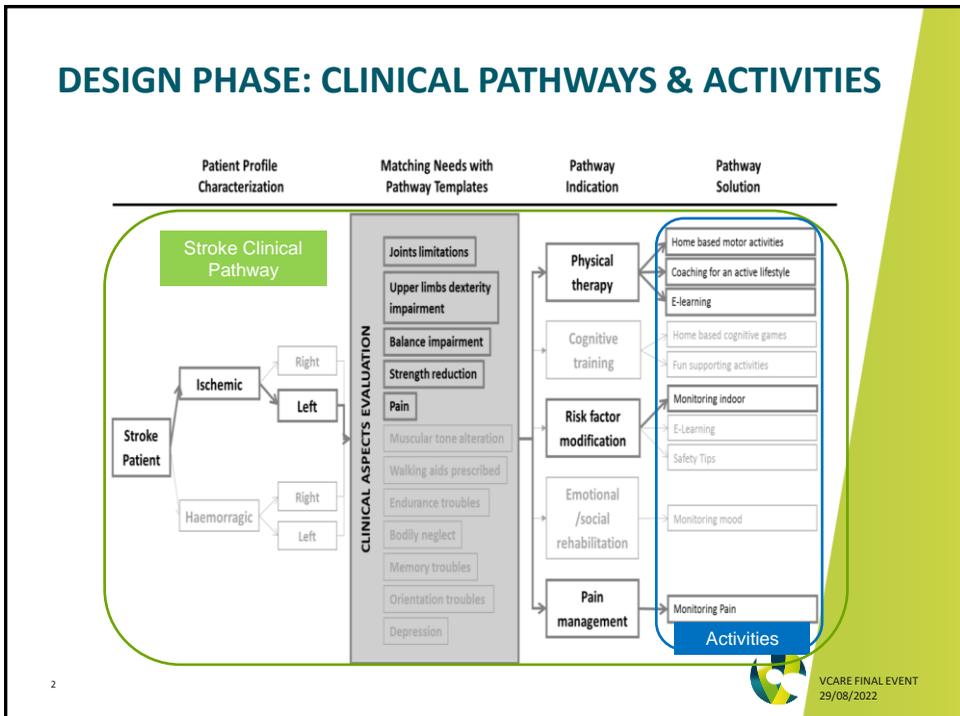
VCARE
VIRTUAL COACHING ACTIVITIES
FOR REHABILITATION IN ELDERLY

OVERVIEW OF THE VALIDATION METHODOLOGY

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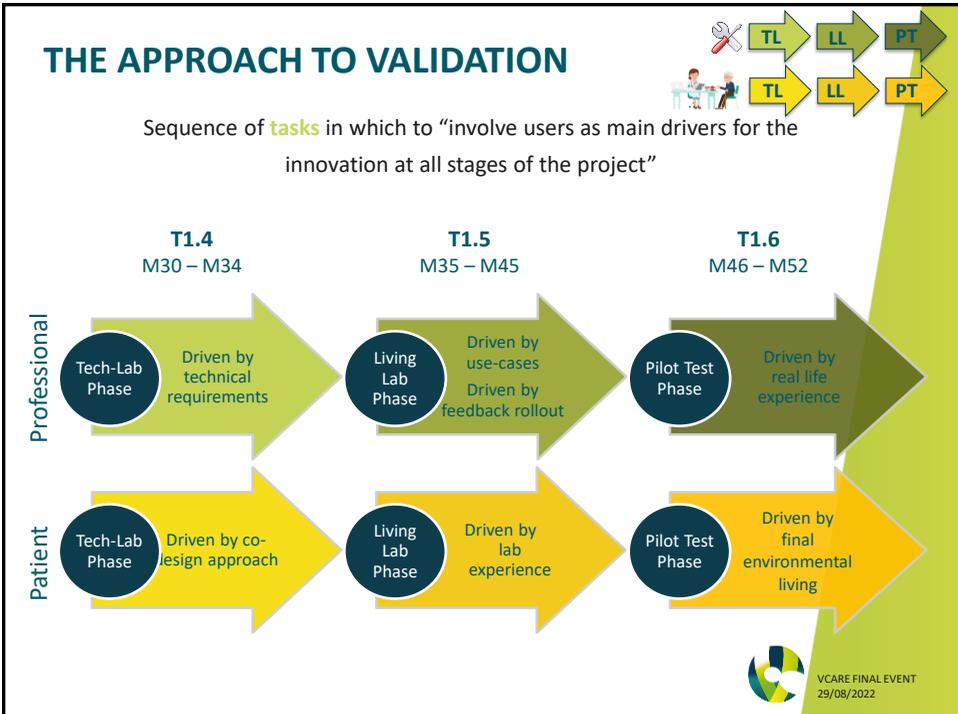
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REHABILITATION ACTIVITIES

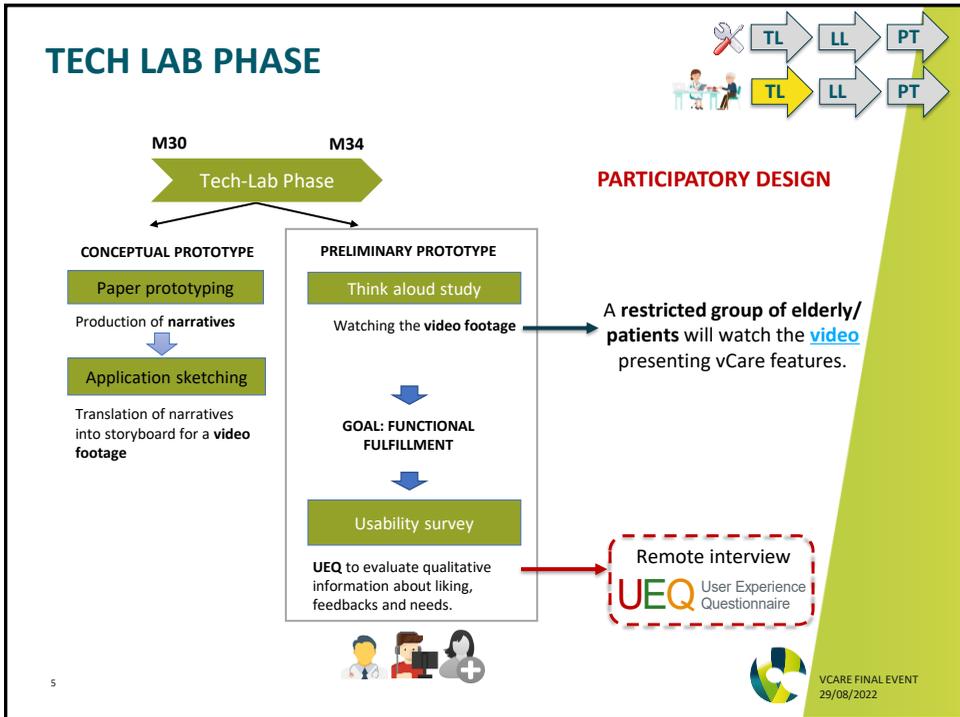
A #	Activity (A)	Pathology	Needs
A-1	Home-based motor activities	SD, PD	Physical therapy
A-2	Coaching for an active lifestyle	SD, PD	Physical therapy
A-3	E-learning	SD, PD, HF, IHD	Physical therapy, Cognitive training
A-4	Home based cognitive games	SD, PD	Cognitive training
A-5	Fun supporting activities	SD, PD	Cognitive training
A-6	Monitoring indoor	SD, PD	Risk factor modification
A-7	Safety tips	SD	Risk factor modification
A-8	Monitoring mood	SD, PD, IHD	Emotional and social rehabilitation
A-9	Monitoring pain and sleep	SD	Pain
A-10	Vocal exercises	PD	Speech and swallowing therapy
A-11	Falls prevention	PD	Risk factor modification
A-12	Daily motor activity	HF	Physical therapy
A-13	Aerobic physical activity	HF, IHD	Physical therapy
A-14	Resistance training	HF	Physical therapy
A-15	Medication intake support	PD, HF, IHD	Pharmacological intervention
A-16	Vital stats control	HF	Vital signs monitoring
A-17	Weight control	HF, IHD	Risk factor modification
A-18	Smoking cessation activity	HF, IHD	Risk factor modification
A-19	Anxiety and depression reduction	HF	Emotional and social rehabilitation
A-20	Walking physical activity	IHD	Physical therapy
A-21	Alcohol reduction	IHD	Risk factor modification

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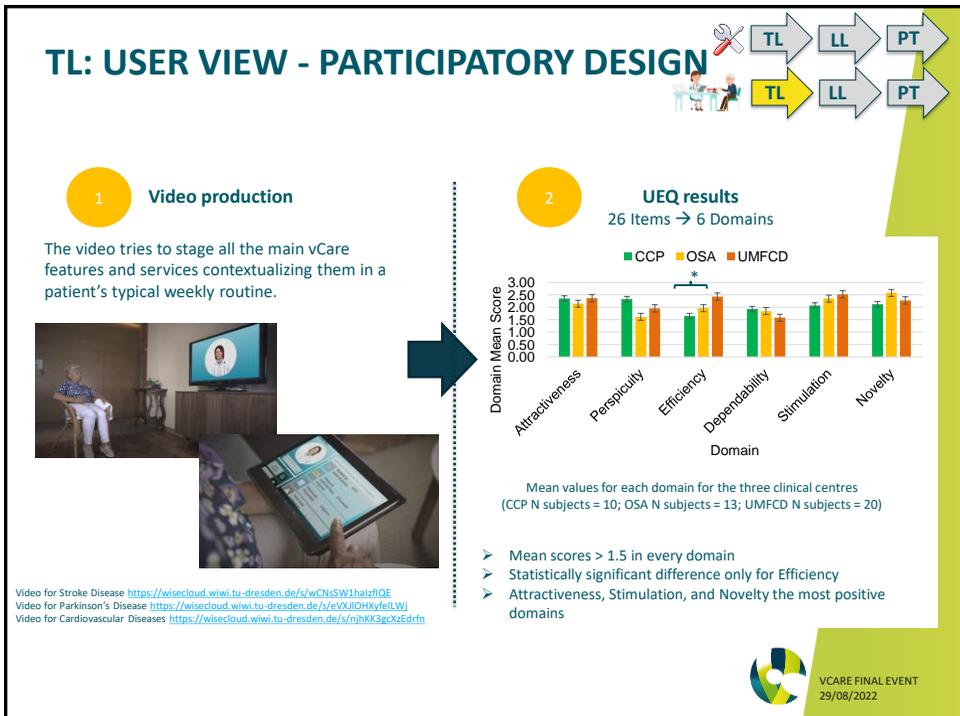
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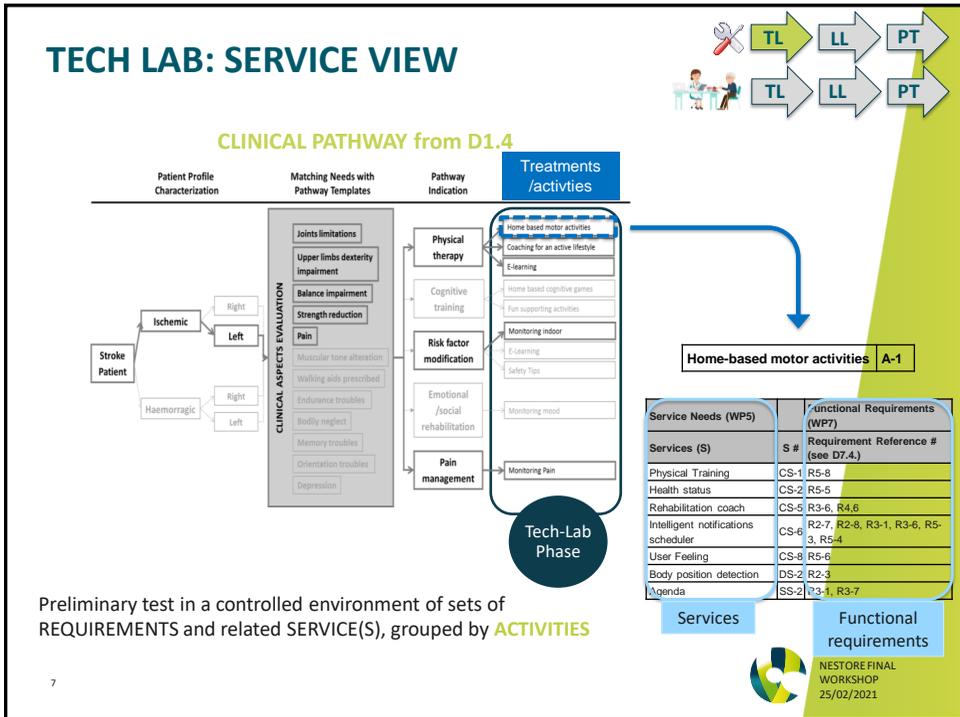


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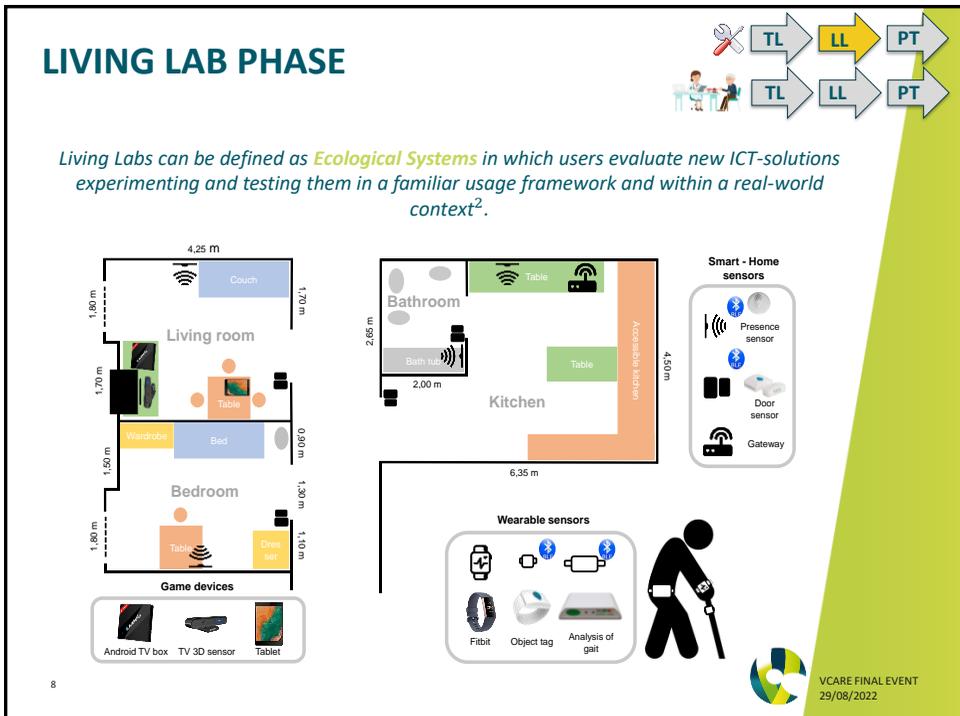



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LIVING LAB PHASE

Testing of the system by vCare **final users** in a *"controlled environment"*

M35 **M45**

Living-Labs Phase

FULL PROTOTYPE

Field study

Task 1.5 – Living Labs

↓

GOAL: ASSESS
PROTOTYPE USABILITY

↓

Quantitative usability survey

SUS scale to evaluate usability
UEQ scale to evaluate user experience

Patients' SUS
80 ±15.8

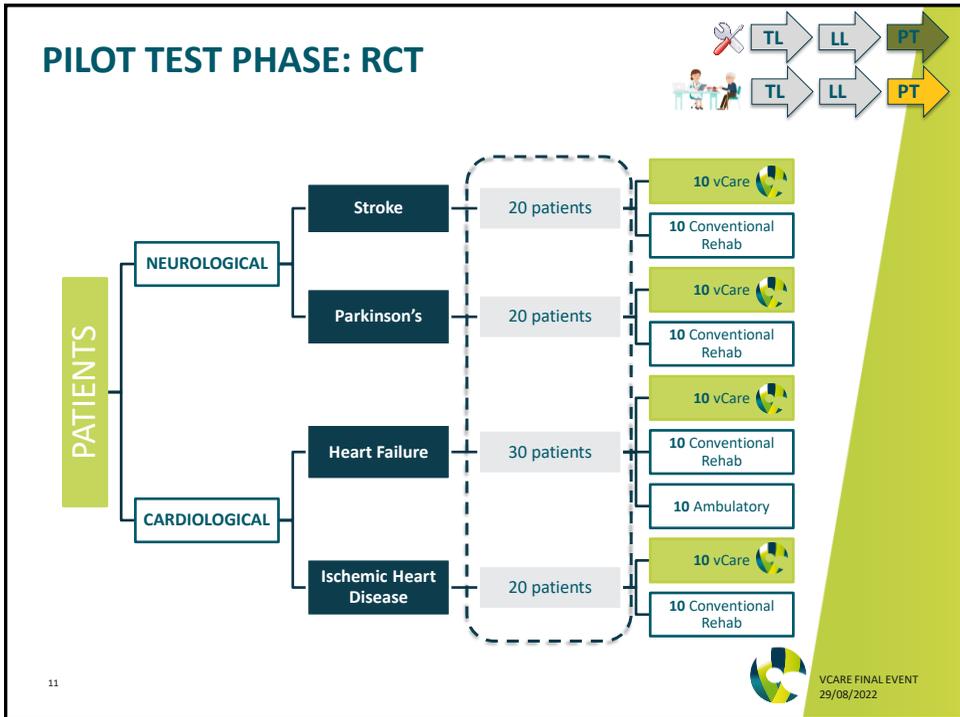
Health professionals' SUS
78.50±11.26

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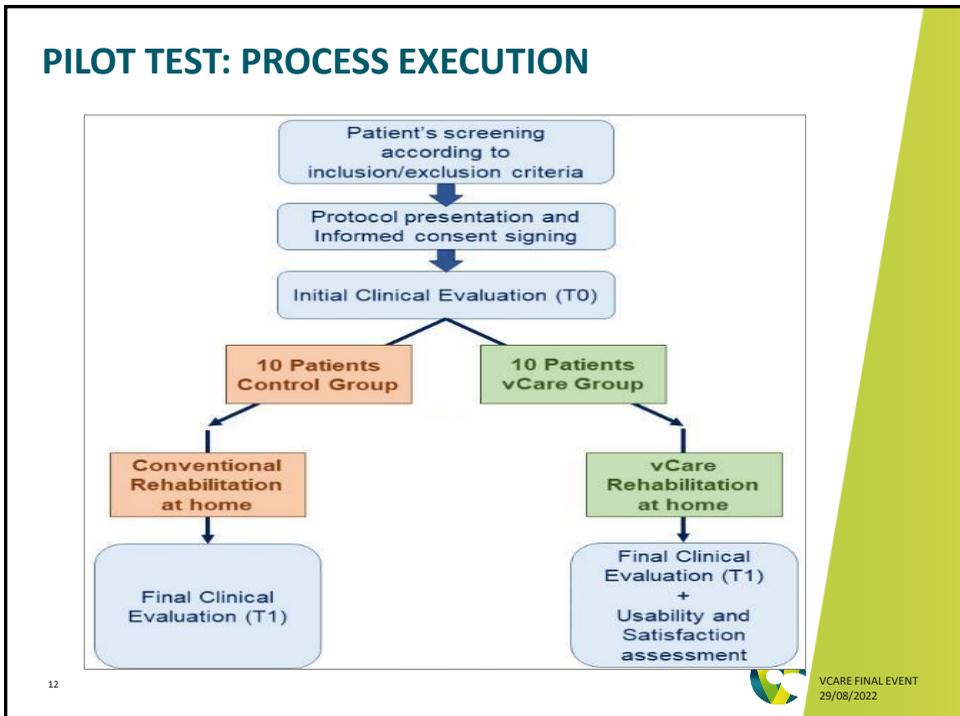
VCARE ACTIVITIES IN THE PILOT PHASE

A #	Activity (A)	Pathology	Tested
A-1	Home-based motor activities	SD, PD	Not tested P@H
A-2	Coaching for an active lifestyle	SD, PD	
A-3	E-learning	SD, PD, HF, IHD	
A-4	Home-based cognitive games	SD, PD	
A-5	Fun supporting activities	SD, PD	
A-6	Monitoring indoor	SD, PD	
A-7	Safety tips	SD	
A-8	Monitoring mood	SD, PD, IHD	
A-9	Monitoring pain and sleep	SD, PD	
A-10	Vocal exercises	PD	
A-11	Falls prevention	PD	
A-12	Daily motor activity	HF	
A-13	Aerobic physical activity	HF, IHD	
A-14	Resistance training	HF	
A-15	Medication intake support	PD, HF, IHD	
A-16	Vital stats control	HF	
A-17	Weight control	HF, IHD	
A-18	Smoking cessation activity	HF, IHD	
A-19	Anxiety and depression reduction	HF, IHD	
A-20	Walking physical activity	IHD	
A-21	Alcohol reduction	IHD	

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PILOT TEST: CLINICAL EVALUATION

Stroke	PD	HF	IHD
SCALES AND INDEXES			
NIHSS (National Institutes of Health Stroke Scale)	UPDRS part I, II, III, and IV	VO2Max - Maximal Aerobic Capacity (ECG stress test)	VO2Max - Maximal Aerobic Capacity (ECG stress test)
FIM (Functional Independence Measure)	H&Y Functional disability and the progression	LDL cholesterol	LDL cholesterol
FAC (Functional Ambulation Classification)	AVD (Capabilities for performing activities of daily living)	HADS scale (Anxiety and in-hospital depression)	HADS scale (Anxiety and in-hospital depression)
MoCA (Montreal Cognitive Assessment)	MoCA (Montreal Cognitive Assessment)	Fagerstrom test for nicotine dependence	Fagerstrom test for nicotine dependence
		Minnesota Living With Heart Failure	

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PILOT TEST: OUTCOMES (QOL & ADHERENCE)

Primary Outcome		Pathology			
		STROKE	PD	HF	IHD
Recovery of an Active and Independent Life at Home (QoL)	Improvement of the quality of life	10% increase			
	Improvement of the quality of life (Mental sub-score)	15% increase			
Secondary Outcomes		Pathology			
		STROKE	PD	HF	IHD
Adherence to the home care and rehabilitation plan	Total n. of times patients carry out an activity suggested by the vCare	70% of the activities proposed are followed by at least 80% of patients			

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PILOT TEST: OUTCOMES (RISK FACTORS)

Secondary Outcomes		Pathology			
		STROKE	PD	HF	IHD
Reduction of Risk factors	Daily n. of steps	10% increase			
	Time devoted to exercise (motor and cognitive)	10% increase			
	N. of accesses to e-learning	At least once a week			
	Changes in weight	Towards normal body-mass index (BMI)			
	Medication adherence	Blood pressure <140mmHg s (systolic)			
	N. of cigarettes smoked	Expected to decrease during Pilot Test			
	Cholesterol levels	> 15% reduction			

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PILOT TEST: OUTCOMES (PERSONALIZATION)

Secondary Outcomes		Pathology			
		STROKE	PD	HF	IHD
Personalization and health promotion	Adaptation of the pathways	>60% of refinement rate of rehabilitation therapy			
	Adaptation of the daily number of steps	>60% of refinement rate of rehabilitation therapy			
	Adaptation of the e-learning materials	>60% of refinement rate of rehabilitation therapy			

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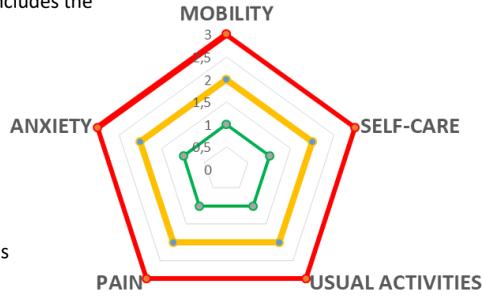
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PILOT TEST: QUALITY OF LIFE (EQ-5D-3L DESCRIPTIVE)

The EQ-5D-3L descriptive system includes the five dimensions in the graph.

Each dimension has 3 levels:

1. no problem
2. some problems
3. extreme problems



The patient is asked to indicate his/her health state by ticking the box next to the most appropriate statement, in each of the five dimensions. The three levels of response, for each of the five items, produce a maximum of 243 possible descriptions of the state of health and allow to highlight the presence / absence of any problem and its intensity.

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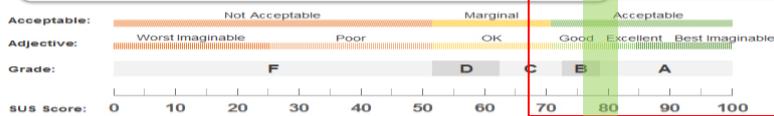


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PILOT TEST: USABILITY/ACCEPTABILITY

SUS – System Usability scale



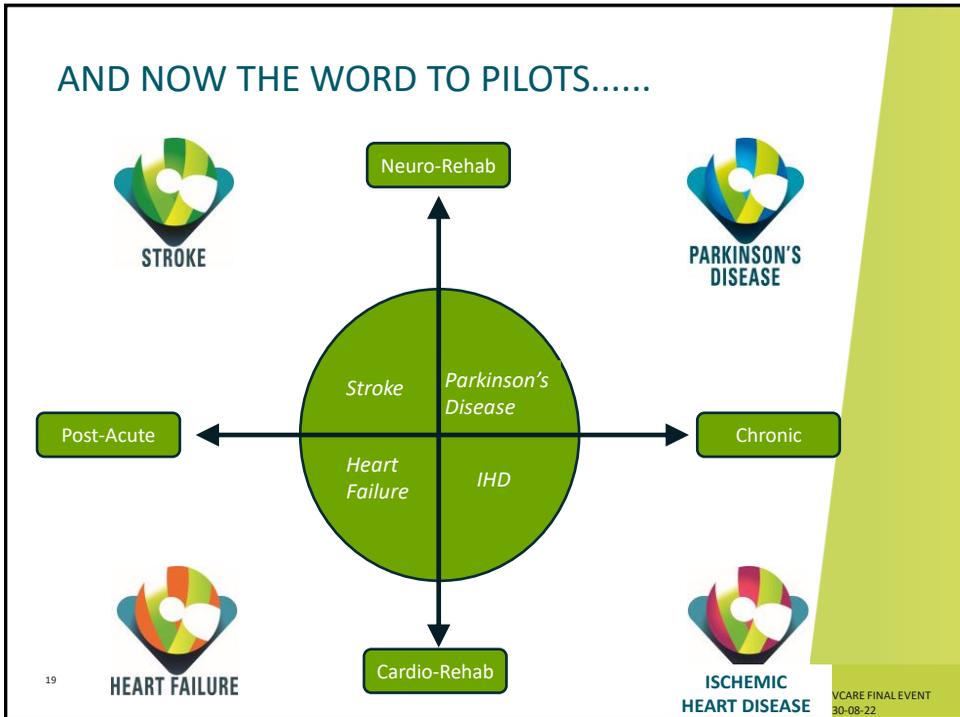
UEQ - User Experience Questionnaire



TAM – Technology Acceptance MODEL



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