

STRACK: Improving Post-stroke and Cardiometabolic Patient Outcomes

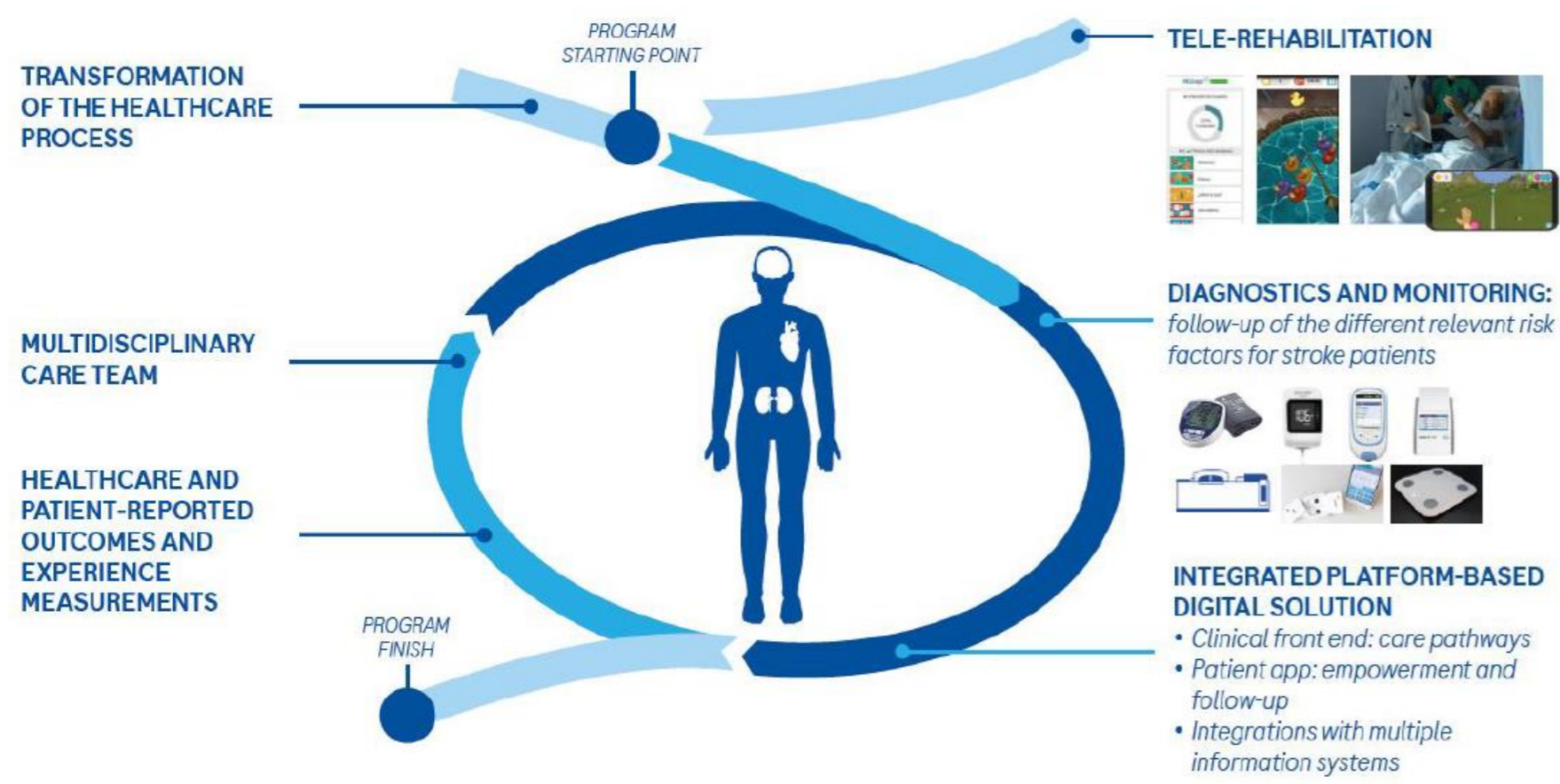
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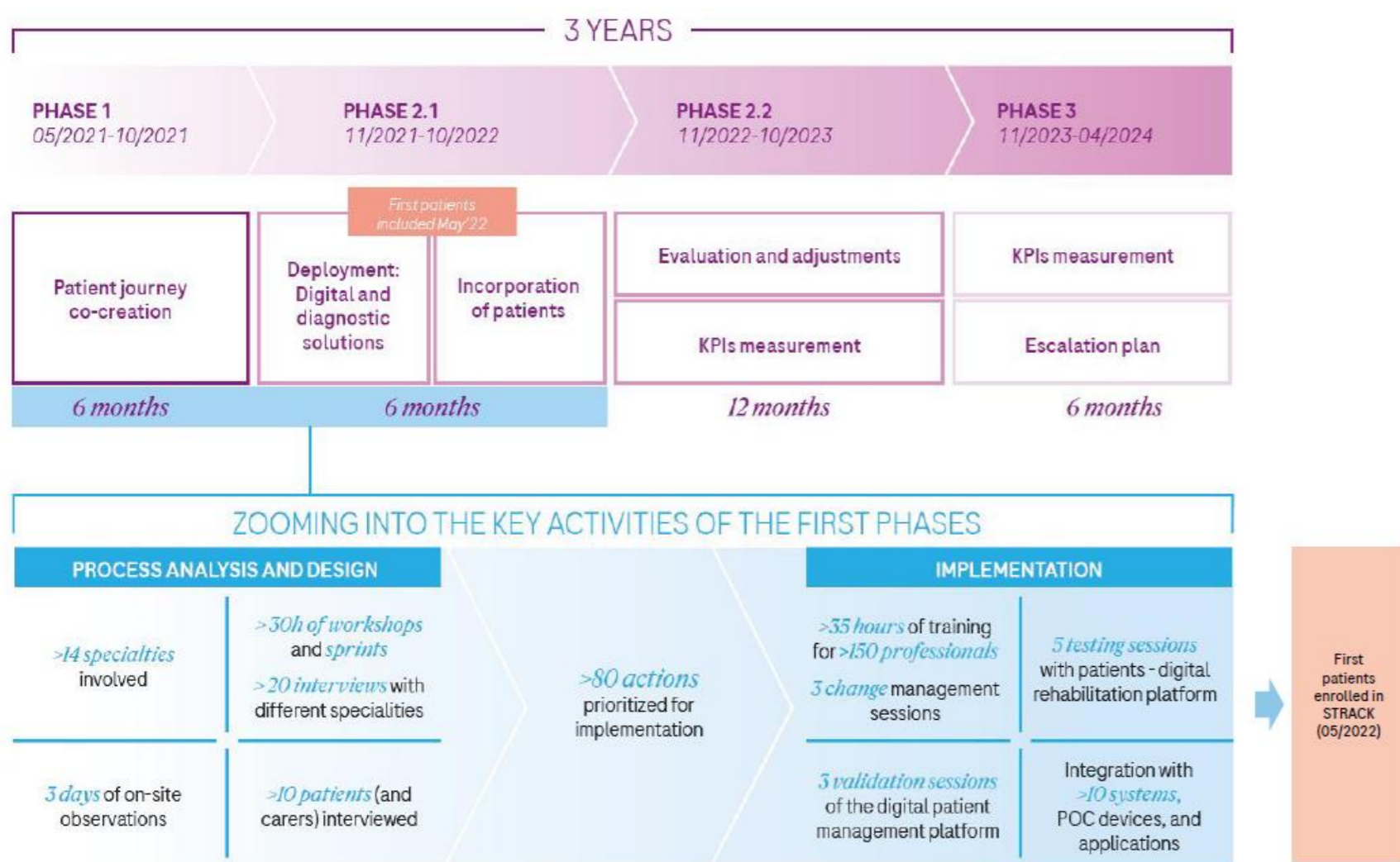
BACKGROUND

The STRACK project, winner of the VBHC Prize 2024, Community Award, aims to improve post-stroke patient management and the transition from acute to primary care. By delivering personalized care, we have been able to improve patient experience and outcomes (PREMs, PROMs, EQ5L).

Led by Bellvitge University Hospital (Spain), the three-year VBHC project was launched in May 2021. It has revolutionized the continuum of care for over 400 patients by incorporating comprehensive monitoring of cardiometabolic risk factors (heart failure, diabetes, atrial fibrillation, dyslipidemia, and hypertension) into a patient discharge plan.



As part of STRACK, patients receive a tailored care plan for one year post-discharge, home monitoring devices, and access to a digital platform, which enhances communication between patients and healthcare professionals. It facilitates real-time data sharing, enables proactive patient management through alerts and monitoring, and allows for the collection of outcome data via surveys and health scales (PREMs, PROMs, EQ5L). The platform offers various interoperability options with hospital and primary care information systems



METHODS

Creation of multidisciplinary teams from two hospitals and primary care (>15 specialties) **Designed and facilitated by Roche Diagnostic:**

- Workshops, interviews (patients, professionals) and meetings to map current processes, identify improvement areas and to define future processes and care protocols. Incorporation of the ICHOM standard set for stroke, as well as PREMs
- Definition and training of diagnostic solutions (core lab, point-of-care, and home testing) and a tele-rehabilitation platform.
- Design of care protocols in a digital platform for patients and professionals

Implementation:

- Deployment of diagnostic and digital solutions, data integration
- Testing and feedback sessions with patients
- Training and change management; risk assessment and mitigation

Measuring results:

- Five KPIs defined in the tender (variable payment to provider: 10%)
- PROM standard set for stroke, PREMs, EQ5L

Cost effectiveness (ongoing, comparison with a historic population cohort)



RESULTS

We enrolled 402 patients, 168 of them have finished one year of follow-up with this figures compared to a historical cohort of stroke patients from the same geographical health area in previous period before STRACK (2018-2020):

Unnecessary visits (weighted): -30,36%

Admissions for stroke recurrence:

- Stroke, 30d: -21,91%
- Related to stroke, 365d: -44,22%
- Related to stroke, 30d: -60,15%

Cardiovascular admissions:

- 30d: -100%
- 365d: -73,97%

Treatment adherence: 78,35% (72% previously)

Days without rehabilitation: 0 (no delay in starting RHB)

Name of questionnaire	Completed questionnaires	Health status / Satisfaction
ICHOM standard set for stroke - 7 days post discharge	229	7 days post discharge, 72% of patients assess their health as good, very good or excellent
ICHOM standard set for stroke - 90 days post discharge	156	90 days post discharge, 70% of patients assess their health as good, very good or excellent
PREMs - hospital experience	207	86% of patients score their satisfaction as 8 or higher (on a scale of 0 to 10)
PREMs - primary care experience	211	84% of patients score their satisfaction as 8 or higher (on a scale of 0 to 10)

Table 1: Schedule of surveys and health scales in STRACK project

PROMS 7 days		PROMS 90 days	
Questions / responses	Patients	Questions / responses	Patients
In general, would you say your health is:		In general, would you say your health is:	
Excellent	4%	Excellent	7%
Very good	18%	Very good	20%
Good	50%	Good	43%
Fair	26%	Fair	27%
Poor	3%	Poor	3%
In general, would you say your quality of life is:		In general, would you say your quality of life is:	
Excellent	5%	Excellent	7%
Very good	18%	Very good	19%
Good	55%	Good	50%
Fair	20%	Fair	23%
Poor	1%	Poor	1%
In general, how would you rate your physical health?		In general, how would you rate your physical health?	
Excellent	2%	Excellent	4%
Very good	12%	Very good	14%
Good	42%	Good	43%
Fair	39%	Fair	34%
Poor	5%	Poor	5%
In general, how would you rate your mental health, including your mood and your ability to think?		In general, how would you rate your mental health, including your mood and your ability to think?	
Excellent	6%	Excellent	4%
Very good	15%	Very good	20%
Good	43%	Good	39%
Fair	31%	Fair	33%
Poor	4%	Poor	4%
In the past 7 days, how would you rate your pain on average? Indicate pain level on a scale of 0-10, where 0 = No pain, and 10 = Worst imaginable pain		In the past 7 days, how would you rate your pain on average? Indicate pain level on a scale of 0-10, where 0 = No pain, and 10 = Worst imaginable pain	
0	39%	0	33%
1	6%	1	5%
2	13%	2	10%
3	6%	3	8%
4	6%	4	10%
5	7%	5	14%
6	9%	6	5%
7	7%	7	9%
8	4%	8	5%
9	2%	9	5%
10	0%	10	1%

Table 2: PROMS results after 7 and 90 days since hospital discharge

PREMs after hospital discharge	
Questions / responses	Patients
Were you informed of the time of your discharge a day in advance?	
Yes	82%
No	18%
Assess how you were treated by the doctors	
Excellent	36%
Very good	43%
Good	22%
Assess the way you were treated by the nurses	
Excellent	51%
Very good	38%
Good	11%
Fair	1%
Assess the time your doctor spent answering your questions	
Excellent	21%
Very good	51%
Good	24%
Fair	3%
Poor	1%
Assess the information the doctor has given you about tests to be performed	
Excellent	25%
Very good	43%
Good	28%
Fair	5%
Assess the information you received about your disease	
Excellent	25%
Very good	43%
Good	26%
Fair	5%
Poor	1%
Assess your comfort at the hospital	
Excellent	15%
Very good	32%
Good	36%
Fair	14%
Poor	3%
Were you informed of the time of your discharge a day in advance?	
Yes	82%
No	18%
Assess the explanations at the time of discharge about healthy lifestyles and exercise	
Excellent	29%
Very good	39%
Good	25%
Fair	5%
Poor	1%
Assess the explanations at the time of discharge about the medication you should take	
Excellent	33%
Very good	38%
Good	23%
Fair	4%
Poor	2%
Assess the explanations at the time of discharge about possible warning signs for which a doctor should be consulted as soon as possible	
Excellent	30%
Very good	38%
Good	26%
Fair	5%
Poor	2%
Please rate your overall satisfaction with the care received from 0 to 10. (0 =not at all satisfied and 10= extremely satisfied)	
10	30%
9	32%
8	24%
7	9%
6	4%
5	2%
Would you recommend the hospital to your family or friends?	
Yes	99%
No	1%
If you had a choice, would you return to the same hospital?	
Yes	98%
No	2%

Table 3: PREMs after hospital discharge (<7 day)

CONCLUSIONS

Due to the positive results, we are in the process of extending the current contract and scaling up the project to other geographic areas and patient pathways.

The ICHOM stroke standard set was implemented to understand patient outcomes.

Lessons learned:

- Create a multidisciplinary team
- Accompany professionals during implementation and conduct satisfaction surveys
- Ensure easy access to data
- Information systems must always be integrated to be successful and scalable
- Payment systems are based on activity and structure, not on patient outcomes and VBHC
- The purchasing of services is highly regulated by law (tenders) and there is little room to incorporate innovation