

PRECISE4Q



PREDICTIVE MODELLING IN STROKE

DELIVERABLE - SUBMISSION

Project Acronym: **Precise4Q**

Grant Agreement number: **777107**

Project Title: **Personalised Medicine by Predictive Modelling in Stroke for better Quality of Life**

D5.3 Stroke treatment study performed

Authors and Contributors	Dietmar Frey (CUB); Rainer Thiel (EMP); Adam Hilbert (CUB)		
Responsible Author	Dietmar Frey	Email	dietmar.frey@charite.de
	Beneficiary CUB	Phone	+49 30 450 560398

Revision History, Status, Abstract, Keywords, Statement of Originality

Revision History

Project co-funded by the European Commission within H2020-SC1-2016-2017/SC1-PM-17-2017		
Dissemination Level		
PU	Public, fully open	x
CO	Confidential, restricted under conditions set out in Model Grant Agreement	
CI	Classified, information as referred to in Commission Decision 2001/844/EC	



Revision	Date	Author	Organisation	Description
1.1	17/09/22	Dietmar Frey	CUB	Initial draft
1.2	28/09/22	Adam Hilbert	CUB	Revision
1.3	15/10/22	Rainer Thiel	EMP	Revision
1.4	05/11/22	Dietmar Frey	CUB	Writing and review
1.5	30/11/22	Adam Hilbert	CUB	Writing and review
2.0	28/12/22	Dietmar Frey	CUB	Final review

Date of delivery	Contractual:	31.08.2022	Actual:	28.12.2022
Status	final <input checked="" type="checkbox"/> /draft <input type="checkbox"/>			

Abstract (for dissemination)	<p>This deliverable could not be carried out. Due to pandemic-induced factors, mainly internal and external regulations and guidelines and practical impediments due to the COVID-19 pandemic, initiation and implementation of the planned task conduct of stroke treatment study could not be initiated. Accordingly, the corresponding deliverable D5.3 could not be submitted.</p> <p>As mitigation measures for data collection we were successful in obtaining additional data from different sites with focus on acute stroke treatment also considering the fast rising importance of mechanical thrombectomy which showed significant superiority compared to other methods. The development of models for acute stroke treatment inclusive of the mechanical thrombectomy treatment scenario was feasible with the data provided. Therefore, the overall success of the project was not at risk.</p>
Keywords	Acute stroke, clinical observational study, COVID-19 pandemic, mechanical thrombectomy

Statement of originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.



Table of Content

1	Introduction	5
2	Description of the task	5
3	Mitigation measures	5



Executive Summary

Within Precise4Q multiple AI-based models will be developed to be integrated in solutions guiding prevention, treatment, rehab and reintegration measures.

The main medical concept of PRECISE4Q is to target four different stages of stroke in the life trajectory in a novel precision medicine approach. Precision medicine is defined as a concept to tailor prevention, diagnostics and therapeutics individually to any given patient.

Due to pandemic-induced factors such as internal and external regulations and guidelines and practical impediments due to COVID-19 initiation and implementation of the planned task conduct of stroke treatment study could not be initiated. Accordingly, the corresponding deliverable D5.3 could not be submitted.

As mitigation measures for data collection we were successful in obtaining additional data from different sites with focus on acute stroke treatment also considering the fast rising importance of mechanical thrombectomy which showed significant superiority compared to other methods. The development of models for acute stroke treatment inclusive of the mechanical thrombectomy treatment scenario was feasible with the data provided. Therefore, the overall success of the project was not at risk and all dependent tasks could be carried out and corresponding deliverables were successfully submitted, in particular modelling tasks.



1 Introduction

Within Precise4Q multiple AI-based models will be developed to be integrated in solutions guiding prevention, treatment, rehab and reintegration measures.

The main medical concept of PRECISE4Q is to target four different stages of stroke in the life trajectory in a novel precision medicine approach. Precision medicine is defined as a concept to tailor prevention, diagnostics and therapeutics individually to any given patient. Thus, we are developing a set of models for each of the four clinical stages of stroke - prevention, stroke therapy, stroke rehabilitation and stroke reintegration - and combine these in a digital stroke patient platform.

2 Description of the task

To collect data of stroke patients a stroke treatment study at a university hospital with high patient throughput at Charité Berlin (CUB) was planned. The task would include patient screening, enrolment, follow-up and preparation of the data for submission to the data warehouse. However, due to pandemic-induced external factors, serious impediments for the due course of the PRECISE4Q project have been caused. Among others regulations and guidelines due to COVID-19 made initiation and implementation of any prospective study was impossible. Since the planned trial was not considered essential in fighting the pandemic approval for study conduct was rescinded. This meant that planned Task 5.3 Conduct of stroke treatment study could not be initiated. Accordingly, the corresponding deliverable D5.3 could not be submitted.

3 Mitigation measures

As mitigation measures for data collection we were successful in obtaining additional data from different sites with particular focus on acute stroke treatment also considering the fast rising importance of mechanical thrombectomy which showed significant superiority compared to other methods and has been during the course of the project widely introduced in many centres. As a positive side effect, with data from Heidelberg we could capture this unforeseeable development in the change of medical practice since the University of Heidelberg could implement the rather novel treatment option of mechanical thrombectomy in a much faster pace thus delivering more relevant data for modelling than would have been possible with a prospective clinical trial at CUB.

The development of models for acute stroke treatment inclusive of the mechanical thrombectomy treatment scenario was feasible with the data provided. Therefore, the overall success of the project was rather promoted and the implemented mitigation measures proved highly effective.

Therefore, the overall success of the project was not at risk and all dependent tasks could be carried out and corresponding deliverables were successfully submitted, in particular, modelling tasks.