

Cataract and Refractive Database (CARD) Program

Project Name: RVEEH SOSCARD

The Royal Victorian Eye and Hospital Surgical Ophthalmology Service Cataract and Refractive Database Program project aims to create a user friendly approach to collecting high volumes of clinical data from both outpatient and intraoperative setting and creating a comprehensive prospective database.

This will be the foundation platform which then can be used to analyse surgical and refractive outcomes for eye institutions and hospitals around the world.

Estimated Project Cost	EURO 7,500
Project Leader(s)	Mr Mark Petty
Members who will actively participate	Dr Soumya Sarkar Mr Indrajit Sarkar Dr Anton Van Heerden

Overview

Background

The aim of all surgical outcomes is to provide the best clinical results for the patient. In that they are receiving the best care possible; the best surgical techniques available are used; the best equipment available are used and ultimately best medical practice followed. To achieve this regular, efficient and timely auditing of processes must be undertaken to ensure these clinical ideals are being met.

In the hospital setting most ophthalmological services continue to use ancient paper based systems to collect preadmission clinical, operative and postoperative clinical information. This archaic system has numerous limitations in optimal surgical care delivery namely in inefficiency in processing all clinical data, loss of clinical data, incomplete clinical data. In the context of an ever aging global population the occurrence of cataract is set to significantly increase.

The Project in Brief

The aim of this project is to create a program which helps digitise data from the pre-op and post-op outpatient clinics as well as operative reports.

This will be coupled with ocular measurement data to compile a comprehensive database for patient's refractive outcomes.

The roles for the project members are as follows

Dr Soumya Sarkar – Program design, database creation, testing,

Mr Indrajit Sarkar – Programing, Coding and on-going programing support

Dr Anton Van Heerden – Clinical and operative

Objectives

Creation of pre and post op scan tick box sheet

Creation of operative tick box sheet

Creation of a scanning program to efficiently scan tick boxes

Creation of an easy to use program to update databases

Risks

Access to clinical data – privacy issues regarding hospital access to clinical data

Security of clinical data

Slow or no uptake of program by hospitals

Benefits

Measurable benefits would include:

- 100% capture of pre, operative and post-operative refractive and vision data*
- Readily available clinical audit data*

- *Ability to stratify clinical outcome data based of surgical experience, technique used, complications, pre-existing conditions*

This project will ultimately allow not only individual member organisations to test and audit their clinical outcomes but to compare their outcomes with those from around the world in a standardised method. It will allow the quicker deployment and development of techniques, technologies and practises through measurable standardised improvements.

Outcomes & Deliverables

The deliverable from this project will be a computer based program and set of tick sheets for pre and postoperative clinics as well as operative reporting.

Uptake of this program will be the basis for a global database for comparable cataract and refractive outcomes following ophthalmological intervention.

Communication

Staged outcomes will be communicated via e-mail and once functional and tested will be demonstrated via a workshop during the WAEH annual meeting.

2. Project Plan

Stages and Timeframes

Tick box sheet development

2 – 3 months

Process has already begun with consultation of Consultants, Fellows and Trainee Registrars to elucidate key cataract data points and streamline tick sheet.

This will be broken up into an initial consultation phase, followed by the release of a first draft. Further consultation with trainees and consultants from the RVEEH will follow to allow for the production of the initial working tick sheet.

This will all be conducted by Dr Soumya Sarkar. Two versions of the sheets will be developed. The initial consultation and development for the operative tick box has already commenced.

Dr Anton Van Heerden will be consulted regarding clinical questions throughout this process.

Tick sheet scanning program

3 - 4 months

Development of program to scan sheets and create database – initial process for program development has already commenced.

Prototype development 1-2 months – initial testing of OMR platform for recognition of from tickbox sheet

This will be completed by Mr Indrajit Sarkar – the feasibility of this is currently being assessed.

Testing of prototype 2 – 3 weeks – testing of program functionality particularly for data integrity and fidelity. A Validation study will be conducted comparing outcomes from the program and that of a human coding data. This testing and analysis will be conducted by Dr Soumya Sarkar, the initial basis of this study has been outlined, however will only be practicable once the program has been created.

Scope

The scope of the project is limited to cataract services only.

Access to clinical data will be made available to cataract services heads of units who will then allocate designated access to medically trained staff only. This access will allow allocated auditors to periodically update the databases.

Special access to clinical data outcomes will be granted, upon submission, for research.

Project Activities

No	Description	Start Date	Due Date
1	Tick box development sheet 1 - Op	Commenced	30/11/18
2	Tick box development sheet 2 - Clinic	1/12/18	15/1/19
3	Scanning program development	15/11/18	1/3/19
4	Testing of program	15/12/18	1/3/19

Cost and Resource Requirements - Direct Costs to be paid

No	Resource	Once off	Recurrent cost
1	OMR – basic suite	3000 Euro	

2	Travel		300 Euro x 4
3	Consumables		100 Euro x 4
4	On-going software requirements		300 Euro x 4
5	Contingency fund	1700 Euro	

Cost and Resource Requirements - Members In-Kind Contribution

No	Resource	Once off	Recurrent cost
1	Mr Indrajit Sarkar - >100 hours		10000
2	Dr Soumya Sarkar - > 200 hours		5000

Project roles & responsibilities

Project Leader Mr Mark Petty: Responsible for project oversight, governance and progress reporting.

Project Manager Dr Soumya Sarkar: Responsible for achievement of project objectives, plan, budget and project resource organisation Dr Soumya Sarkar is also responsible for Program design, database creation and testing.

Mr Indrajit Sarkar – Programming, Coding and on-going programming support

Dr Anton Van Heerden – Clinical and operative liaison

Reporting

A progress report will be generated for the WAEH Board in accordance to their requirements every 6months for the duration of the project.

Stakeholder Management and Communication

The key stake holders in this project would be Dr Soumya Sarkar and Mr Indrajit Sarkar. With regular input and consultation with Dr Anton Van Heerden.

Intellectual property developed during this project will be the property of Dr Soumya Sarkar and Mr Indrajit Sarkar.



Communication will be conducted over phone, skype and email correspondence between Dr Sarkar and Mr Sarkar due to geographical proximity.

Dr Sarkar and Dar Van Heerden will communicate in addition to those noted above with regular, weekly to bi-weekly in person meetings at the RVEEH.

Risks & Issues

No	Description	Likelihood of happening	Impact if happens	Mitigation Strategy
1	<i>Access to clinical data</i>	Low	Significant if hospitals do not allow access to patient data	Early discussions regarding use of system to capture complete secure data for operative outcomes
2	Security of clinical data	Low	Significant if data is correlated with patient	No obvious identifiers will be stored eg name, addresses etc. Data will be processed on secure password protected laptops.
3	Slow or no-uptake of program by hospitals	Low	Moderate, if few hospitals uptake the program	Significant up-side for hospitals to trial this system as current approaches are not conducive to complete data pick up for the given resources.