# Improving surgical performance by collecting outcomes data

In the beginning of September 2015 more than 10000 ophthalmologists will gather in Barcelona at ESCRS, EU Cornea, International Conference on Ocular Infections and World Congress of Pediatric Ophthalmology and Strabismus. Some colleagues come to present their research but most participants come to listen and learn. The number of teaching activities is impressive. There will be main symposia, free paper sessions, different forms of poster presentations, courses and wet-labs. There are also the enriching possibilities to discuss with and meet colleagues from all around the world. Most participants expect to return home with new insights on new treatment modalities, new and maybe better drugs, new technology and instruments and new or improved surgical techniques. Some will be satisfied with the fact that what they are doing today is similar or the same as what is presented as state of the art.

However surveys show that most ophthalmic surgeons expect to perform better next year than this year, meaning better patient selection, better surgery and better outcome. The question is of course how this can be achieved? There are many ways of collecting and comparing data and results. One surgeon can collect pre-, per- and postoperative data on all his patients and have a computer program display the data in various formats and compare the results on a regular basis. A clinic or group of surgeons can of course do the same and thus have the basis for comparison if and when they meet. This is often a time consuming and cumbersome way of knowing what one is doing and how it relates to the quality of outcome of other colleagues in question.

One way of avoiding the drawbacks mentioned above is to set up a quality register similar to the Swedish Cataract Register (1), Cornea Register (2) or Macula Register (3). To do this three things are required:

1. Colleagues within the profession, e.g. cataract surgeons, agree on what parameters should be registered and how each parameter is defined so that «one diopter» is «one diopter» for all participants.

2. All participants agree to submit all consecutive cases to the register so that it will reflect the true activities within the participating surgeons.

3. A group is selected to administer the data collected. This group can also analyze and distribute data to all participating surgeons or units. Many computer programs today make it possible for each participant to analyze data on their own and make comparisons, so called benchmarking.

If I want to improve my outcomes next year I have to know where I stand today and a register can help to do that with little effort on my side. A register can also be seen as a continuing multi center study.

There are a number of well-defined reasons for participating in a quality register:

1. To evaluate your own results compared with the results of other clinics or the total database – comparing and benchmarking both on a national and international level (4). This also includes comparing your own performance over time.

2. To use register data for clinical improvement work. This means that the register acts as a tool in your clinical improvement work.

3. To contribute to the scientific knowledge within your specialty. Data in the database will increase knowledge of real world outcomes.

4. To use registry data for clinical decision making. Increased knowledge of real world outcomes will influence indication setting for treatments

5. To market internally and externally that you and your clinic care about quality and quality improvement.

This means also that the benefits of participating in a registry can be derived from the 5 points above. About the scientific knowledge, what is in the records so far? We will use the Swedish National Cataract Registry (1) as an example.

In 1998 we started to register the occurrence of post-operative endophthalmitis. Shortly after the Swedish cataract surgeons were told about the benefit of using intra-cameral cefuroxime by Montan and co-workers (5). The registry started to collect data on the use of intra-cameral cefuroxime and soon the very large number of cases collected on a national level showed the benefit of this prophylactic regime. Within two years every cataract surgeon adopted this technique which led to a dramatic fall in the incidence of postoperative endophthalmitis (6). This is an example of the benefit of collecting a very large number of cases on a national level to study a rare complication.

A large number of data collected over time for a rare complication like posterior capsular tear will give valuable information both of risk factors for having the complication and of trends about the occurrence (7).

If clinical data collected in a registry are combined with patient-reported outcomes measures (PROM) still more information can be obtained. This is true both for gaining knowledge about what matters most to the patients and our indications for performing surgery (i.e.cataract surgery). Thus, the benefit of operate both eyes for cataract became evident (8) and the problems of operating too late or too early in the slowly advancing cataract disease (9).

It should be pointed out that the size of a register is of minor importance. The corneal transplant register collect data on 6-700 surgeries and the cataract register on 100 000 surgeries annually. Both these registers allow analyses of data that no single surgeon or clinic can ever achieve.

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Swedish National Cataract and Cornea Registers

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