

Can Health Operational Research Improve Health Care in a Clinical Department?

Operational research makes use of scientific methods to study strategies, interventions, or knowledge that can enhance the quality, coverage, effectiveness or performance of the health system or program in the population in which the research is being conducted.¹ Its goal is to address and solve local problems in delivering quality health services.

The Department of Ophthalmology and Visual Sciences (DOVS) of the Philippine General Hospital (PGH) is housed in a 6-storey building with outpatient clinics, ward for admitted patients, operating room complex, and administrative offices. In 2019, before the COVID-19 pandemic in 2020, the out-patient clinic had 69,384 total patient consultations with general out-patient clinic having 11,573 new and 10,783 follow-up patients.² The rest of the consultations were in the 11 subspecialty clinics. Because the facilities and manpower remain the same, the clinics were congested and there were delays in patient consultation. Sosuan et al.³ undertook a time motion study of the steps a new patient underwent in the general clinic. Analysis of data identified the factors which contributed to the delay. Among these were delay in retrieval of patient records and patient blue cards coming from the record section of the hospital, inadequate examination tools for interns, multi-tasking of residents, and unnecessary clinic tests. A 31% median reduction in consultation time was observed following a 4-month implementation of corrective interventions. It would be interesting to find out whether this reduction was maintained at present time.

Another area where efficiency was studied by the Department is in the operating room, for elective cataract surgeries under local anesthesia done by residents in 2019.⁴ Adult cataract surgery under local anesthesia was the most commonly performed surgery in DOVS (1,632 phacoemulsification were performed in 2019 and 1,512 in 2023^{2,5}). The study by Umali and Castillo⁴ found that no phacoemulsification surgery started on time, with an average of 34 minutes late. It determined that entry lag (time of patient entry to the operating room to start of surgery) which was 22.6 minutes on average, was the performance indicator that should be addressed to improve efficiency.

There are clinical conditions in which delay in intervention is thought to produce poorer outcomes. Examples are pediatric cataracts and retinoblastoma. Villanueva and Santiago⁶, published in this issue of ACTA, investigated the average time from initial consultation at the general clinic to the day of cataract surgery and compared the visual effects of delayed surgery. The median age of consult was 4.9 years and age at surgery was 5.2 years. Only patients with bilateral developmental cataracts aged >3-5 years and >7 years operated on early showed better vision. Congenital cataracts and unilateral developmental cataracts without delayed surgery (<2 weeks from diagnosis to surgery) did not have better visual outcomes after cataract surgery. This study showed that there are other factors aside from early surgery from time of diagnosis that affect visual outcome (age at diagnosis, type of cataract, unilateral or bilateral cataracts, presence of strabismus and nystagmus at diagnosis). These factors should be addressed to improve patient's visual outcome after cataract surgery.

Retinoblastoma is the most common intraocular malignancy in childhood. As PGH is a tertiary referral hospital, DOVS receives retinoblastoma from all over the Philippines. In 2023, the Retinoblastoma Clinic saw 19 new patients. Lapus, Santiago, and Astudillo⁷ reported a median waiting time from first consult to the initial intervention is 9 days, with mean of 17 days and range of 2-429 days. To improve patient outcomes, the authors recommended streamlining of processes and include proper guardian education, formulation of standardized diagnostic plan, strict implementation of infection control procedures, and coordination with funding sources. These had been implemented in the Retinoblastoma Clinic but evidence of improvement in patient services still needs to be gathered.



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Aside from efficiency studies, Medina and Mercado⁸ also undertook cost analysis of multi-disciplinary management of retinoblastoma in PGH in 2023. The range of direct medical cost in the first year of treatment was ₱376,857.38 ± 208,242.87 to ₱743,943.03 ± ₱234,313 for theoretical cost and ₱113,995.20 ± 78,448.83 costing derived from case series. The national health insurance system shouldered 30-40% of the cost. Non-medical cost of transportation, accommodation, and loss of productivity added to the patient's family's financial burden. These findings emphasized the need for the Department to coordinate with funding sources to support patients' treatment.

The next steps for DOVS are to formulate solutions. Carter and Busby⁹ discussed five elements for a successful implementation of health care research. First is a champion within the organization who will act as an advocate both internally and externally, understand legitimate barriers, securing needed resources, provide useful insights, and convince skeptics to embrace the project. It is also important to have a team around the champion which will include members with diverse perspectives. Second is to focus on a problem with urgent need and requires action. This however, creates pressure to deliver a solution too quickly to be practical. Third is to consider the culture within the healthcare organization, including politics and conflicts between the stakeholders. Fourth is the reliability and completeness of the data used to create the implementation program is important. And last, is management of expectations on what the program can or cannot do.

There is emphasis on clinical research in the clinical departments, but operational researches are gaining popularity among the residents, fellows, and consultants. It is important to continue to encourage and train them to conduct operational research which can influence policy, improve practice, and ultimately lead to better health outcomes for the patients served.

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