Update on the South African Orthopaedic Registry: Where are we? And where are we going?

Odette Koch*

Past chairperson of the SAOR steering committee and current vice president of the SAOA

**Corresponding author: okoch@okoch.co.za*

Different metrics are used to quantify results in healthcare quality. Funders and hospital groups rely on process and structural outcomes to quantify healthcare quality. Clinicians and other medical professionals rely on patients' responses to treatment and outcome measurements. The days of guessing patient outcomes are long gone, and evidence-based medicine is the norm today. Patient outcomes collection is as old as medicine itself. The significance of a nationwide standardised database, in the form of the South African Orthopaedic Registry (SAOR), is vital, and ethical data collection cannot be overstated. Surgeons must allocate resources in their daily workflow towards implementing evidence-based practice. The community's requirements are also a crucial factor to consider while assessing the results of surgical procedures.

There is no universally prescribed method for establishing a database. It is unlikely for individuals to reach a consensus on the information to be gathered in such a database. As surgeons, we must be committed to a standardised database to collect similar data on a single platform. The SAOR gathers key datasets following international standards and norms.

Global orthopaedic registry history and updates

The Scandinavian countries are often referenced internationally for their successful joint registries. These countries' professionals understand the value of registries, which is why their databases are so successful. Ten years after its implementation, the Swedish Fracture Register is 100% covered in Swedish orthopaedic and trauma departments.[1] The Swedish Knee Arthroplasty Register was established in 1975 and became the pioneer for arthroplasty data collection, influencing decision-making and monitoring implant performance. Following this, several countries have established registers, each with varying levels of effectiveness.[2] Eleven worldwide registries have been officially established to track and monitor total knee arthroplasty and total hip arthroplasty procedures.

The first English-language orthopaedic registry was established in 1998 in New Zealand. However, the United States (US) and many European countries are facing difficulties in establishing such instruments. Funders drive the main incentive for registries in the US, rather than the profession itself.

Registry administration necessitates significant time and financial resources worldwide. Sweden currently maintains 73 national registries, which cost 35.6 million USD annually, and receive all their funding from non-industrial sources.

Industrial-scale registries, or 'big data,' generate considerable output and research opportunities. Consensus regarding the essential health outcomes that should be documented in clinical research has hampered the development of studies and the synthesis of evidence.[3] As a result, a diverse panel of specialists in the United Kingdom, consisting of patient advocates and carers, has agreed on a set of outcome measures that should be incorporated into future clinical trials for hip fractures. These measures include mortality, indoor walking ability, outdoor walking ability, and the EuroQoL EQ-5D (an instrument for measuring quality of life). Including these metrics is an essential requirement in all future hip fracture trials.[4] These metrics are included in the hip fracture pathway on the SAOR.

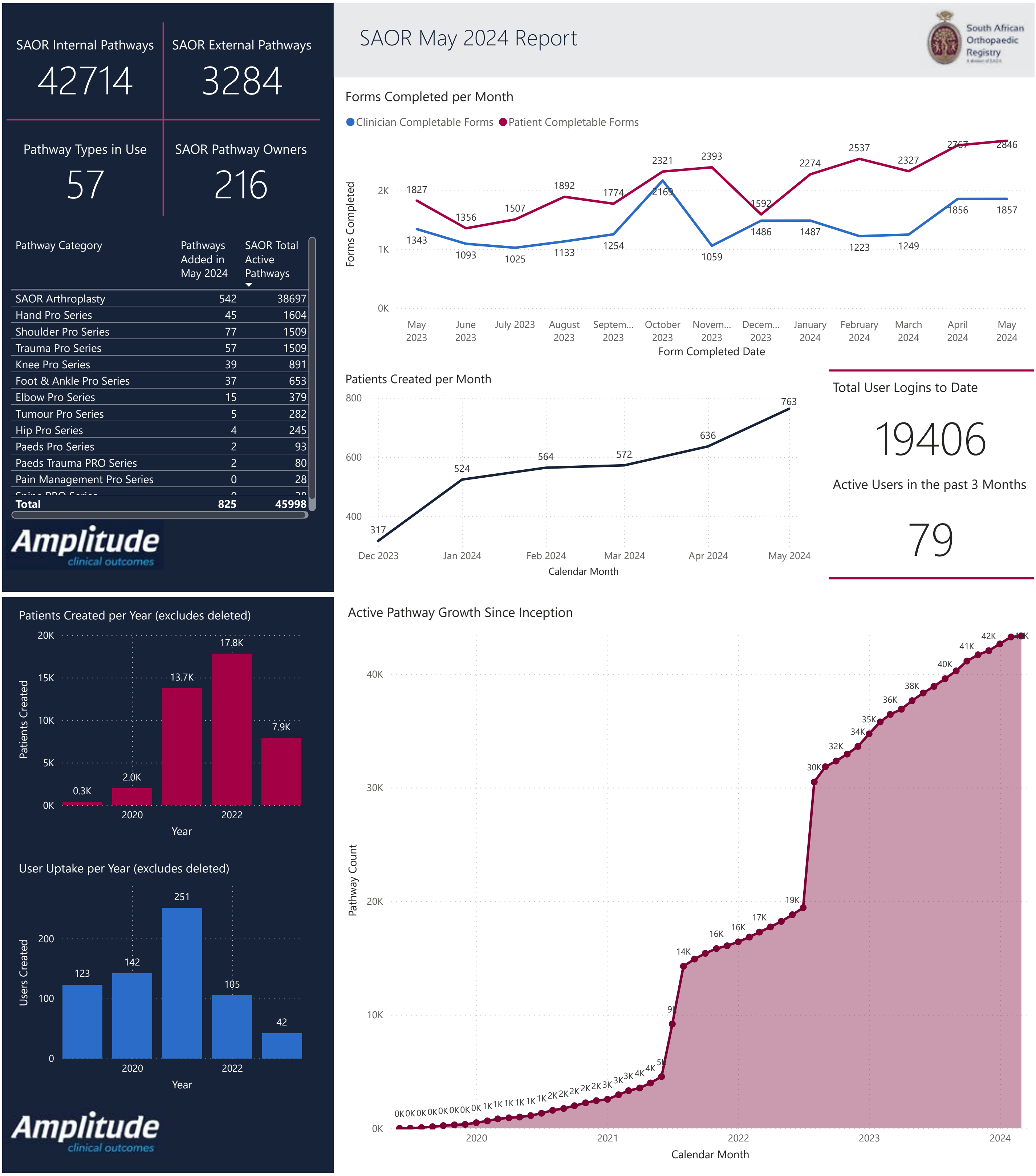
Globally, professionals, not funders, are the driving force behind effective registries. Other key components are consistent, long-term funding; a unique patient identity for traceability and avoiding duplication; comprehensive data collection; and an internet database collection technique. The SAOR offers these vital elements to its users.

Multiple international organisations acknowledge the significance of both national and international registries. The European Federation of National Associations of Orthopaedics and Traumatology (EFORT) advocates establishing national registration systems while respecting each country's distinct characteristics, culture and choices. Since 2005, EFORT has collected implant data from multiple countries. The primary objective of the International Society of Arthroplasty Registries (ISAR) is to collect standardised data from national registries to facilitate international comparisons.

History of the SAOR

The SAOR was established in June 2019. It is a continuation of the historic South African National Joint Registry (est. 2012), whose purpose was defined as 'to enhance the orthopaedic industry through knowledge sharing and reporting'.[5] In its current format, the SAOR is not exclusive to arthroplasty but caters for all subspecialties, and it collects relevant, automated patient-reported outcome measures.

Strict management of data security and safety protocols ensures that pertinent patient-reported outcomes are incorporated. The SAOR gives contributing surgeons full and immediate access to their data. They can instantly compare their outcomes with the average outcomes recorded in the database without analysing individual peers' results. This feature can help identify areas for improvement and ultimately lead to better patient outcomes.



SAOR May 2024 Report

SAOR Internal Pathways 42714

SAOR External Pathways 3284

Pathway Types in Use 57

SAOR Pathway Owners 216

Pathway Category	Pathways Added in May 2024	SAOR Total Active Pathways
SAOR Arthroplasty	542	38697
Hand Pro Series	45	1604
Shoulder Pro Series	77	1509
Trauma Pro Series	57	1509
Knee Pro Series	39	891
Foot & Ankle Pro Series	37	653
Elbow Pro Series	15	379
Tumour Pro Series	5	282
Hip Pro Series	4	245
Paeds Pro Series	2	93
Paeds Trauma PRO Series	2	80
Pain Management Pro Series	0	28
Total	**825**	**45998**

Total User Logins to Date 19406

Active Users in the past 3 Months 79

Figure 1. SAOR dashboard report for May 2024 (website link: https://saoa.org.za/sa-orthopaedic-registry/)

The database is based on a mutual agreement by contributing parties to strengthen orthopaedic research in South Africa and enhance peer review capabilities. This initiative is novel territory for the South African Orthopaedic Association (SAOA), and we are building the ship as we sail. To monitor care, the SAOR aims to collect data from all surgeons rather than solely relying on the highly specialised groups that provide most of the data, offering a more precise depiction of healthcare delivered to the South African community.

An editorial recently underlined the necessity of a national sarcoma database. The writers appealed to the orthopaedic community to provide more precise data on the incidence and frequency of sarcomas in South Africa, as it is currently lacking. Improving data accuracy within a single platform helps speed up referring patients to a specialised orthopaedic cancer unit at an earlier stage. Many clinicians in the country have long aimed to establish a registry for sarcomas.[6] A comprehensive oncology spectrum is currently available on the SAOR.

SAOR's performance update

Since 2021, the number of surgeons contributing has increased from 41 to 212. Across the 67 pathways on the SAOR, there are more than 42 000 active pathways that serve all subspecialty groups, with 60 000 completed patient reports (*Figure 1*).

The SAOR database simplifies data collection as data fields are homogenous.

Patients can now register themselves on the SAOR database by scanning a QR code available on the SAOA website and completing the relevant scores before surgery or consultation. These patient-reported outcomes can allow, for instance, spinal surgeons to sift through urgent referrals by looking at the Oswestry Disability Index on the dashboard, expediting specialist care for the patients who need it.

The Mediclinic Group uses the same database as the SAOR. Surgeons who are members of the SAOA and have given consent to data transfer are included in the SAOR without duplication or additional secretarial input.

What's next for the SAOR database?

The SAOR database's future relies on the dedication and effort of orthopaedic surgeons who contribute to its management, despite the significant cost of maintaining ownership and autonomy. By supporting and overseeing the database, surgeons can ensure that it continues to be a valuable resource for improving patient outcomes and facilitating early referrals, research and innovation.

Based on the potential of the SAOR data, the SAOA will be able to play a leading role in adopting value-based care and protecting its members from the funder's efforts to identify outliers.

Intelligent information technology (IT) solutions can facilitate the implementation of the SAOR in daily workflow and its long-term sustainability. These solutions include integrating records from the other large hospital groups into the registry database, redistributing data collection efforts, establishing customised templates for standard surgical procedures, and providing patient education regarding the significance of completing questionnaires. In the healthcare industry of the future, data will be the currency.

'We must, however, always make sure that the orthopaedic registries, established and developed by orthopaedic surgeons, are not handed over to the sometimes shortsighted interests of different stakeholders, including manufacturers and politicians.' – Nils P Hailer, co-editor Acta Orthop.

References

1. Möller M, Wolf O, Bergdahl C, et al. The Swedish Fracture Register – ten years of experience and 600,000 fractures collected in a National Quality Register. BMC Musculoskelet Disord. 2022;23(1):1-9. https://doi.org/10.1186/s12891-022-05062-w
2. Delaunay C. Registries in orthopaedics. OTSR. 2015;101(1 suppl). https://doi.org/10.1016/j.otsr.2014.06.029
3. Hailer NP. Orthopedic registry research – limitations and future perspectives. Acta Orthop. 2015;86(1):1-2. https://doi.org/1002183
4. Haywood K, Griffin X, Achten J, et al. Developing a core outcome set for hip fracture trials. Bone Joint J. 2014;96-B:1016-23. https://doi.org/10.1302/0301-620X.96B8.33766
5. De Vos J. South African National Joint Registry First Annual Report Dec 2012– Dec 2015. https://docplayer.net/62780251-South-african-national-joint-registry.html
6. Hilton T, Bauer HC. Proposal for a South African sarcoma registry. SA Orthop J. 2021;20(3):135-36. https://doi.org/10.17159/2309-8309/2021/v20n3L1