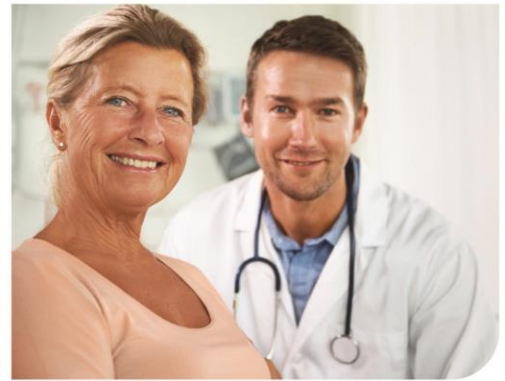


# Practitioner Quality Metrics



## Getting Started Kit

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Prepared by the Provincial Practitioners Executive Committee (PPEC)  
Patient Safety Working Group



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## What is meant by “Practitioner Quality Metrics (PQM)”?

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Quality metrics are clusters of data to describe the activities of an individual or group. For medical practitioners, such data may include metrics of *patients* (e.g. age groups served), *services* (e.g. number of procedures performed), *costs* (e.g. billing codes), *outcomes* (e.g. number of return visits) or other factors.

Practitioner quality metrics offer a snapshot of a medical practice and provide a roadmap to evaluate and improve the care patients receive.

An overview of the practitioner quality metrics process is provided in Appendix A.

## Philosophy of Practitioner Quality Metrics

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Ongoing learning is part of practitioners’ professional obligations. This translates into enhanced evidence-informed practice, patient safety, and stewardship of healthcare resources. By examining specific, relevant metrics, practitioner leaders and individual practitioners can better evaluate and improve the care and services they provide to patients.

For leaders, understanding their groups’ performance can help to identify areas of potential improvements such as those described by the six dimensions in the Health Quality Council of Alberta’s (HQCA) *Alberta Quality Matrix for Health*: acceptability, accessibility, appropriateness, efficiency, effectiveness and safety (Appendix A).

For individual practitioners, examining their own practice data gives insight into how they compare with their peers. Evaluating their own practice this way also helps practitioners identify learning needs.

Practitioner quality metrics can reveal trends in individual and peer practice, decrease variation in practice, identify opportunities to improve patient outcomes, and balance the use of resources with providing the best possible patient care.

Practitioner quality metrics should couple feedback with quality improvement processes to assist individuals and departments in improving outcomes. Individual practitioners might make certain changes based on their own examination of the data. Other elements might require quality improvement analysis to determine and implement system changes.

It is important to understand the decisions and means over which individual practitioners exert control. For example, variance due to clinical judgement (such as number of investigations ordered for a specific presentation) can be targeted for change by creation of clinical practice guidelines. On the other hand, variance due to allocation of resources (such as availability of imaging modalities at different sites or times of day) may require strategic direction from

organizational leadership. *Individual practitioners should not be held responsible for variables over which they do not have direct control.*

Practitioner quality metrics should always be embedded within a safety framework based in principles of a Just Culture (described in [Appendix B of AHS' Quality Assurance Review handbook](#)).

## Practitioner Engagement in Developing Practitioner Quality Metrics

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Practitioners are motivated to improve outcomes for their patients. They will be most willing to participate in developing and using quality metrics when they can directly see how the data helps them provide better care.

To be useful, metrics must be meaningful, clinically relevant, timely, and within the individuals' and the organizations' control,

Practitioners should have direct involvement in the selection and development of the parameters for their quality metrics. This will ensure that relevant metrics are provided for feedback and self-evaluation.

The privacy of individual practitioners must be maintained in the provision and sharing of practitioner quality metrics. Information provided to individual practitioners is generally shown with their own data compared to aggregate group data. It is important that groups developing practitioner quality metrics determine how information is reported and shared among group members and with medical leadership.

Here are some tips to engage participants in developing practitioner quality metrics:

**Clearly define the aim and purpose of practitioner quality metrics** as a tool for learning and self-evaluation based on the identification of practice variation. An individual's own data is compared to aggregate anonymized data. The frequency of reporting should support effective reflection with clear opportunities for improvement and reassessment.

**Involve practitioners** throughout the entire process of profile development. The participants should be fully involved in the selection of practice metrics to ensure they are relevant and within their control to change and improve. Ideally, a practitioner champion from within the group should lead the process.

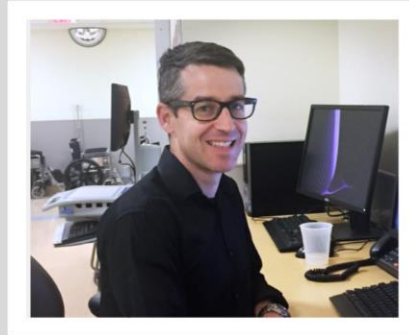
“ Individual practitioners should not be held responsible for variables over which they do not have direct control. ”

**Identify key stakeholders** among practitioners, medical leadership, Allied Health professionals, administrators, and patients. It is important to understand and engage operational leads, key opinion leaders, and informal leaders as they contribute to a positive response from practitioners.

**Understand the motivations and drivers** of practitioners, including the desire to examine and improve performance, quality of care, and patient outcomes. Consider the opportunity for continuing learning credits as additional motivation.

**Develop good clinical questions** to ensure practitioner engagement. Performance metrics should be evidence-based, clinically relevant, linked to patient outcomes, and be within the practitioners' or organizations' control. Where possible, measures should compare practice to evidence-informed or consensus guidelines with achievable benchmarks. Metrics must be measurable with data that is available and valid (proxy measures are less meaningful). Opportunities for practice change are most likely discoverable by evaluating high volume and/or high risk procedures.

**Pilot the clinical questions** with potential users, obtain feedback and revise metrics to accurately reflect the desired outcomes. Soliciting and reflecting user feedback will help generate awareness and recruit champions among the potential users.



**Dr. Shawn Dowling**  
*Emergency Department  
Physician, Calgary Zone*

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“I’ve been fortunate to both help physicians explore their own individual metrics as well use our departmental physician metrics for more than two years now. Although it does take some effort to understand the metrics, the learnings from the data have been tremendous.

By using my own physician metrics, I can self-reflect on my practice, identify areas for improvements, develop a learning plan and reassess my metrics at a later date to see if my change in practice has had the desired effect.

These metrics allow me view my practice relative to my peers and continuously work on improving the quality of care I deliver – along with improving my resource stewardship.”

## Identifying Groups for Developing Practitioner Quality Metrics

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Practitioner quality metrics are best developed for groups with organizationally defined groups such as departments, divisions or sections, with members who perform similar work so that:

- Aggregate data from a reasonable number of practitioners can be collated
- Quality metrics and indicators can have meaningful averages
- Reasonable comparisons can be made between practitioners

For small groups, consider combining several cohorts doing similar work. Any practitioner group, with the support of their Medical Leader, can initiate the development of their group's quality metrics.

## Defining the Metrics of Practitioner Quality Metrics

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It is important to first identify the intent. For example, the group should specify whether the metrics will be used to compare individual practice to peers, group practices to other groups, or individual/group practice to best evidence. Potential use of data for performance reviews or other purposes should be clearly specified prior to implementation.

The group should assess existing, evidence-based quality metrics within the area of practice through reviews of literature and databases.

Where few established metrics exist, the group can develop measures based upon evidence and guidelines that reflect important elements of care for their patients. Support including consultation for this work is available: [Practitioner.QualityMetrics@albertahealthservices.ca](mailto:Practitioner.QualityMetrics@albertahealthservices.ca)

Measures should be actionable at practitioner, group or organizational level. Consider aligning measures with established frameworks, such as [HQCA Dimensions of Quality](#), Quadruple Aim, [AHS' four foundational strategies](#) and measures of appropriateness (e.g. [Choosing Wisely Canada](#)).

In creating specific metrics, identify measure specifications (e.g. numerator, denominator, risk adjustment, inclusion and exclusion criteria). An [Analytics Measurement definition template](#) is available on AHS Insite. (*Note: you must be using a computer within the AHS firewall for this link to work*).

Identify the data sources of the metrics. For a list of possible data sources, consult the [Current Status of Data Sets](#) in the AHS data repository (AHSDRR). (*Note: you must be using a computer within the AHS firewall for this link to work*).

Test the validity and reliability of the measures prior to implementing.

## Presentation of Practitioner Quality Metrics Results

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Practitioner quality metrics are best presented in pictorial “dashboard” form. Graphics are more effective than text for quick scanning. The dashboard should have visual appeal and be easy to interpret and access.

### Data Presentation

It is vital that every element on the dashboard has a purpose. Effective presentation can focus attention and emphasize the most important data. [Tableau®](#), for example, is one of several effective tools that can be used to create a dashboard.

Examples of effective dashboards and reports are shown in Appendix B.

### Designing charts and data visualization

- Clearly outline key messages next to the data
  - Closely link the visual display and summary message
  - Provide feedback in more than one way
  - Minimize cognitive load
  - Address the credibility of the information
- Choose the right chart type
- Limit the number of messages per visual display
  - Consider maximum of three messages per visual.
- Show trends over time



**Dr. Sunita Chacko**  
*Hospitalist, Calgary Zone*

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In the B-SAFE (Best Sedatives and Antipsychotics in the Elderly) project, Calgary hospitalists reduced the use of antipsychotics and sedatives in patients over 70, by providing confidential feedback regarding their prescribing data.

These classes of medications have been identified as high risk in the elderly. In B-SAFE, physicians received reports on medications dispensed before, during and after hospital admission. They were able to compare their individual prescribing patterns to aggregate data from their hospitalist peers in the Calgary Zone.

These metrics resulted in reduction in the use of the antipsychotic haloperidol by 35 per cent; sedative medication use by 16 per cent; and the combined use of antipsychotics and sedatives by 39 per cent. This in turn could improve patient outcomes, decrease length of stay and healthcare costs.

- Show distribution of individual data compared to peer aggregate data, as appropriate.

“ Opportunities for practice change are most likely discoverable by evaluating high volume and/or high risk procedures. ”

### Other considerations

- Practitioner quality metric reports must be easily accessible. Log-ins and multiple steps to access data can reduce interest and engagement
- Consider using a “push” vs “pull” system to ensure broad penetration (e.g. send reports periodically by e-mail distribution)
- Ensure recipients can identify their own data and compare to the aggregate anonymized data of peers
- To be useful in establishing, data on identified quality metrics must be re-presented to practitioners at reasonable intervals. Until it has been presented a few times the data can be used to establishing a baseline, but adds little to practice change

## Delivering Facilitated Feedback

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Facilitated delivery of feedback can be helpful in some situations. A skilled facilitator can coach learners to integrate and assimilate feedback and create plans for practice change (Sargeant et al., 2015).

Facilitators can also address credibility of the information, prevent defensive reactions, and support constructive social interactions (Brehaut et al., 2016). Facilitated feedback can be delivered one-on-one – or in a group setting – to support individual or group performance.

Individual feedback can be used to identify opportunities for self-improvement and provide leadership the chance to coach and mentor to improve performance. Group sessions allow peers to share best practices and discuss new evidence and practice guidelines. They also normalize the process of receiving feedback and make it part of a department’s culture. Peers can work together to identify barriers to best practice, opportunities for improvement, and co-develop action plans for change. Group sessions can also bring together allied health professionals, administrators, and other support staff to support departmental quality improvement initiatives.

Support for this work is provided by the Physician Learning Program ([www.albertapl.ca](http://www.albertapl.ca)).



## Ensuring Privacy and Confidentiality

AHS has legislated duties regarding privacy of patient and practitioner information. Those regulations must be followed when producing practice profile information. The use of de-identified patient or practitioner information for the purpose of quality assurance, quality improvement and performance measurement is supported by:

- Medical staff by-laws, which describe a joint responsibility and accountability (between AHS and medical staff) for "quality improvement and systems of evaluation to achieve the highest standard of Patient care possible", and
- Health Information Act: as a custodian, AHS may use non-identifying health information for any purpose; the Act specifically describes the use of health information for education, quality improvement, audit, and internal management purposes. Refer to the [AHS Non-Identifying Health Information Standard](#).

“ **Practitioner quality metrics offer a snapshot of a medical practice and provide a roadmap to evaluate and improve the care patients receive.** ”

It is vital within a Just Culture that practitioners are aware how their individual data will be used and shared in creating practitioner quality metrics. If data collected by AHS is to be used for purposes of Quality Improvement, it should be noted that the results can be shared with a practitioner's direct supervisor. It should be understood that the purpose of practitioner reports is to enable practitioners to have better insight into the care they provide and assist them with practice improvement. It is important, though, to note that in rare circumstances, a review of aggregate data may raise concerns about safety and quality which will be handled as per [Medical Staff by-laws](#).

While it is important to note that it is not necessary to obtain signed consent from physicians to participate or to be included in the comparison groups, in the spirit of building a culture fostering constructive use of the data, it is important that all decisions regarding who will be able to see the identifiable data and for what purpose be determined and documented in the planning phase, and that all practitioners involved be engaged early in this process. Any data collected should be retained for five years as per [AHS Records Retention Schedule](#) 1420.

If data to be used is not collected by AHS, or if data is to be used for research purposes, an agreement may be required. The [Privacy Intake Line](#) should be consulted for clarification regarding data agreements. Questions about conducting research within AHS can be directed to [Research.Administration@ahs.ca](mailto:Research.Administration@ahs.ca)

In certain rare circumstances, groups have opportunity to use Section 9 of the *Alberta Evidence Act* to gain further protection of information. This section of *The Act* protects quality assurance records from being used in a legal action, even by subpoena. It should be noted that producing

reports of practitioner quality metrics under Section 9 protection may impede and limit the use and broad sharing of the data outside of the Quality Assurance Committee (QAC) that produced it. Section 9 protection can only be offered in formal affiliation with a QAC, therefore any group that wishes to have this degree of protection must liaise with a formal QAC. AHS QAC Chairs are listed on [Insite](#).

The engagement of practitioners in the selection, design and use of quality metrics that are meaningful to their scope of practice, provides insight to individual practice trends, decreases variation and aids in the identification of opportunities to improve patient outcomes.

## References

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Sargeant J, Armson H, Driessen E, et al. Evidence-informed facilitated feedback: The R2C2 feedback model. *MedEdPORTAL Publications*. 2016;12:10387.  
[http://dx.doi.org/10.15766/mep\\_2374-8265.10387](http://dx.doi.org/10.15766/mep_2374-8265.10387)

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Cantillon P, Sargeant J. 2008. Giving feedback in clinical settings. *BMJ* 337:a1961.

Milan FB, Parish SJ, Reichgott MJ. 2006. A model for feedback based on communication skills strategies: Beyond “the feedback sandwich”. *Teach Learn Med* 18:42–47.

Brehaut JC, Colquhoun HL, Eva KW, Carroll K, Sales A, Michie S, et al. Practice Feedback Interventions: 15 Suggestions for Optimizing Effectiveness. *Annals of internal medicine*. 2016;164(6):435-41.

Ivers N, Jamtvedt G, Flottorp S, Young JM, Odgaard-Jensen J, French SD, O'Brien MA, Johansen M, Grimshaw J, Oxman AD. Audit and feedback: effects on professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews* 2012, *Issue 6*. *Art. No.:* CD000259. *DOI:* 10.1002/14651858.CD000259.pub3.  
<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD000259.pub3/abstract;jsessionid=1D277813192EBEF5B3190896C6230B18.f04t03>

# Appendix A: Overview of the Practitioner Quality Metrics Process

## Practitioner Quality Metrics (PQM) Pathway

Supporting Consultation for Defining and Developing PQM [Practitioner.QualityMetrics@albertahealthservices.ca](mailto:Practitioner.QualityMetrics@albertahealthservices.ca)

### Embrace the Philosophy of PQM

- Enable practitioner leaders and individual practitioners to conduct effective evaluation and improvement by examining specific relevant metrics.
- Uncover trends in individual and peer practice, decrease variation in practice, identify opportunities to improve patient outcomes, and balance resource utilization with optimal patient care.
- Embed within a safety framework based on the principles of Just Culture.

### Engage Practitioners in PQM

- Involve practitioners in the selection and development of the parameters that are measured for their quality metrics.
- Clearly define the purpose of practitioner quality metrics.

### Identify Groups and Design Metrics

- Best developed for groups with organizationally defined groups such as departments, divisions or sections, with members that perform similar work.
- Metrics must be meaningful, clinically relevant, timely, and within the individuals' and the organizations' control to affect.
- Determine Frequency and Distribution of PQM.
- Select presentation style and format.
- Pilot and Refine PQM as necessary.

← *Where to find support?*

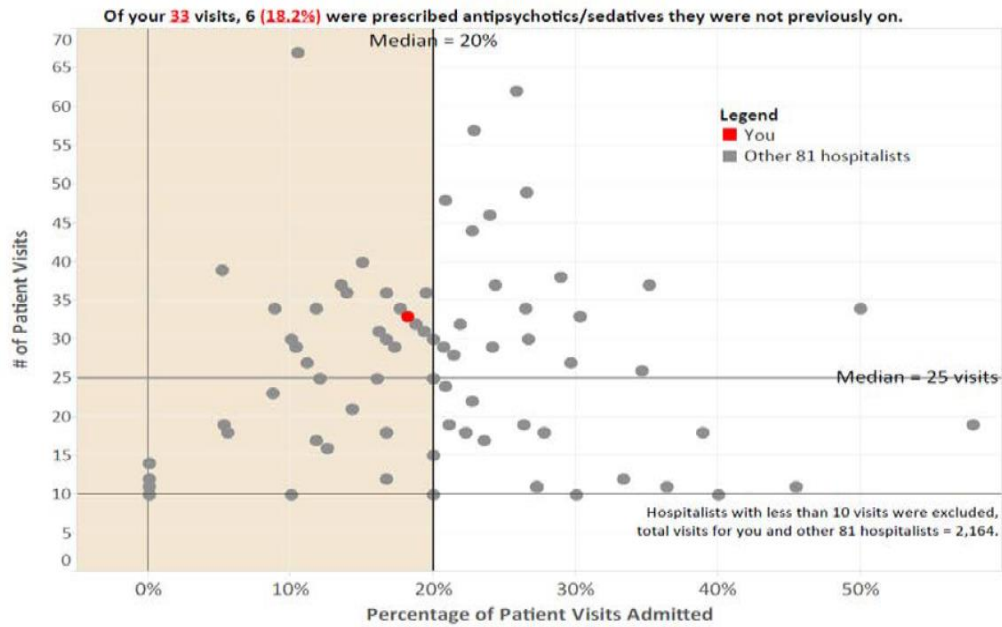
### Review and Feedback

- Should be easily accessible.
- Recipients can easily identify their own data and compare to the aggregate anonymized data of peers.
- Facilitated feedback in some situations may insure successful self-reflection and identification of areas for quality improvement.

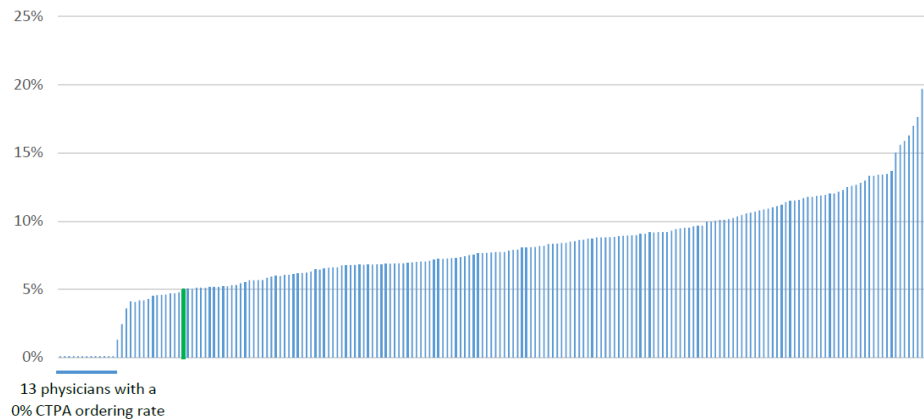
### Conduct Annual Review of Metrics

## Appendix B: Examples of Practitioner Quality Metrics

**Figure 4:**  
Calgary Hospitalist Report 2015-16  
New Prescriptions in Hospital



**Figure 5:**  
CT Pulmonary Angiogram Utilization  
% of Query PE Patients Receiving a CTPA by ED Physician, Calgary Zone, 2014-2016



The highlighted bar represents your personal CTPA ordering rate for query PE patients, 2014-2016.

Query PE Patients Seen	394
Query PE with CTPA Ordered	19
CTPA Ordering Rate for Query PE	4.8%

## Figure 6: Sepsis Management Median LOS from MD to Antibiotic(Abx) or Lactate

### Measure Details

Sepsis Patients were defined by ICD-10 CA code based on ED Primary Diagnosis (See the Note below)

Median MD to Initial Antibiotics Request time: Median minutes between MD Sign-up on the SEC facility board and the first Antibiotic order request time.

Median MD to Lactate Request time: Median minutes between MD Sign-up and initial lactate requested time (negative if requested before MD signup).

Median Lactate Result to Antibiotics Request time: Median minutes between initial lactate result and antibiotics order request time. This value will be negative if an antibiotic was requested prior to the lactate result.

Date Start:

August 01, 2014

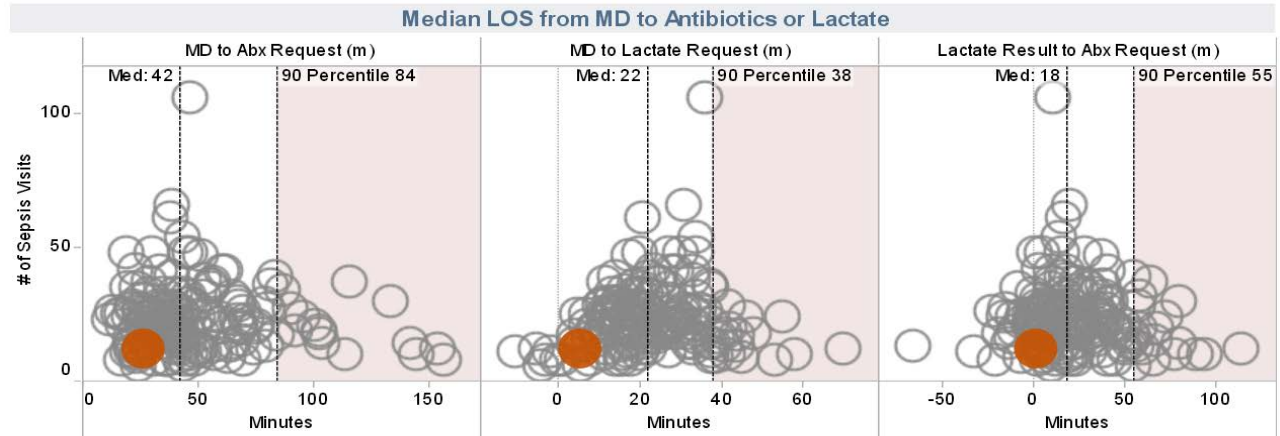
Date End:

July 31, 2016

Color Legend:

■ You

■ Others



## Figure 7: Hip and Knee Transfusion Practices

### Introduction

Intravenous (IV) tranexamic acid (TXA) is used in a number of different types of surgeries to reduce blood loss and the need for transfusions. Literature and a local practice protocol support the use of TXA in total hip (THA) and knee arthroplasty (TKA). Calgary anesthesiologists perceive that there is practice variation in the administration of TXA in THA and TKA. This project aims to provide physicians with:

- Individual practice data on TXA utilization for THA, TKA, & transfusions given post-surgery
- Aggregate data from peer comparators
- Resource & evidence-based best practices

### What is in this report

- Your data from 2016 on rate of TXA use in THA and TKA compared to peers
- Data from the past 5 years on use of TXA
- Rate of post-operative blood transfusions & the amount of units given

### Methods

Identify Cohort	<ul style="list-style-type: none"><li>• All patients undergoing THA and TKA in Calgary hospitals between Jan 1, 2012 to Dec 31, 2016</li><li>• Exclude patients with emergent, bilateral, or combination procedures, fractures, hemiarthroplasties, and revisions</li><li>• Source: PICIS Operating Room Manager</li></ul>
Intra-op medications	<ul style="list-style-type: none"><li>• Total dose of tranexamic acid and IV dexamethasone</li><li>• Source: PICIS Anesthesia Manager</li></ul>
Post-op blood transfusions	<ul style="list-style-type: none"><li>• Total dose of tranexamic acid and IV dexamethasone</li><li>• Source: PICIS Anesthesia Manager</li></ul>

### Resources

#### Tranexamic Acid

Protocol: Tranexamic Acid (TXA) in ARthroplasty Surgery. 2015. Patient Blood Management (PBM) Program, AHS Calgary Zone

Cid J, Lozano M. Tranexamic acid reduces allogeneic red cell transfusions in patients undergoing total knee arthroplasty: results of a meta-analysis of randomized controlled trials. *Transfusion*. 2005 Aug;45(8):1302-7. doi:10.1111/j.1537-2995.2005.00204.x. PMID: 16078916

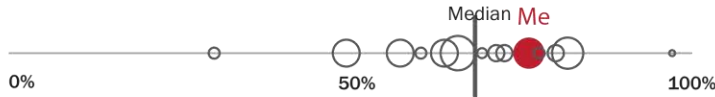
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# Total Hip Arthroplasty

## Distribution of IV TXA use at my hospital

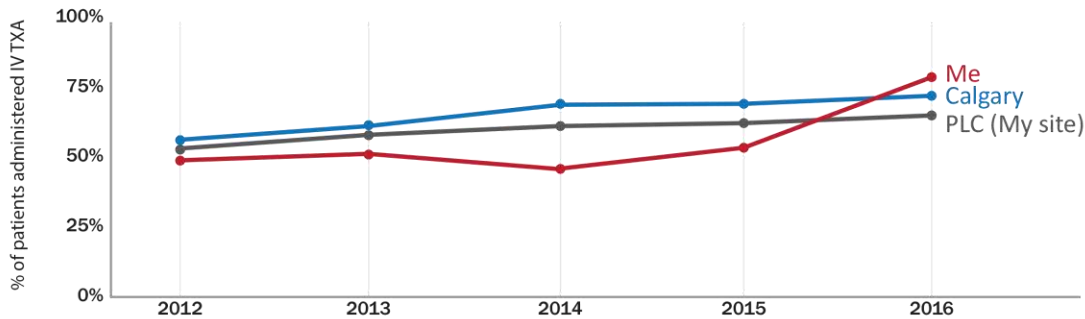


**70%**  
of my patients  
received IV TXA

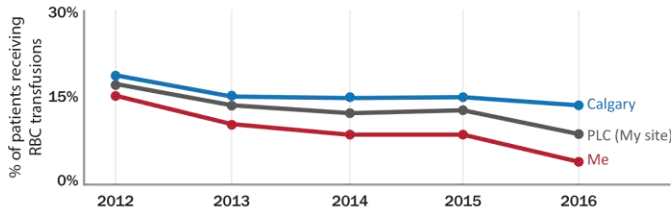
**93%**  
rate of TXA use by  
top 10% of my peers

**61%**  
of the site's patients  
received IV TXA

## Use of IV TXA over the past 5 years



## Rate of post-operative RBC transfusions over time



## Rate of RBC transfusions at my hospital

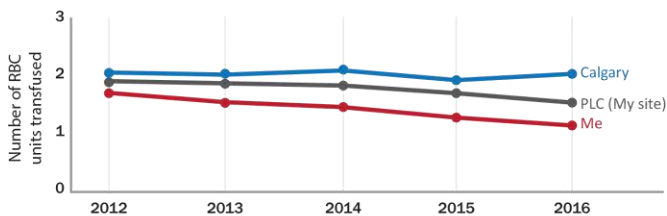


**5%**  
of my patients  
received RBC transfusions

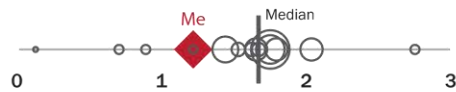
**10%**  
rate of TXA use by  
top 10% of my peers

**8%**  
of my site's patients  
received RBC transfusions

## Average number of post-operative RBC units transfused over time



## Average RBC units transfused at my hospital



My patients received  
**1.3**  
RBC units on average

**1.0**  
RBC units received from  
top 10% of my peers

Patients at my site received  
**1.7**  
RBC units on average