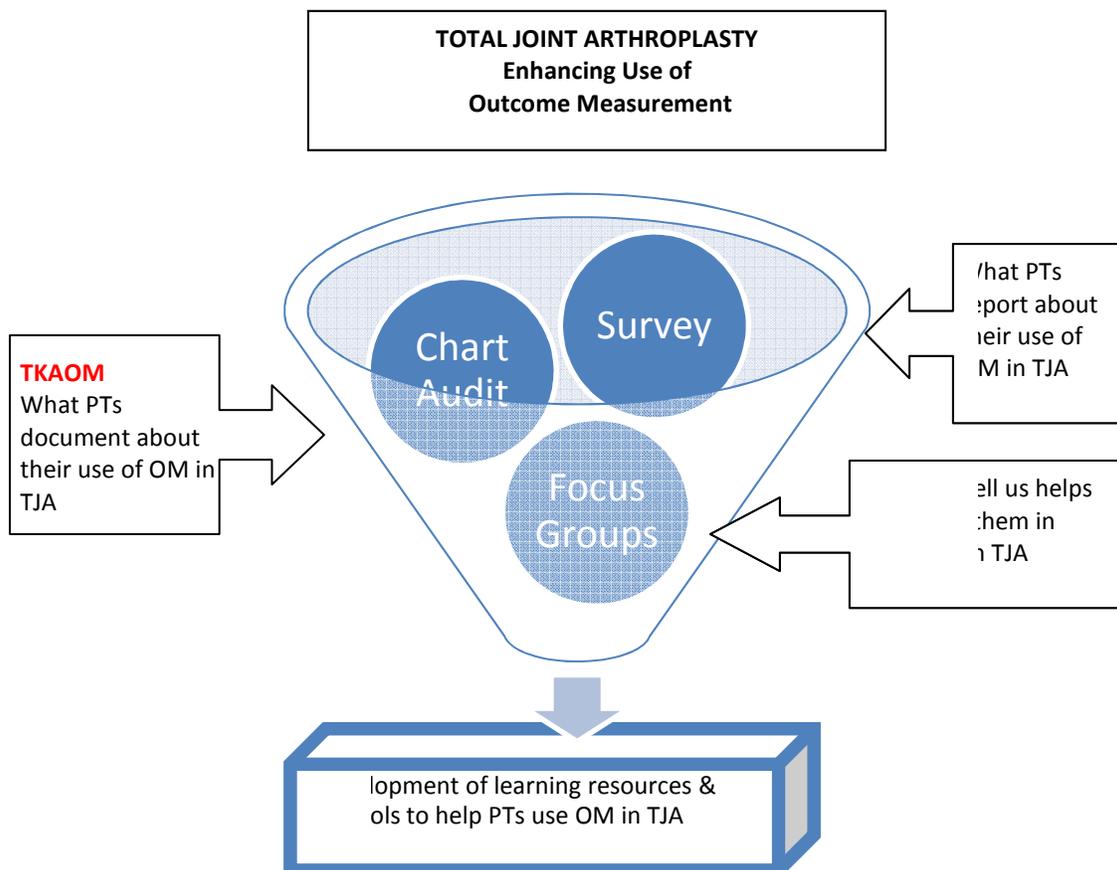


ONE STEP TOWARD A STRIDE FORWARD IN PT PRACTICE
Use of Outcome Measures by PTs for the Total Joint Arthroplasty Population

A unique team comprised of representatives from administrative and clinical realms (Phil Lawrence, Greg Noonan, Fatima Inglis, Susan Carr and Tracy Wong) encompassing the spectrum of practice settings (prehabilitation, inpatient, outpatient, and private practice) recently completed a chart audit to determine how PTs in these settings are using outcome measures (OMs) for patients along the total knee arthroplasty continuum. The project “*TKAOM* – Total Knee Arthroplasty and Outcome Measurement” was undertaken as the focus of their participation in the Vancouver Coastal Health Research Institute’s Program Evaluation Course that ran from October 2009 to April 2010.

Background

TKAOM is the first of three subprojects completed under the umbrella of the TJAOM initiative (Total Joint Arthroplasty – Enhancing Use of Outcome Measurement) facilitated by Alison Hoens, the Physical Therapy Knowledge Broker. The following is a diagram illustrating how the three projects are related:



The process

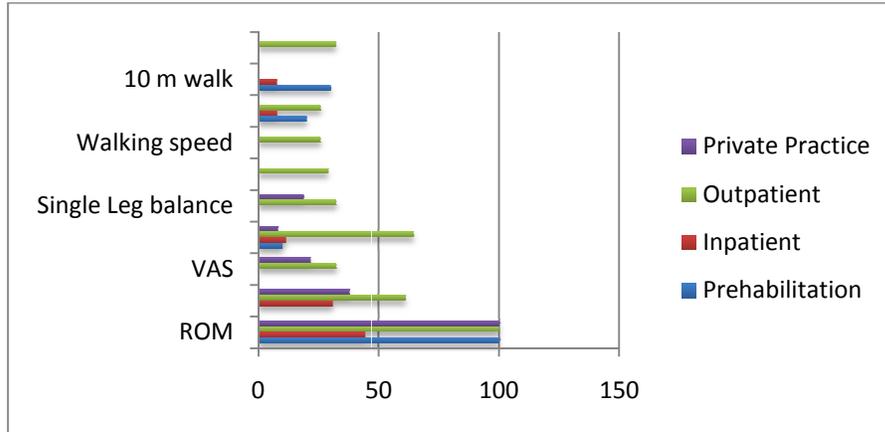
The team gathered a total of 130 charts (10 from prehabilitation settings, 52 from inpatient settings, 31 from outpatient settings and 37 from private practice settings) from January 1, 2009

to July 31, 2009. Financial and data entry support was kindly provided by administration associated with the VCHRI Program Evaluation Course.

The results

The chart audit revealed the following:

1. Use of outcome measures at admission

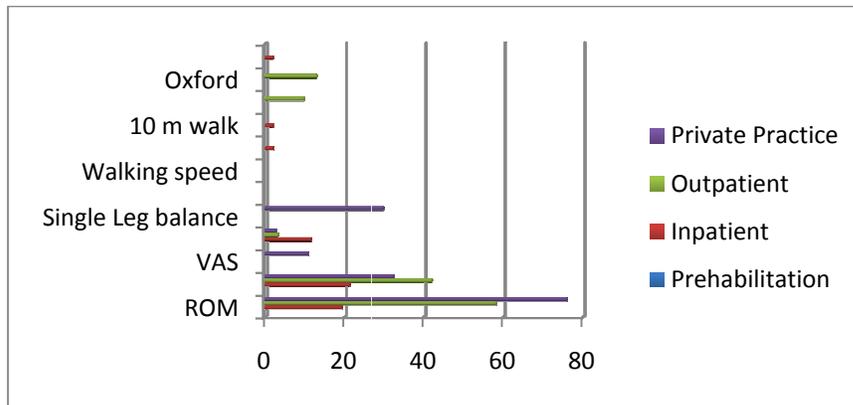


Key findings regarding the use of outcome measures at admission:

- **ROM** was documented in 100% of charts in prehabilitation, outpatient & private practice settings; 44.2% in inpatient settings
- **Strength** was documented in 61.3% of outpatient, 37.8% of private practice and 30.8% of inpatient settings
- The **Numeric Pain Rating Scale (NRPS)** was documented to a much greater extent in outpatient (64.5%) than in all other settings (8.1-11.5%)
- Approximately one quarter to one third of outpatient charts revealed documentation of Visual Analogue Scale (VAS), Single Leg Balance, Timed Stair Climb, Walking Speed, Timed Up and Go (TUG) and 10 Meter Walk in outpatient and private practice settings

2. Frequency of use of outcome measures

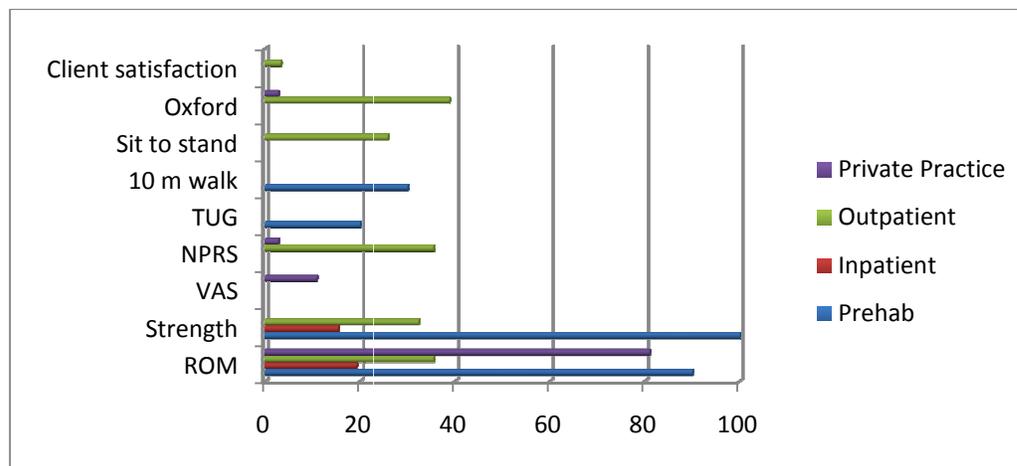
Note: Using outcome measures for at least 3 occasions is preferable to using them only at admission and discharge.



Key findings regarding the frequency of use of outcome measures:

- **ROM** was documented in at least 3 occasions in private practice (75.9%), outpatient (58.1) and inpatient (19.2%) settings
- **Strength** was documented in at least 3 occasions in outpatient (41.9%), private practice (32.4%) and inpatient (21.2%).
- **Single leg balance** was recorded on at least 3 occasions in 29.7% of charts from private practice settings
- The **Visual Analogue Scale** (VAS) was documented on at least 3 occasions in 10.8% of private practice charts
- The **Numeric Pain Rating Scale** (NRPS) was reported on at least 3 occasions in 11.5%, 3.2% and 2.7% of charts from inpatient, outpatient and private practice settings respectively.
- Other outcome measures used included, in descending order, the Oxford Knee Score, Sit to Stand, Timed Up and Go (TUG), 10 Metre Walk and 6 Minute Walk tests.

3. Analysis of outcome measures (i.e. scoring of results)

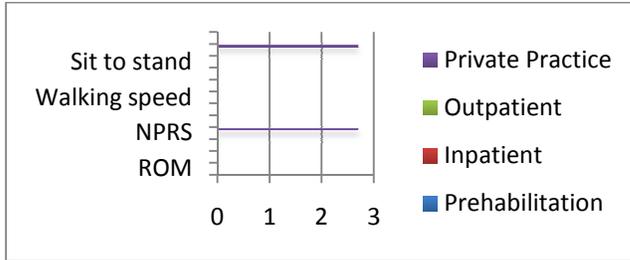


Key findings regarding the documentation of the analysis of outcome measures:

- Analysis of **ROM** was evident in the majority of charts in prehabilitation and private practice settings (90% and 81% respectively)
- Analysis of **strength** was present in all prehabilitation charts, 32.3% of outpatient and 15.4% of inpatient charts.
- Analysis of other OMs in greater than 25% of charts included: **Oxford Knee Score**, **Numeric Pain Rating Scale**, and **Sit to Stand** in outpatient settings and **10 Meter Walk** in prehabilitation settings.

4. Documentation of inclusion of error / clinically meaningful change

Note: The relative change in an outcome measure over time is used as an indicator of progress in the patient's status. Before interpreting a change in the outcome measure as an indication of progress, it is important to know how much change in that outcome measure is needed to be interpreted as 'clinically meaningful'. The required amount of change is a combination of the amount of error associated with the measure and how much change (based on research) is needed to be classified as truly meaningful change.

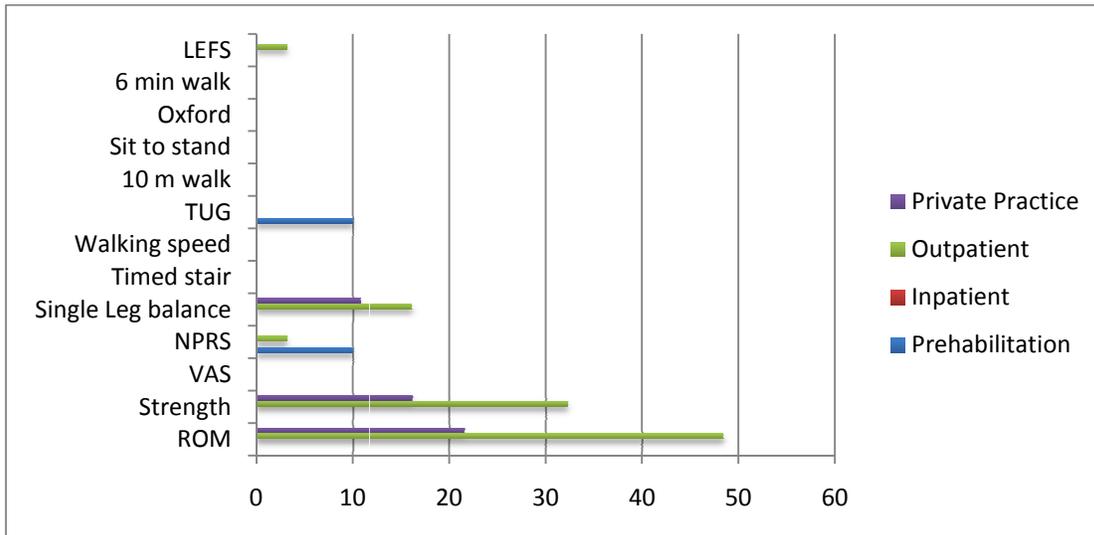


Key findings regarding the documentation of inclusion of error/clinically meaningful change:

- Less than 3% of all charts revealed the inclusion of error/clinically meaningful change. Those which included this information were from only the private practice setting.

5. Interpretation of result of an outcome measure

Note: It is helpful for the clinician and patient to have a sense of whether the result of the outcome measure is ‘normal’ or ‘expected’ at the time of the measure (eg. expected for this stage post-op)

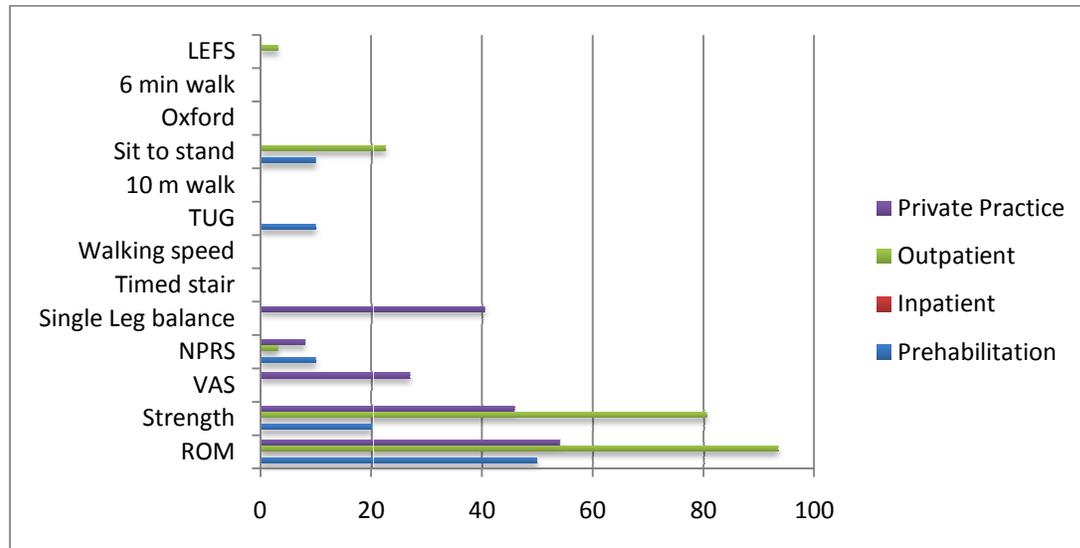


Key findings regarding the documentation of an interpretation of the result of the outcome measure:

- Documentation of interpretation of the result of the assessment of **ROM** was found in only 48.4% of outpatient charts and 21.6% of private practice charts.
- Documentation of interpretation of the result of the assessment of **strength** was found in only 32.3% of outpatient charts and 16.2% of private practice charts.
- 16.8% of outpatient charts and 10.8% of private practice charts had documentation of interpretation of the Single Leg Balance test.
- 10% of charts from prehabilitation settings had documentation of the interpretation of the Numeric Pain Rating Scale and the Timed Up and Go.

6. Integration of results of outcome measurement into treatment

Note: It is helpful for the clinician to document how the treatment offered to the patient needs to change as a consequence of the result of the outcome measure.



Key findings regarding the documentation of an integration of the result of the outcome measurement into treatment:

- Documentation of the results of **ROM** into treatment was found in 93.5%, 54.1% and 50% of charts from outpatient, private practice and prehabilitation settings.
- Documentation of the results of **strength** into treatment was found in 80.6%, 45.9% and 20% of charts from outpatient, private practice and prehabilitation settings.
- 40.5% of private practice charts had documentation of interpretation of the **Single Leg Balance test** and 27% for the **Visual Analogue Scale**.
- 22.6% of charts from outpatient settings included interpretation of the result of the **Sit to Stand** test.
- 10% of charts from prehabilitation settings had documentation of the interpretation of the Numeric Pain Rating Scale, Timed Up and Go and Sit to Stand tests.

Take home messages from the TKAOM chart audit

1. Surprisingly few TKA patients are seen in private practice settings
 - One of the criteria identified before the chart audit commenced was that charts would be collected from private practices that treated at least 10 TKA patients over a 6 month period from January to June. Very few practices reported this volume – the majority reported treating an average of <3 TKA patients over 6 months.
2. There is opportunity to improve the frequency of recording of outcome measures. This is important to enhance the ability of the clinician to obtain better information about the true progress of a patient.
3. There is little evidence that BC PTs are aware of/using the information available on how much of a change in an outcome measure is warranted in order to indicate a clinically meaningful change.
 - This is important as an improvement in the score of an OM that is interpreted as an indication of success of an intervention may be incorrect when the magnitude of the change is insufficient to support this assumption. Correct interpretation of the result of any outcome measure is dependent upon verifying that the change in the score is reflective of a clinically meaningful change.

4. There is opportunity to improve the documentation practices of BC PTs to include the interpretation of the result of an outcome measure and the recording of how this information changes the required treatment plan.

Limitations of the TKAOM chart audit

1. There was not a standardized system of data collection across practice settings and organizations in terms of:
 - data collection time periods (eg. some collect data on a monthly basis and some collect it over a three month time span)
 - practice settings (eg. some collect inpatient and outpatient data separately, some combine the data)
2. The chart audit did not include an equitable geographical representation of BC
 - The majority of the charts were collected from the Lower Mainland. There was minimal contribution from other areas of BC.

It is important to recognize that there are limits with any chart audit. Documentation may not reflect actual practice – that is “PTs may do it but don’t write it”. Some practitioners may utilize outcome measurement but not record this performance. However, The College of Physical Therapists of BC (CPTBC) Practice Standard #1 on Clinical Records states that:

- Assessment findings must be recorded. Any conclusions drawn from an assessment and all actions taken by a physical therapist relevant to the assessment or treatment of a patient must be recorded in the clinical record of the patient.
- The clinical record must contain documentation of any change in patient status and/or any change in treatment provided, including advice given to the patient.

<http://www.cptbc.org/pdf/PracticeStandards/PracticeStandards1.pdf>

These two requirements would be relevant to the documentation of outcome measurement as it is used for assessment, treatment and evaluation of response to treatment.

Next steps

The results of the TKAOM subproject will be united with those from the survey and focus group subprojects in order to inform the development of learning resources and tools to assist BC PTs in using outcome measures with their total joint arthroplasty patients.