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A CASE STUDY

Lifelong MSK health through the power of data



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1. Executive summary

Musculoskeletal (MSK) providers are looking to implement patient-reported outcome measures (PROMs) in increasing numbers to:

- 1. Personalise care tailored to individual patient needs. Real-time PROMs improve shared decision-making when patients have had the chance to provide well-considered feedback on their treatment goals before their first consultation.**
- 2. Deliver a more cost-effective allocation of MSK resources away from treatments that do not achieve measurable improvement in patient outcomes and towards treatments with proven benefits. MSK services are the third most expensive line in healthcare budgets, yet there is little evidence of which MSK services achieve good outcomes and which do not.**
- 3. Reduce variability in patient outcomes from treatment, with a particular focus on improving equitable outcomes.**

This case study shows how MSK providers have used the Cemplicity patient-reported measures platform to progress these objectives. It's not easy; there are many challenges to overcome in implementing a PROMs programme in MSK, including:

- 1. Private MSK service providers range in size and support functions, many are small, owner-operated businesses, with limited resource to implement a robust PRM programme.**
- 2. Regional public MSK systems are often fragmented, with providers using different measures, as well as different Electronic Health Record (eHR) platforms, some of which are not easy to inter-operate with.**
- 3. Many PROMs survey instruments are designed to be used as part of the consultation process, so results need to be captured and available in real-time. Technology needs to enable clinicians to access their own patients' results efficiently and securely.**
- 4. It can be challenging to reach a consensus on survey instruments. This is exacerbated by the wide range of treatments covered by MSK services.**

- 5. Much of the value of the PRM data set is in the aggregate de-identified dataset. To realise this value, the MSK network needs suitably experienced quality leaders and researchers who can use the data for pathway and policy improvement.**

This paper outlines how these challenges have been addressed and the critical success factors when designing an MSK patient-reported measures programme – based on real-life deployments of the Cemplicity platform.

2. Our background

Cemplicity is the world leader in patient-reported measures, both experience measures (PREMs) and patient-reported outcome measures (PROMs). We work across most healthcare settings and for many different organisations, including insurers, governments, regulators, and private and public providers.

Our healthcare-specific technology, allied with our team’s industry-leading PRMs expertise, enables healthcare organisations to improve through patient feedback. Our job is to reach patients and to make it easy for them to respond to the surveys we send them. We also make it easy for our users by removing the administrative burden of capturing data by automating the process from the start. Our end-to-end process ensures that clinical teams are able to reach patients at the right time, and use the feedback they provide to drive improvements in the service.

95%

Easy to understand

93%

Easy to use

91%

Relevant to their care

In a multi-centre trial evaluating the implementation of electronic PROs among adults with advanced cancer, of 496 patients surveyed, the majority found the system and questions easy to understand (95%), easy to use (93%), and relevant to their care (91%). Most patients reported that their clinicians used PRO information for care (70%), improved discussions with clinicians (73%), made them feel more in control of their own care (77%), and would recommend the system to other patients (89%).

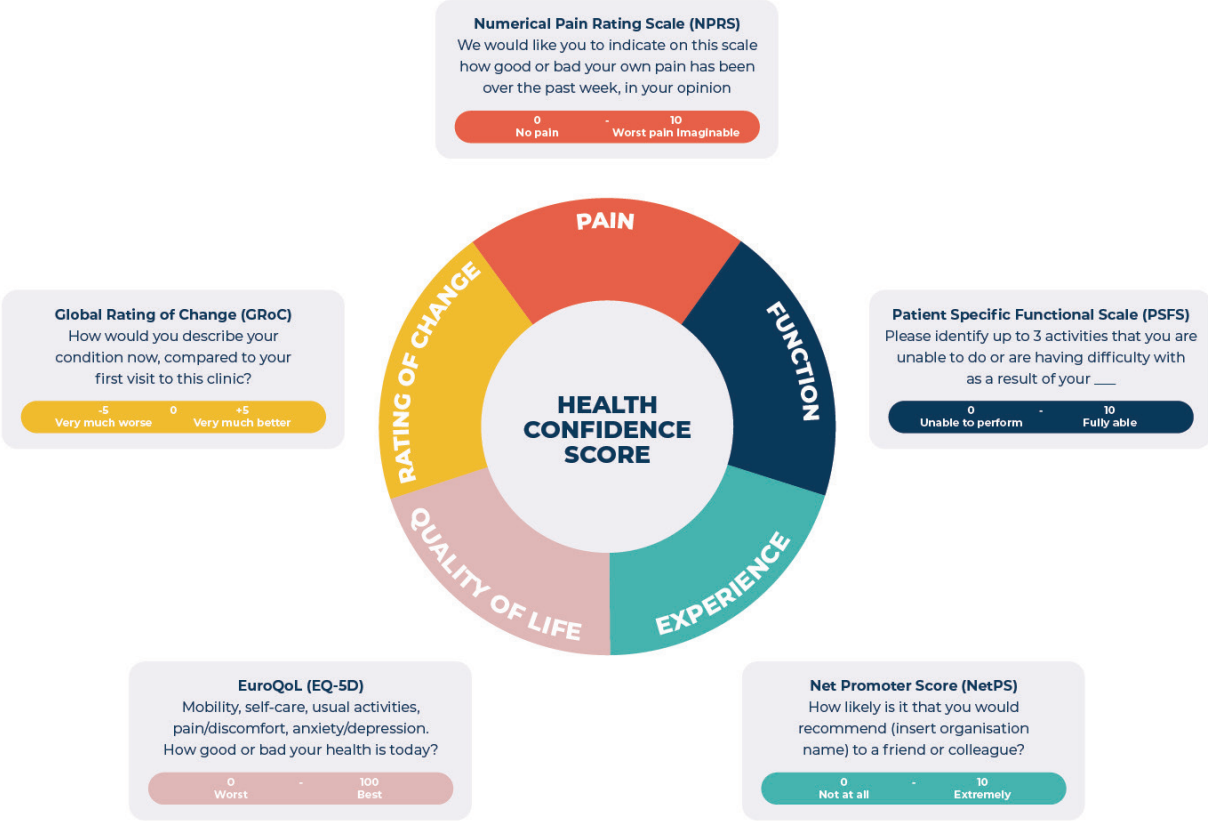
Among 57 nurses, most reported that PRO information was helpful for clinical documentation (79%), increased efficiency of patient discussions (84%), and was useful for patient care (75%). Among 39 oncologists, most found PRO helpful information (91%), with 65% using PROs to guide patient discussions sometimes or often and 65% using PROs to make treatment decisions sometimes or often.

We have begun working with service leaders in the United Kingdom and New Zealand to implement robust, system-level PROMs across multiple MSK providers and locations. Cemplicity’s work with our clients aims to prove, and improve, the value of MSK services through access to robust data that reliably represents the quality and impact of services from the patients’ perspective.

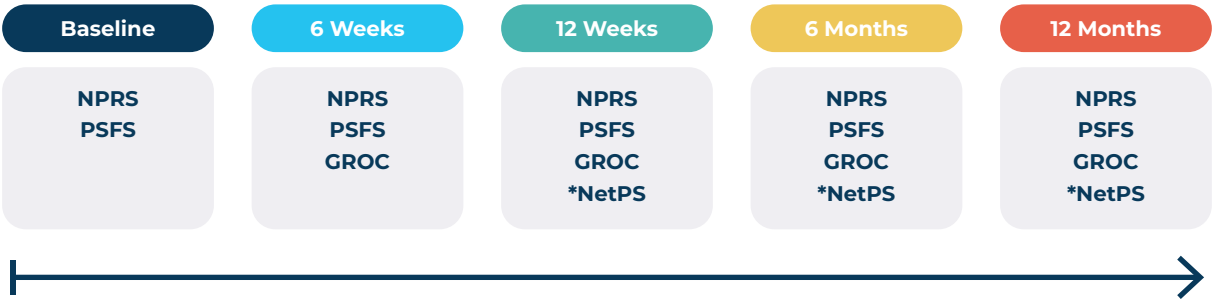
3. Asking the right questions at the right time

Achieving consensus on what to ask patients is not an easy task and we work closely with our clients to identify and source the best survey instruments for their patient populations. Fortunately, in Cemplicity’s earlier UK work, quality leaders had already undertaken significant research and consultation to determine the most helpful survey instruments to adopt for their patient cohorts. For example, the framework below was developed by a sector wide working group within the Musculoskeletal Partners Network (MSKPN) prior to engagement with Cemplicity.

- Numerical Pain Rating Scale (NPRS);
- Patient Specific Functional Scale (PSFS);
- Global Rating of Change (GROc);
- EuroQoL’s EQ-5D or Musculoskeletal Health Questionnaire (MSK-HQ); and
- Net Promoter Score (NetPS).



We field over 120 survey instruments for clients around the world and this programme is just one example of how different validated PROMs can be pulled together into a comprehensive and actionable patient feedback programme. Timing is important. Beyond a baseline event, how often and when should PROMs and experience measures be collected? In this MSKPN example, it was determined that five data points would be best, starting from the baseline event before treatment, to twelve months post-baseline, including post-discharge.



4. Adding value to the dataset

We have learnt that small additions to a core set of survey tools can sometimes add significant value.

In our UK work, we received permission to use the Health Confidence Questionnaire from the NHS Best MSK Health. We are also starting to capture postcodes from providers, and we map this to the Index of Multiple Deprivation. By including these data sets, we can apply an additional layer of understanding to our outcome measures, for example, ‘do patients presenting with low health confidence, from an area of high deprivation, achieve poorer outcomes to treatment than those with high health confidence from an area of low deprivation’. If so, how do we manage these patients differently and does understanding this pattern at baseline allow us to make more proactive treatment choices?

Analysing patient outcomes by demographics, health confidence, co-morbidities, and deprivation is valuable, particularly as we use the data to develop strategies to address health inequalities.

Using Data from the eHR

Cemplicity automates as much of the data collection process as possible. Where useful data is held in an eHR, we will match this to the patient survey response in real-time. Using this data keeps the survey shorter for the patient and gives us additional, valuable data for analysis. We also use some of these fields to create permission-based access to reporting, so each clinician only sees the identified data for their patients.

Example of Common Data and Source

Patient-reported	From the eHR
Ethnicity	Date of birth
Self-reported as disabled	Postcode
Comorbidities	Clinic name
Pain site	Profession
Health confidence	Lead clinician
Discharge status	Number of treatment sessions
	Initial treatment date
	Final treatment date
	Gender
	Organisation name

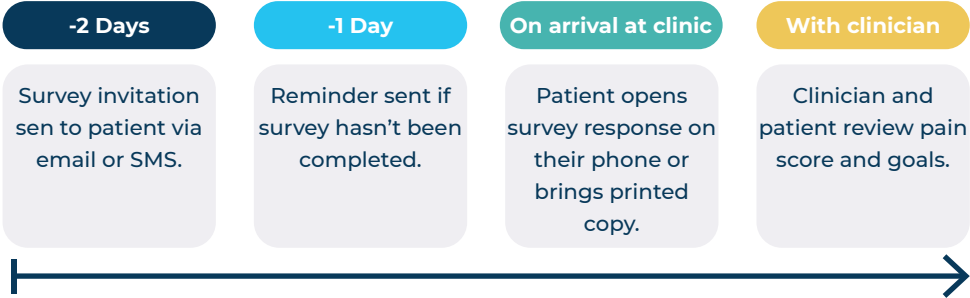
However, in programmes across multiple providers, demographic information is often captured in different formats, making the fields difficult to use for analysis across providers. In these instances the problem can be solved by adding the demographic question to the survey. This is a simple solution that can add a lot of value.

5. Making data collection easy for patients and staff

A sound data collection methodology across MSK services will ensure the following:

- 1. No additional administrative burden is created for clinic staff.**
- 2. All patients need to be reached and heard. This means the process must be flexible and not rely solely on one capture mode, e.g. emails.**
- 3. Patient feedback must be captured and reported in real-time. In MSK, the patient may have turned up for their first appointment before completing the survey, so they need to be able to do it there and then.**
- 4. All attempts should be made to interoperate with each eHR used across the network and to use data already available on the patient.**

Below is an example of the process a patient would follow when providing feedback. This example has been taken from a live public sector programme.



The Cemplicity approach aims to collect as much information as possible by issuing email and SMS invitations before patients come in for their first appointment.

If a patient arrives at the clinic, our clients utilise numerous prompts from reception to the treatment room to encourage the patient to provide the baseline survey response using other methods such as QR code.



High participation in this first survey round is critical if response volumes are to be maintained over subsequent rounds.

Average response rates for MSK Outcome programmes in the public sector have doubled since implementing Cemplicity.



The right insight
to the right people
at the right time.

6. Targeted reporting

One of the unique aspects of MSK services is how widely PROMs are used in clinical decision-making compared to other services. However, prior to Cemplicity's engagement, clients had relatively manual methods of asking patients to complete question sets such as PSFS, VAS and EQ-5D, and the usefulness was limited to the individual interaction with a patient.

At best, a pdf of a patient's response was connected to their health record, but it is challenging to capture feedback when the patient is out of the clinic, and the use of PROMs is often inconsistent across different clinicians.

Cemplicity programmes focus on delivering PROMs reporting to each stakeholder to receive the right level of detail and access to the appropriate patient data.

Stakeholder	Reporting strategy
Clinicians	<p>Clinicians access their own patient’s PROMs to use in consultations. When patient symptoms decline or hit a threshold, the clinician receives an alert to notify them of the patient’s condition. This trigger can be patient led so an alert is only triggered if a patient requests contact following a deterioration in symptoms.</p> <p>Clinicians compare outcomes by cohort and are able to track outcomes post-discharge. This data informs and quantifies the value of the service and the effectiveness of treatment across conditions and demographics.</p>
Clinic managers	<p>Practice Managers are interested in NPS scores and patients’ overall experiences with their clinic. Benchmarking and patient comments help decide what can be changed and improved.</p> <p>Practice Managers typically would not see identifiable patient details unless someone requests content and opts in to share their name and contact details with the practice management team.</p>
Administrators	<p>Depending on the role of the administrators, they may be able to see which patients have completed the survey, so they can prompt people to complete it when they arrive at the clinic.</p> <p>Some clinics also assign administrators to call patients who have not responded to post-baseline surveys to ensure high completion rates.</p> <p>It can be helpful to report response rates by the clinic to get some good competition across a network.</p>
Service leaders and researchers	<p>Modern, real-time PROMs programmes deliver enormous benefits to service leaders and researchers, building evidence that MSK services have an impact and measuring the effect of changes in service delivery.</p> <p>These stakeholders cannot access patient identifiable information. Still, they can explore the dataset by factors such as patient demographics, health confidence, location (including an index of multiple deprivations), clinic, service and patient pathway.</p> <p>Because Cemplicity programmes are continuous, it also enables service leaders to monitor the impact of service changes on outcomes by patient cohorts.</p>

7. Conclusions

Cemplicity aims to capture a consistent, robust, system-wide view of patient outcomes and experiences of MSK and pain management services. However, metrics and digital platforms are not an end in themselves. The power is in the insight and behaviours they enable.

In these programmes, we have set our clients on the path to their vision for the service. Specifically:

1. Personalised care tailored to individual patient needs.

Health systems in all developed countries are committed to providing personalised care to people, where they have choice and control over how their care is planned and delivered, based on what matters to them and their strengths and needs. By personalising care and decision-making, people will be more invested in their recovery, and systems will avoid treatments that patients do not want.

Digital PROMs, particularly PSFS, are increasingly important tools to bring the patient's perspective to the fore in discussions. By streamlining and automating data collection processes integrated with clinical workflows, we are supporting our MSK clinicians to routinely and systematically engage with patients on their goals for treatment and to shared decision-making. The ability of the platform to capture and report PROMs in real-time makes it possible to incorporate the patient PROM in first appointments, even if the PROM is only collected on arrival at the clinic.

An essential facet of our current work is to develop the optimal algorithms for alerts based on patient profiles and responses.

This platform allows us to monitor all patients remotely. The opportunity is to develop a range of effective actions in response to the alerts that appropriately consider the patient's needs and situation (e.g. ethnic group, health confidence, age, comorbidities). These effective actions may include providing patient self-management material to triage by phone and clinical intervention.

Being able to measure the impact of consistent PROM collection and reporting, integrated with MSK clinical workflows, on care tailored to patients' personal needs is an exciting part of our vision for this programme.

2. A more cost-effective allocation of MSK resources

The platform reports the changes in patient outcomes over set periods, from the commencement of treatment. Outcomes are linked to the patient treatment pathway, background fields such as ethnicity, health confidence and co-morbidities, and the length of treatment.

These datasets enable us to identify the type and number of treatments with the greatest efficacy. With this evidence, we can direct MSK resources towards treatments with the greatest impact with confidence.

We can also measure the impact of factors such as earlier discharge from treatment. This analysis relies on achieving representative results, ensuring all patient cohorts are reached and high response rates.

3. Reduced variability in patient outcomes from treatment, with a particular focus on improving equitable outcomes.

Cemplicity PROMs programmes are designed to overcome all the data capture challenges in MSK without adding to the clinical workload. We strive to achieve high response rates from all patient cohorts and to combine patient feedback with relevant background and clinical data. When addressing inequality issues, the representativeness of results is critical, as is understanding factors such as ethnicity, age, co-morbidities, health confidence and deprivation.

With this data, we can enable clients to accurately analyse the difference in outcomes being achieved by different patient cohorts, deploy strategies to address variations and then measure the impact of these changes.

“This is a journey for our clients and us, and we look forward to sharing lessons and insights as our programmes mature.”

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For more information, just ask.

Josh Farrell-Evans

josh.farrell-evans@cemplicity.com

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