

Project Title

Redesigned physiotherapy management in prevention of osteoporosis fractures appears promising

Project Lead and Members

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Project member: Lim Kian Chong

Organisation(s) Involved

Ng Teng Fong General Hospital

Project Period

Start date: Apr 2018

Aims

To start a standardised consolidated Physiotherapy programme in 1 month: to enhance strength and balance, and slow down bone mineral density loss in older adults with osteopenia and osteoporosis.

Background

See attached

Methods

See attached

Results

See attached

Lessons Learnt

There are 2 distinct groups for the participants; one for beginners and people at a lower functional level, and another for people at a higher functional level. We look

forward to progress the programme to its next phase, where participants would be introduced to squats and deadlift exercises. These has been shown to have significant clinical benefit in both strength, bone mineral density (BMD) and postural measures in the Queensland trial.

Change would always be faced with some degree of resistance, due to fear of the unknown. As such, education and information are paramount. Perseverance with data collection and being transparent with the analysed results, would go a long way in convincing the stakeholders of the practicality and effectiveness of the new programme

In addition, during implementation, to cut short on information technology change requests, we face with service code technical issue. As this programme uses the service code which belongs to another service (Neurology-Geriatrics Physiotherapy), there has been multiple wrong bookings in the electronic system. This has caused many instances of inconvenience for patients and extra work for clinicians. If we could start over again, we would not take the easy way out but would insist on creating our own service code. We aim to resolve this issue after the NGEMR system has stabilised.

Conclusion

Starting a completely new programme can be daunting. However, by dividing the big job into components, to be tackled in piecemeal fashion with realistic timed goals, things would get going much faster.

For new programmes, establishing sustainable upstream referral mechanisms are very important. This may include formal roadshows, regular updates to keep the programme visible to stakeholders, and seeking feedback to continuously improve the programme.

Project Category

Care Redesign

Keywords

Care Redesign, Care Redesign, Clinical Improvement, Patient-Centred Care, Improvement Tool, Plan Do Study Act, Aged Care, Physiotherapy, Allied Health, Functional Outcome, Ng Teng Fong General Hospital, Consolidated Interventions, Guided Physical Exercise, Osteoporosis Management

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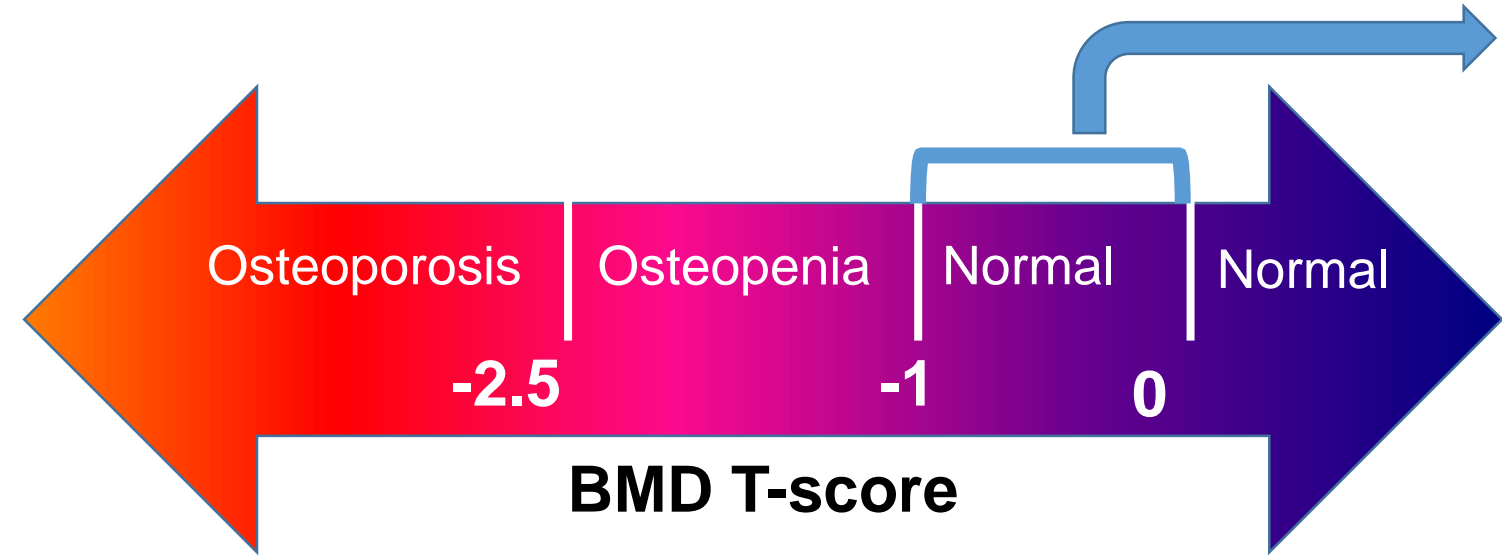
REDESIGNED PHYSIOTHERAPY MANAGEMENT IN PREVENTION OF OSTEOPOROTIC FRACTURES APPEARS PROMISING

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Define Problem, Set Aim

Primary prevention service, particularly guided physical exercise, has been widely recommended¹ to prevent the terrible consequences associated with osteoporotic fractures and the high healthcare-related expenditure.



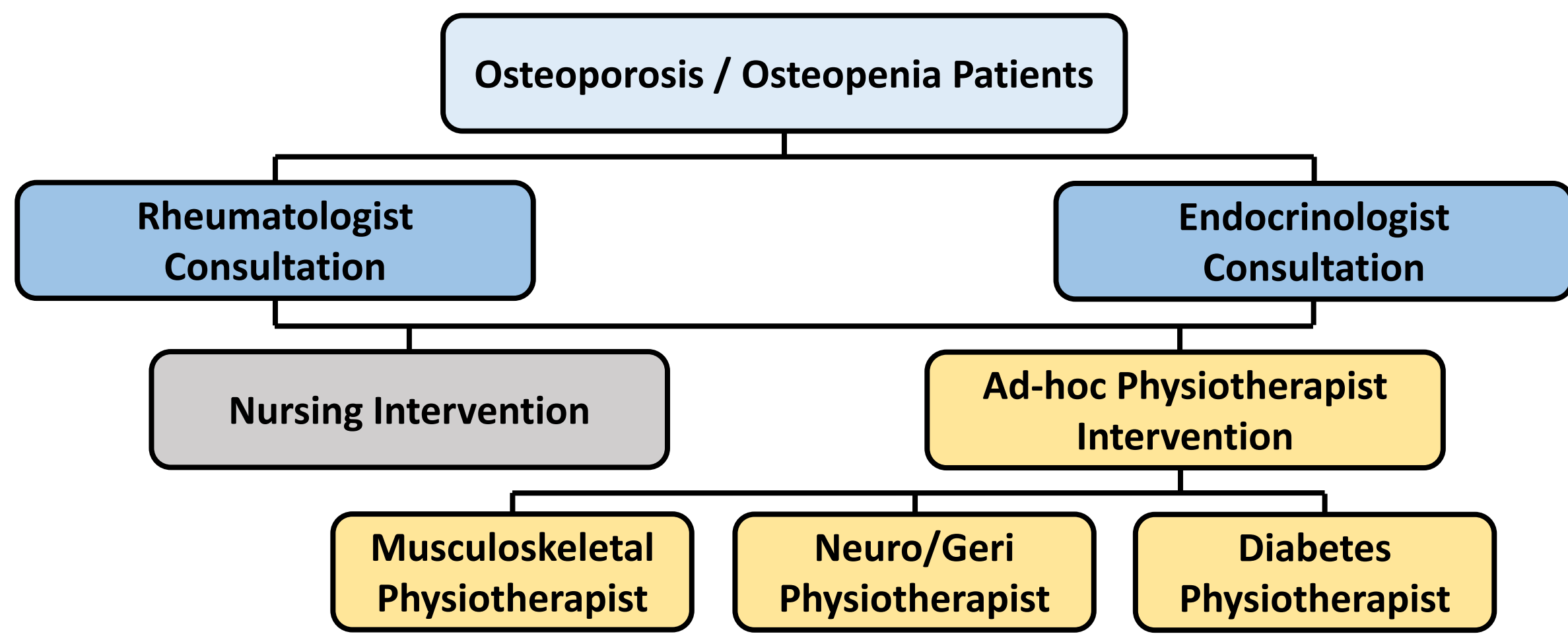
Each standard deviation decrease in BMD = 1.5 times increased fracture risk. Each standard deviation decrease in hip BMD = 2.6 times higher risk of hip fractures.²

Prior to April 2018, patients with low and very low bone mineral density (BMD), and therefore at significantly higher risk of osteoporotic fractures, lacked standardized care in their non-pharmacological management. These are otherwise healthy older adults living in the community, and they often exceed the functional ceiling to benefit from general nursing education and existing ad-hoc outpatient physiotherapy services. Moreover, the ad-hoc services provided non-standardized care.

Our aim is to start a standardized consolidated Physiotherapy programme in 1 month, to enhance strength and balance, and slow down bone mineral density loss in older adults with osteopenia and osteoporosis.

Analyse Problem

There is a lack of consolidated standardized primary prevention service in NTFGH which incorporates individualized assessment and intervention. There is also a lack of physiotherapy expertise in running this service.



Strategy for Change

The probable solution is to consolidate all the Ad-hoc Physiotherapy services into a standardized Osteoporosis Physiotherapy exercise programme.

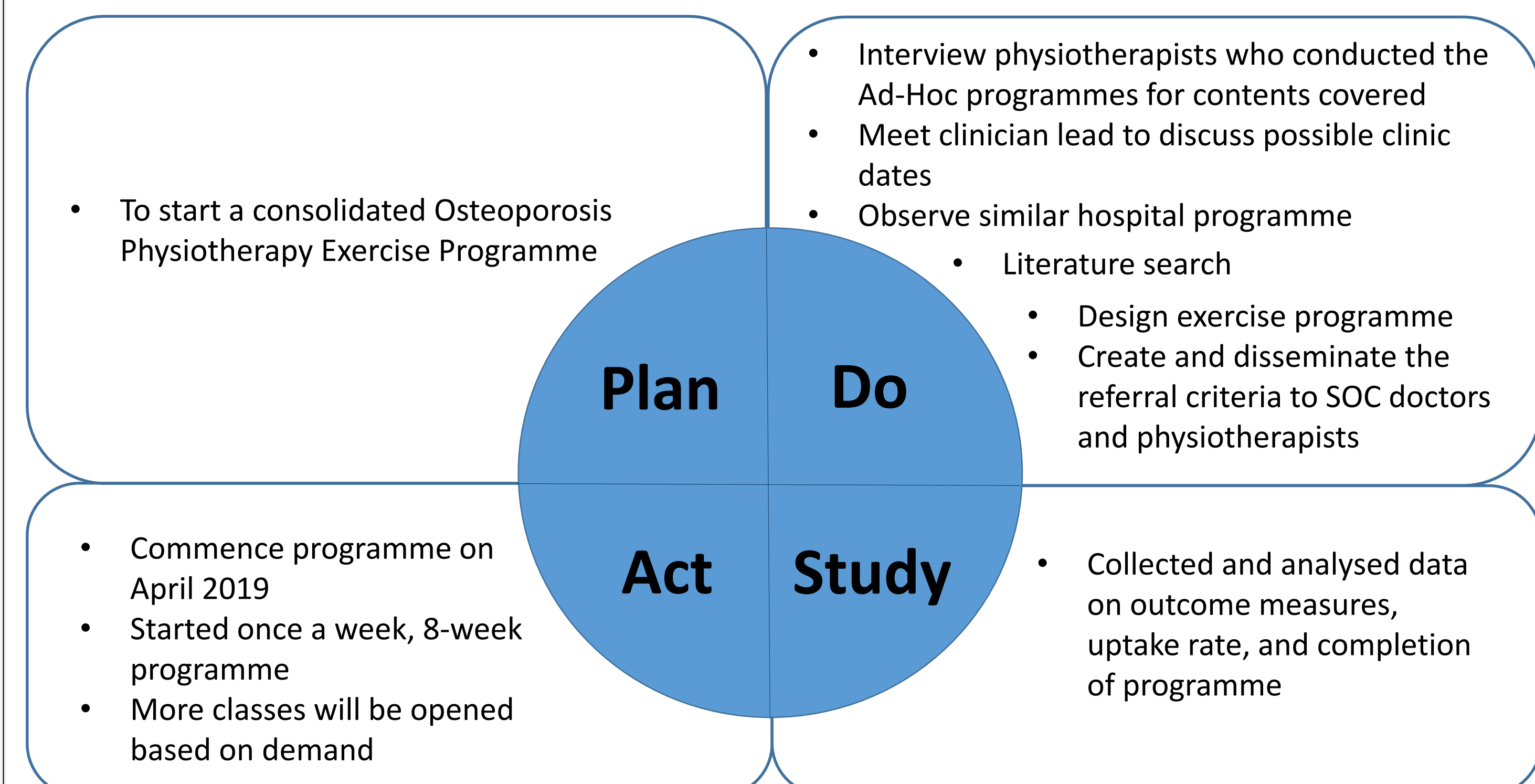
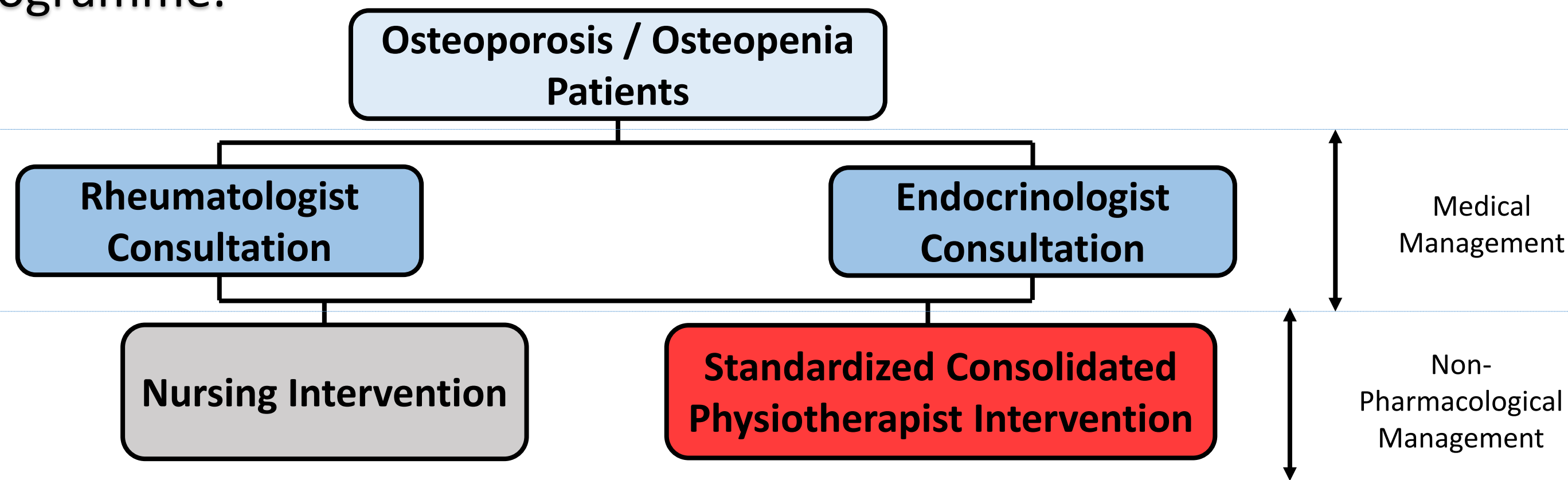


Figure 1. The PDSA shows the steps in developing this new service

Measure of Improvement

As of December 2019, 68 patients have been successfully enrolled in our programme, of which 45 has completed the programme.

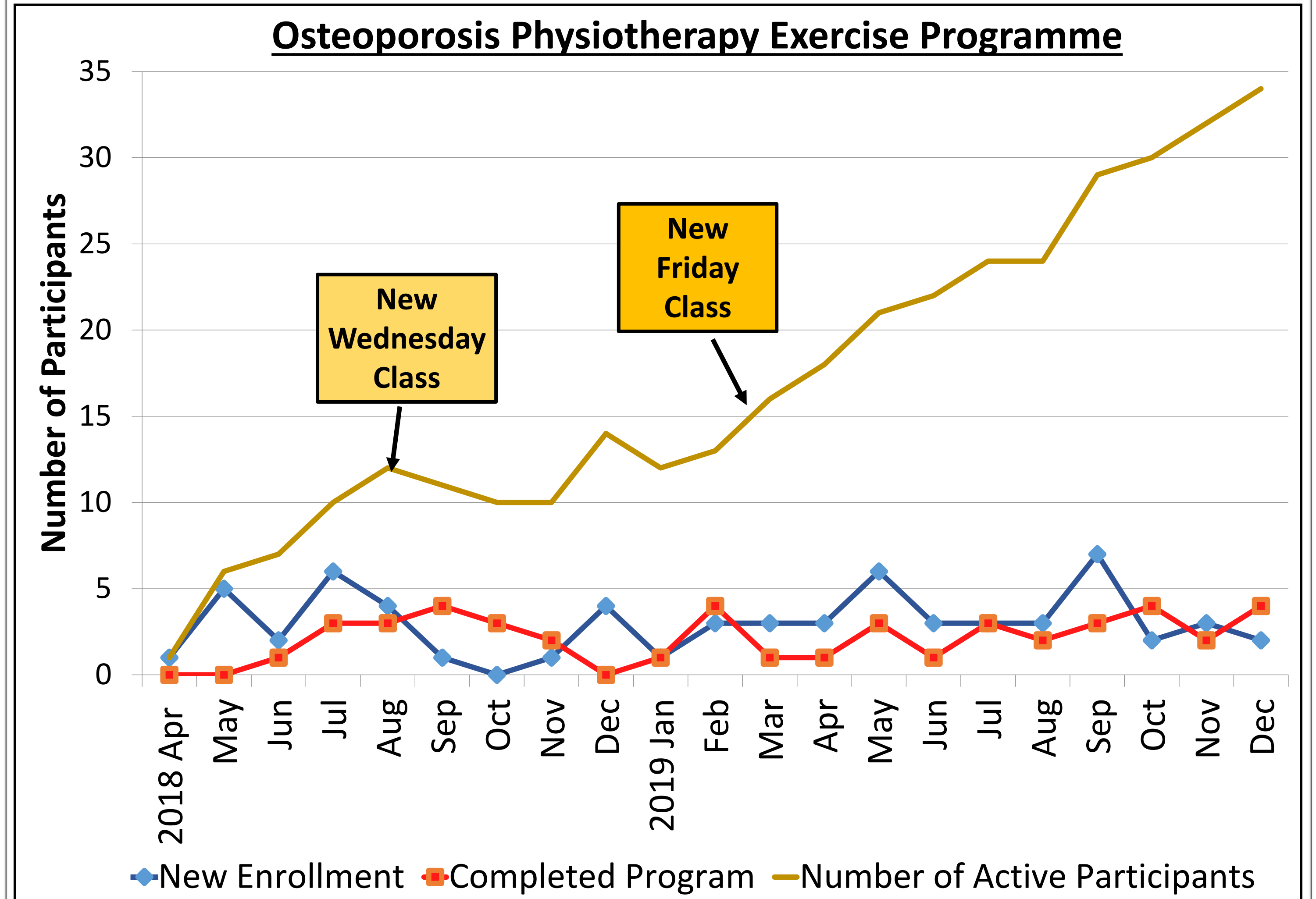
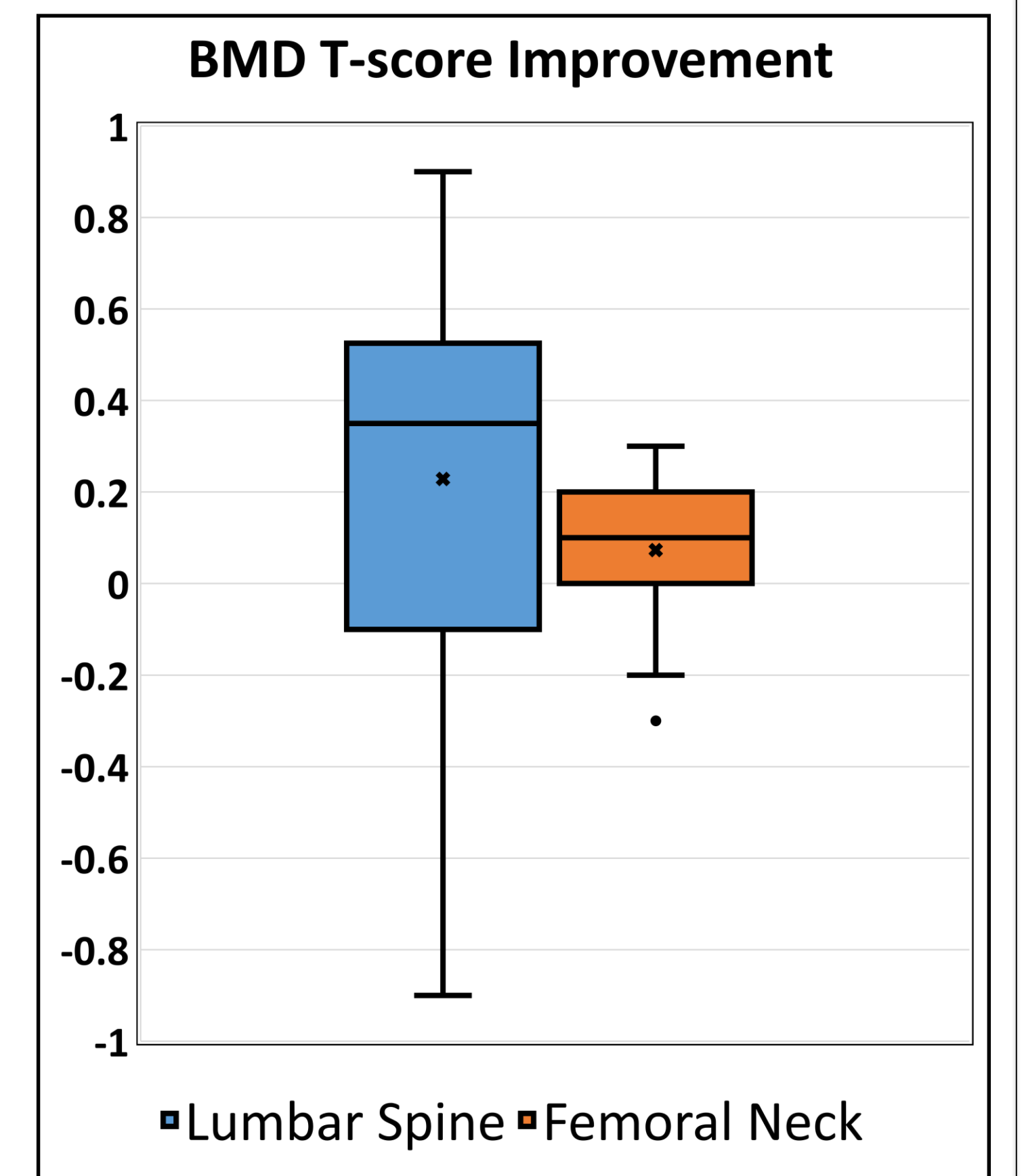


Figure 2. The uptake and completion numbers by month from Apr 2018 till Dec 2019

For 15 participants with pre-post BMD data, the T-score at the lumbar spine and femoral neck have improved by 0.35 (SD 0.47) and 0.1 (SD 0.17) respectively.



This programme fits comfortably in the gap in care for higher function community older adults with osteoporosis, where there were previously no suitable supervised exercise programme. There are 2 distinct groups for the participants; one for beginners and people who are at lower functional level, and another for people at higher functional level.

A quarterly email update to the stakeholders (doctors, nurses, and physiotherapists) has been helpful in keeping everyone in the loop and aware of the process and clinical outcomes.

Spread Changes, Learning Points

For new programme developments, establishing good upstream referral mechanisms are very important. This may include formal roadshows, regular updates to keep the programme visible to stakeholders, and seeking feedback to continuously improve the programme.

Learning Point

We should consistently review the existing physiotherapy services and demand/needs of our patients. Consolidating a formalised group exercise programme had better catered to the needs of our patients. Perseverance with data collection and being transparent with the analysed results, would go a long way in convincing the stakeholders of the practicality and effectiveness of the new programme

References

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- World Health Organisation. WHO Scientific Group on the assessment of Osteoporosis at primary health care level. 2007. Available at <http://www.who.int/chp/topics/Osteoporosis.pdf?ua=1>. Accessed April 2018.