

## **Project Title**

Care Transformation Efforts to Reduce Over Servicing and/or Over-Consumption of Outpatient Podiatry Services in a Tertiary Hospital Setting in Singapore

## **Project Lead and Members**

Khalid Anuar

## **Organisation(s) Involved**

Tan Tock Seng Hospital

## **Project Period**

Start date: Jun 2017

Completed date: Sept 2017

## **Background**

Over-servicing or over-consumption of Podiatry services may occur through lack of recognised treatment protocols and step-down services. A care transformation process to change Podiatry's care delivery was undertaken to ensure resources were optimized to meet the rising workload demand and to provide optimal care with the leanest number of sessions. The multi-pronged approach in transforming care delivery has shown some encouraging signs of improvement in the mean number of sessions consumed by patients.

## **Lessons Learnt**

To manage an increasing workload, a solely operational approach by adding more resources will not be sustainable. A robust approach to manage the clinical management of patients (clear clinical guidelines for referral, management, discharge and tracking of outcomes) are first needed. Once there are operational & clinical lean strategies in-placed, the options & solutions to further optimize resources would be to transform the workforce and/or care delivery.

### **Project Category**

Process Improvement, Workforce Redesign, Care Redesign

### **Keywords**

Tan Tock Seng Hospital, Process Improvement, Workforce Redesign, Care Redesign, Care Transformation, Over-servicing, Over-consumption, Tertiary Podiatry Service, Chronic Diabetic Patients, Workforce Transformation, Job Redesign, Process Redesign, Optimize Resource Allocation, Workload Leveling, Referrals Gate-keeping, Clinical Guidelines, Clinical Indicator, Discharge Planning, Clinical Workload Stratification, , Right Siting, Staff Upskilling, Primary Care Nurses, Senior Podiatry Assistant, Operations, Allied Health, Podiatry, Outpatient Setting

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## BACKGROUND

Over-servicing or over-consumption of tertiary Podiatry services may occur if there are no or lack of recognized treatment protocols, procedures and step-down services. Some known incidents of patients over-consuming sessions in a tertiary hospital are diabetics requiring regular foot screening and nail cutting services which are not readily available in the primary care settings. Over-servicing may occur for patients if there are no clear clinical guidelines for referral, management and discharge. The absence of clinical measurable outcomes and a good tracking system may also contribute to over-servicing.

A care transformation process to change Podiatry's care delivery was undertaken to ensure resources were optimized to meet the rising workload demand and to provide optimal care with the leanest number of sessions.

This study investigated the number of Podiatry sessions made by new patients seen in 2010 to 2015 and its impact on the care transformation process. The study also investigated the profiles of patients deemed to be "over-consuming" Podiatry services.

## METHODS

Data on Podiatry first visit cases seen between January 2010 to December 2015 were first generated from the Nauticus SAP system.

Figure 1 below shows an illustration of the data generation methodology.

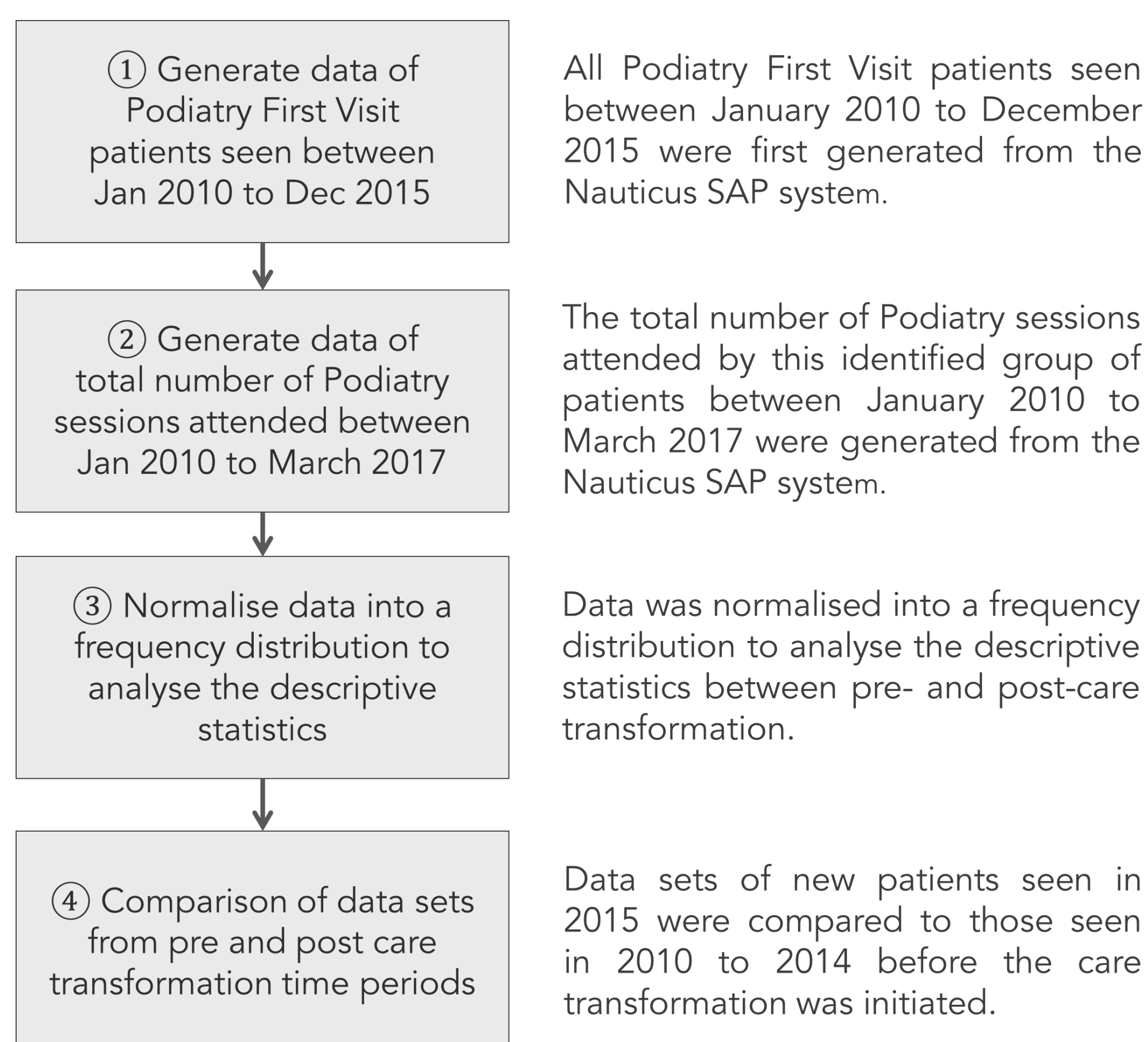


Figure 1: Data generation methodology

## RESULTS

A total of 10,743 unique patients were generated. These patients consumed a total of 50,768 outpatient sessions. Only 3.58% of these patients consumed more than 20 sessions of Podiatry. However, this small group of patients constitutes to as much as 27.1% of the total number of outpatient sessions consumed.

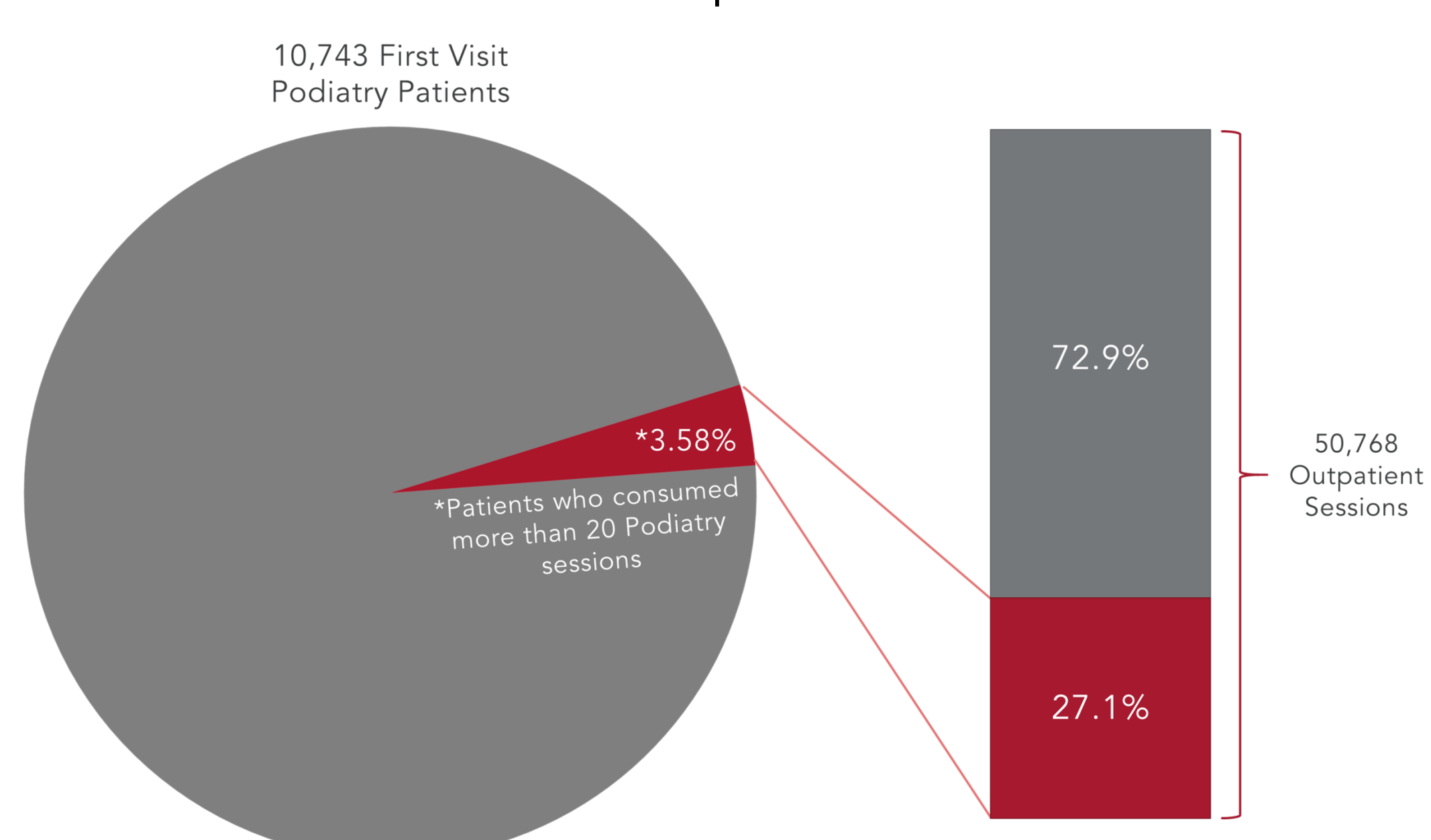


Figure 2: Consumption amount of Podiatry outpatient sessions

## RESULTS

The mean frequency for the number of sessions consumed for patients seen pre-care transformation was 8.07 sessions (SD 8.08). Post-care transformation showed a mean frequency of 6.57 sessions (SD 2.88). 4.28% of patients at pre-care transformation registered more than 20 visits as compared to only 0.67% of patients at post-care transformation.

	Mean	Standard Deviation	Patients with >20 Sessions
Pre	8.07	8.08	4.28%
Post	6.57	2.88	0.67%

Table 1: Pre- and post-care transformation results

The common patient profile who "over-consumed" at post-care transformation was mainly chronic diabetic patients with recurrent episodes of diabetic foot ulcers.

## DISCUSSION

Since 2015, there was a concerted effort to roll out care transformation strategies to the delivery of outpatient Podiatry services in the Foot Care & Limb Design Centre at Tan Tock Seng Hospital, Singapore. Improvements to care delivery included operational strategies to optimize resource allocation, workload levelling, coverage optimization and gate-keeping of referrals to ensure right-siting of care.

To further optimize care and resources, clinical management strategies such as stratification process, clinical guidelines and their clinical indicators as well as discharge planning were initiated. In addition, the Podiatry Service collaborated with their community partners and conducted regular up-skilling workshops for primary care nurses and aides in order to right site the care of non-complex patients in the community. Planned job re-design of Senior Podiatry Assistants to further expand their clinical role will not only add value to their work but will also help to manage the non-complex, low-risk patient workload; thus freeing up more essential resources to acute and complex patients.

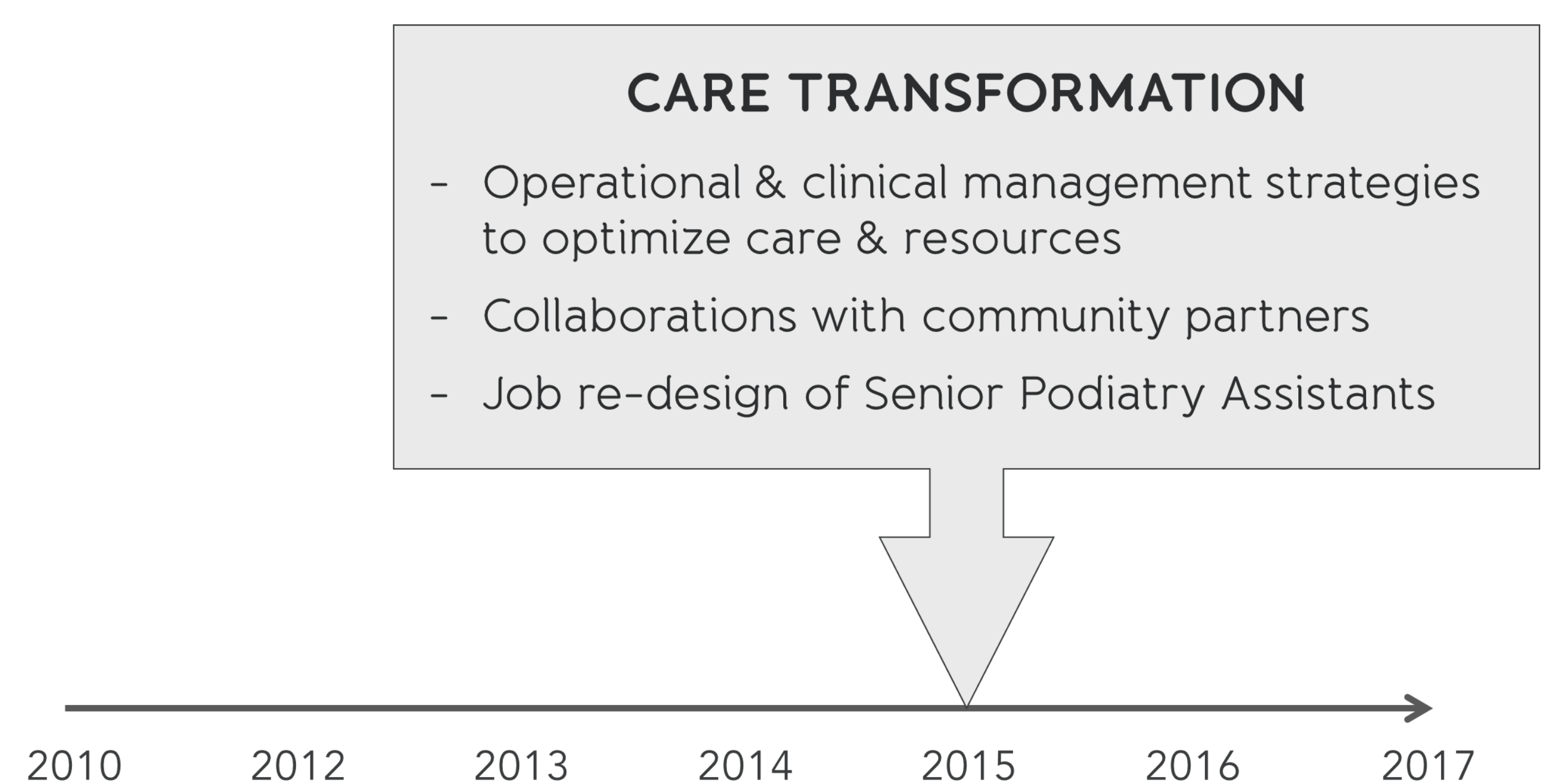


Figure 3: Summary of care transformation initiatives

## CONCLUSION

The multi-pronged approach in transforming care delivery has shown some encouraging signs of improvement in the mean number of sessions consumed by patients. Future operational and clinical studies to investigate discharge rates coupled with met patient reported outcomes or goals for specific conditions or care streams can be conducted for a more targeted approach. A more accurate forecasting of care needs based on available data post-care transformation coupled with future drivers (social, economic, political, technology) for Podiatry services would provide a more predictable strategy for health service planning.