The Must-Have Electronic Medical Record (EMR) System Feature to Save Time and Ensure Seamless Patient Coordination: Dietitian Advanced Visit List (DAVL) for Case Management

Candy Chan Hiu Nam
Cherie Tong Chung Yan
Department of Dietetics

Sengkang General Hospital
SingHealth

1. Our Story

Sengkang General Hospital (SKH) inpatient dietitians had been using Microsoft Excel (ME) in department shared folder to keep an active list of referred patients for the purpose of workload management. Dietitians had to manually key in patients' details, last seen date, intended next review dates, and plans as shown below:

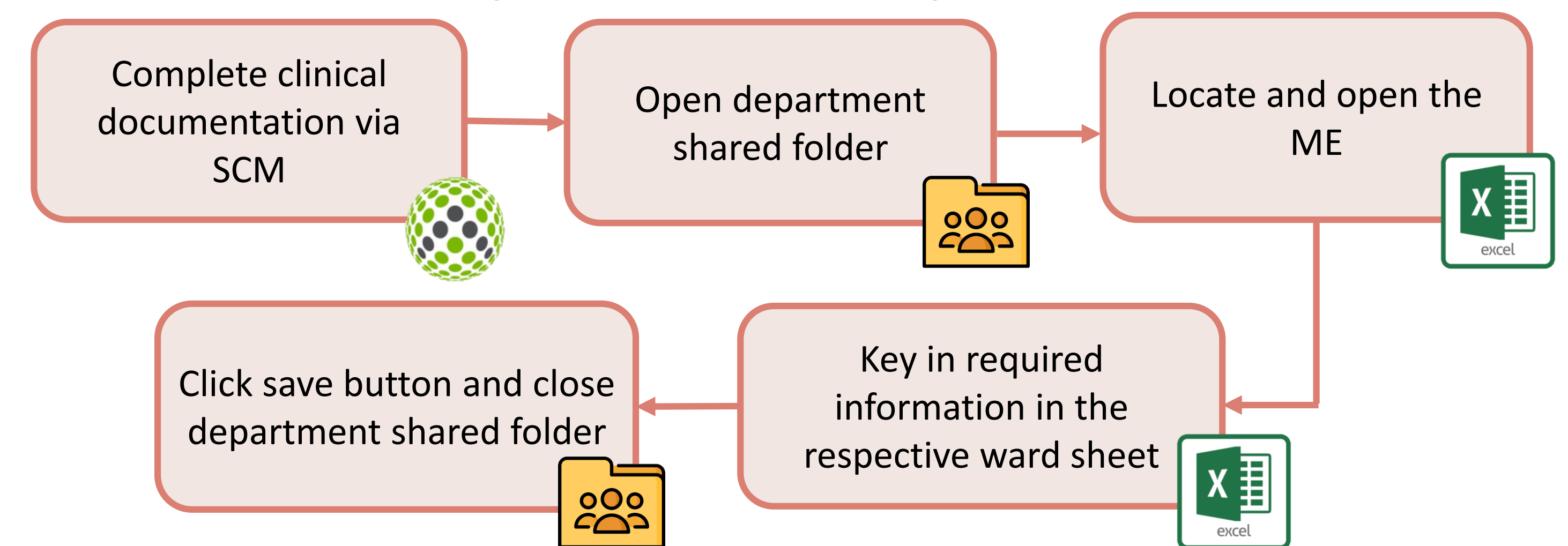**SKH Dietetics Department Inpatient Review List**

Ward 13 (ICU/HD)- CC

No.	Team	Name	NRIC	Room No.	Bed No.	Date Last Seen	Date to be Seen	Reason for Reviewing	Updated by
1	GS			3	3	1/2/2019	4/2/2019	NGT	
2	GM			4	4	2/2/2019	6/2/2019	OGT	Candy
3	CVM			5	5	2/2/2019	5/2/2019	Oral intake	Cherie
5	OTO			6	6	2/2/2019	4/2/2019	Arranged appointment with family for lipid lowering education at 1pm	Candy
6	OTO			7	7	3/2/2019	5/2/2019	Hip Practure Pathway to see at POD 2	Candy
7	GS			8	8	4/3/2019	6/2/2019	NGT	Phoebe
8	GS			9	9	2/2/2019	6/2/2019	Oral intake Hokkien speaking only	Cherie
9	GM			10	10	2/2/2019	5/2/2019	Oral intake and oral nutrition supplement - does not like pureed texture	Candy
10	ENT			11	11	4/2/2019	6/2/2019	NJ feed - at risk of refeeding	Candy

Ward 13 (ICU HD) | Ward 210 (GS) | Ward 410 (M) | Ward 46 (Cardio) | Ward 30 (Cardio) | Ward 49 (M) | Ward 39 (M) | Ward 18 (GS) | Ward 45 (PSY)

1 ward per sheet

When patients were transferred from one ward to another or when discharged from SKH, dietitians had to transcribe information from Sunrise Clinical Manager (SCM) and to update the ME manually. As only one dietitian could update the ME at one time, thus dietitians had to each take turns to do so, causing time delay and inefficiency.

Overall, the transcription and old process were time-consuming, inefficient and with potential errors.

2. Reviewing the Process

The project team conducted root cause analysis to understand the problems of the existing workflow and explored with the clinical informatics [Integrated and Health Information Systems (IHiS)] team on how to enhance the existing EMR system to simplify the existing workflow.

Existing SKH Dietitian Case Management Workflow

Complete clinical documentation via SCM → Open department shared folder → Locate and open the ME → Key in required information in the respective ward sheet → Click save button and close department shared folder

With the existing workflow process, patients' dietetic reviews could be potentially "missed" if the dietitian:

- Forgot to update the ME.
- Transcribed information wrongly.
- On sick/ urgent leave and did not handover to colleagues.
- Accidentally deleted the ME.

Thus, the objectives of the EMR enhancement and workflow:

1. To reduce patients being "missed out" on intended reviews to 0%.
2. To streamline workflow within one platform to enhance efficiency and workload management.

3. Proposed Solution

The EMR Dietitian Advanced Visit List (DAVL) was developed to coordinate and prioritize cases with the following enhancements:

1. Utilise the existing EMR function to assign self or team member as "Care Provider".
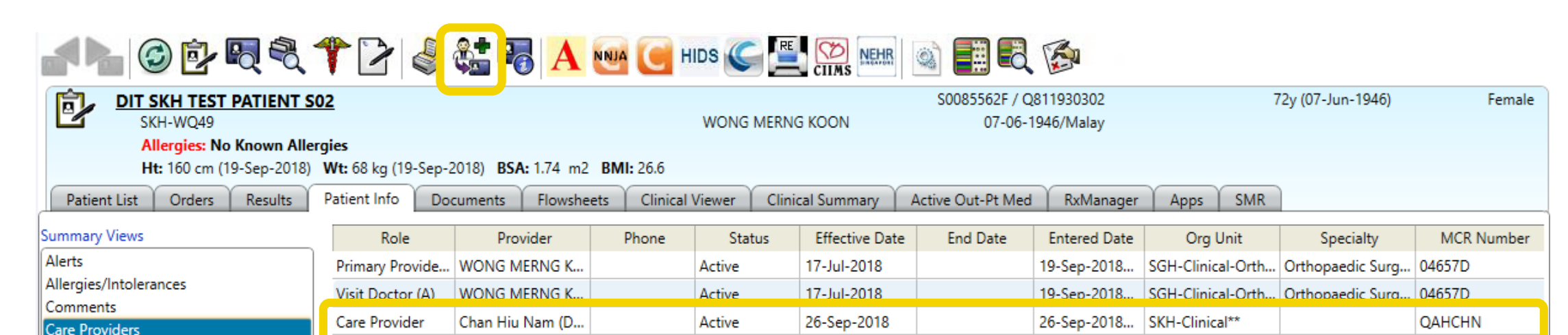
2. Enhance the existing Computerized Physician Order Entry (CPOE) for follow-up order and incorporate the new follow-up order form with "next review date" and "plan".
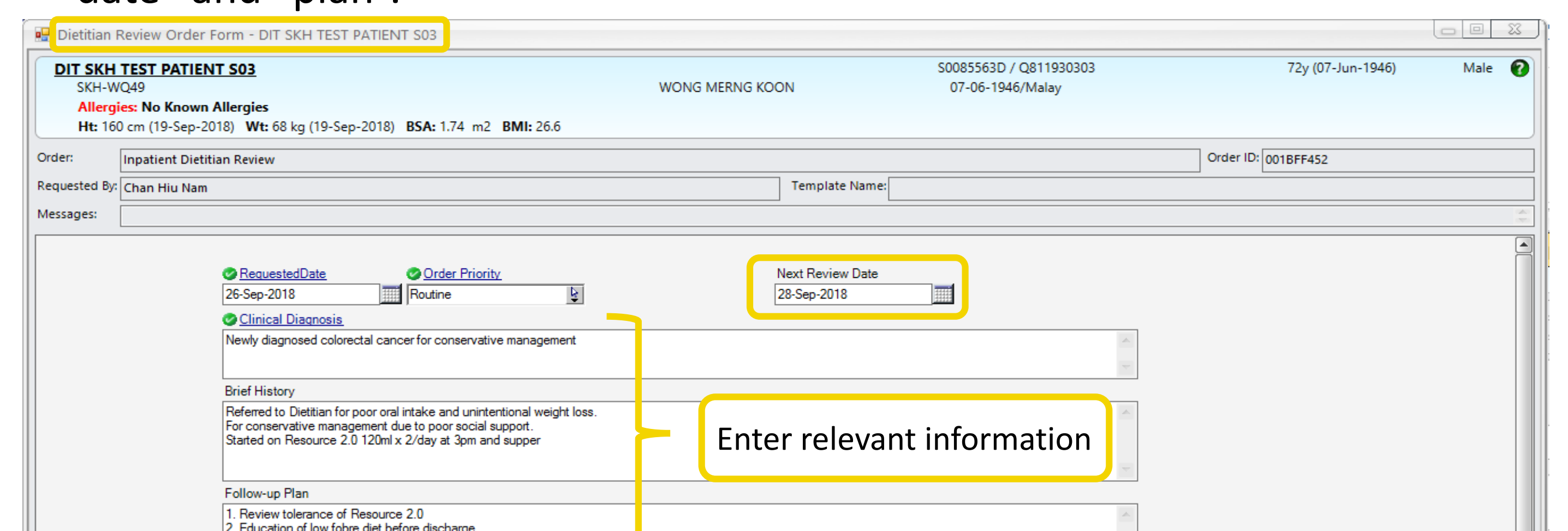
3. "Dietitian Review List" follow-up cases to view the "last review date", "next review date" and "plan".

4. Harvesting the Outcomes

A 4-month evaluation was carried out to evaluate the effectiveness of DAVL versus ME based on intangible and tangible outcome measures. EMR DAVL was utilized in a total of 3445 cases by dietitians in SKH from November 2018 till February 2019.

Outcome #1

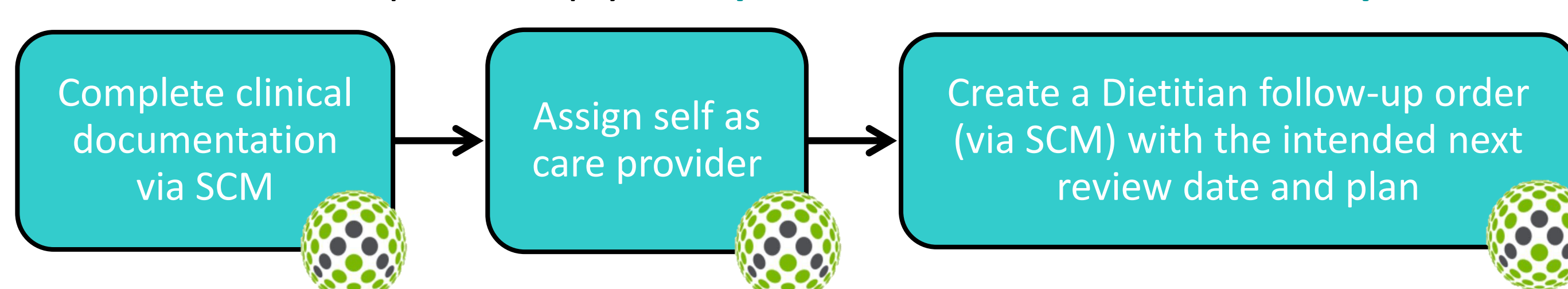Number of reported "missed out" intended review: **0%**

Outcome #2

Average time reduced to update patient review list per patient per dietitian:
- 3 minutes per patient case
- **Total saving time: 172 hours = 1 month dietitian working time**

Outcome #3

Number of steps involved to update the inpatient review list: **reduced** from 5 steps **to** simply **3 steps** and **streamlined within one platform**.

Complete clinical documentation via SCM → Assign self as care provider → Create a Dietitian follow-up order (via SCM) with the intended next review date and plan
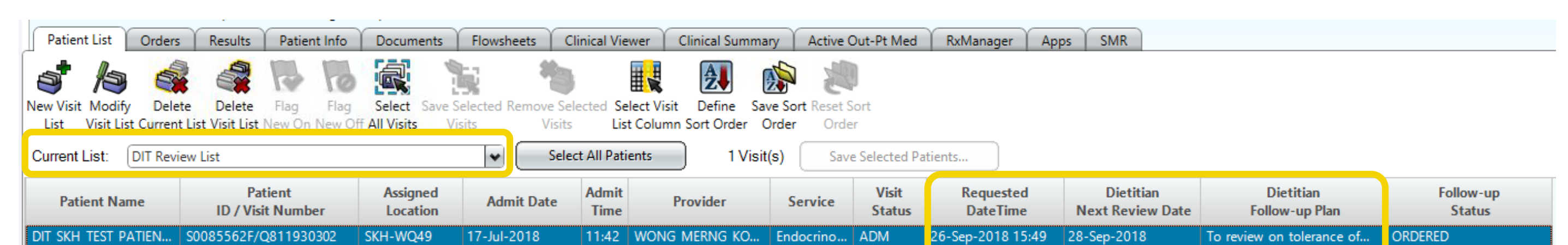
All dietitians had ranked the implement with **high satisfaction** compared to the manual inputs. The enhancement also **improved** individual and team **workload management** significantly and **case prioritisation effectively**.

5. Conclusion

The **DAVL** for dietitian case management has demonstrated its effectiveness in saving time for case coordination and prioritization. Reduced time spent on non-value added processes allows dietitians to continue optimising nutrition care and improve patient outcomes. This outstanding feature can be extended to other healthcare professionals to save time with better care coordination.