

Optimisation of Community Fund Application and Reimbursement Process

CNC, CF, OpsAH, Kaizen

Project Team Members

Sponsors

Lynette Ong, COO, TTSH
Doreen Yeo, Chairperson, Allied Health, TTSH

Process Owners

Karen Kwa, Head, Care and Counselling
Khng Hwee Peng, Deputy Director, Development Fund
Albert Tan, Director, Operations (Allied Health)

Team Members

Samuel Neo, Principal Medical Social Worker, Care and Counselling
Jolene Chua, Sr Medical Social Worker, Care and Counselling

Admin Leads

Jimson Tham – Assistant Director, Operations (Allied Health)
Quek Wei Lee – Assistant Director, Development Fund, Finance
Elaine Low – Senior Assistant Manager, Care and Counselling

Facilitators

Benjamin Seto, Deputy Director, Kaizen Office, Centre for Healthcare Innovation
Lim Hui Pin, Senior Manager, Kaizen Office, Centre for Healthcare Innovation
Keith Lee, Senior Assistant Manager, Kaizen Office, Centre for Healthcare Innovation

Background

Newly-diagnosed renal patients frequently defer treatment, resulting in emergency admissions through ED for dialysis initiation.



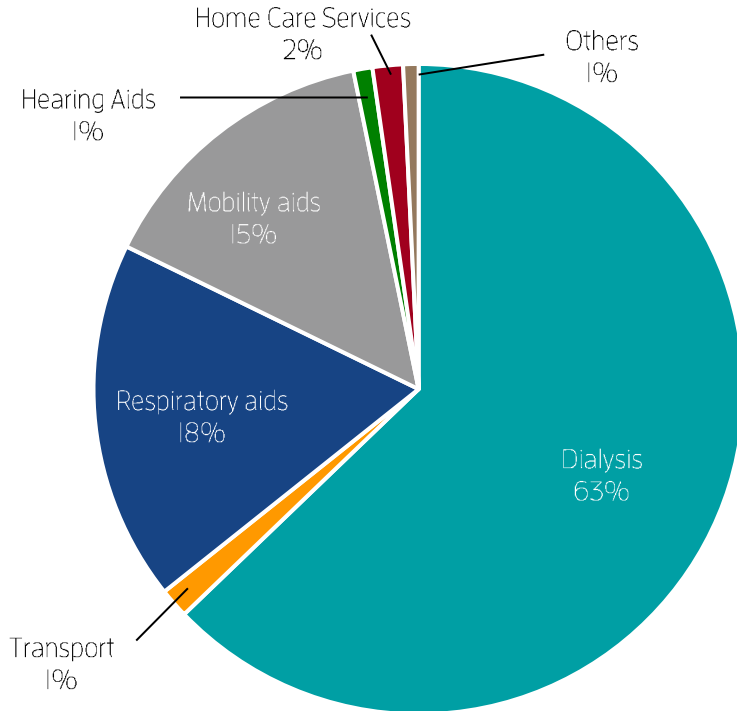
While receiving inpatient dialysis, patients require private funding arrangements to be secured prior to discharge, serving as interim support until NKF placement is confirmed.



Extended form preparation timing, coupled with frequent clarifications and re-submissions, significantly increase MSW workloads.

Background

No. of Applications & CF Spending per CY



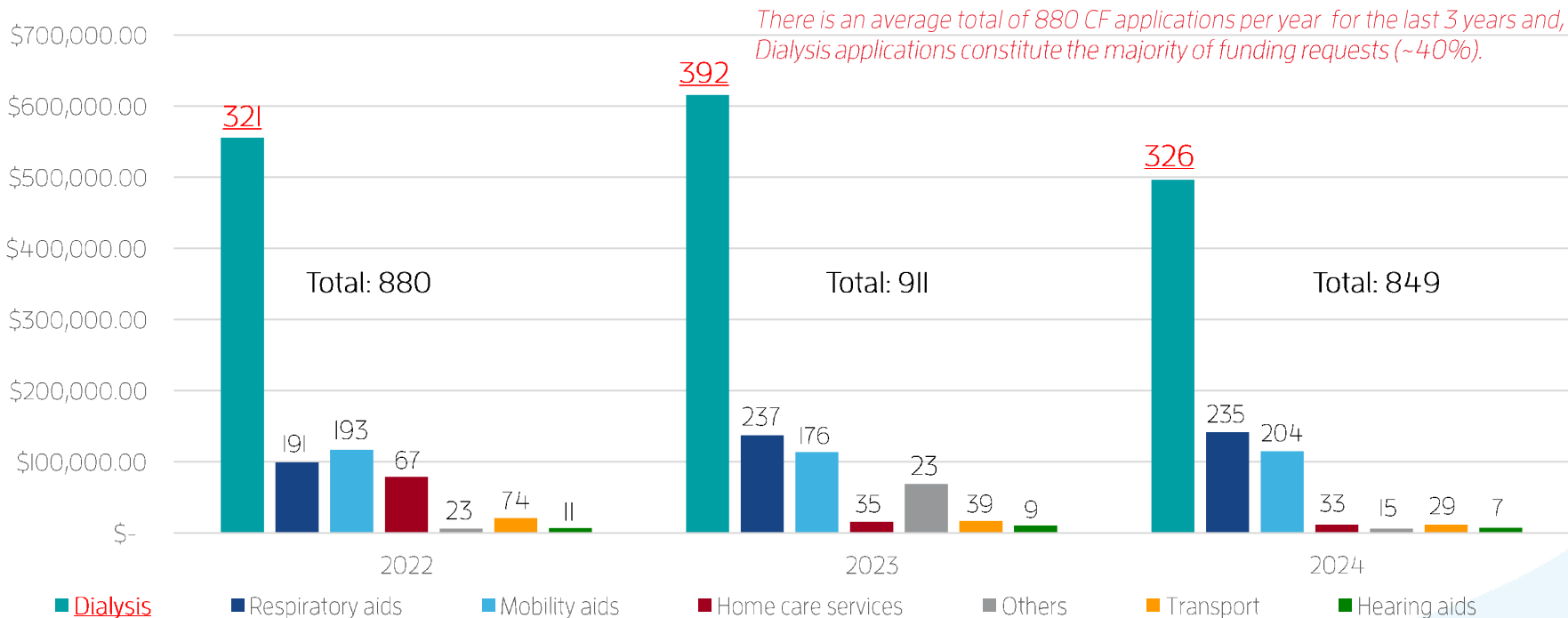
Calendar year 2024	Spent
Dialysis	\$496,552.41
Respiratory aids	\$141,736.35
Mobility aids	\$114,987.69
Home care services	\$11,931.00
Transport	\$11,651.90
Hearing aids	\$7,513.20
Others	\$6,038.45



Dialysis accounts for the highest amount of funding disbursed.

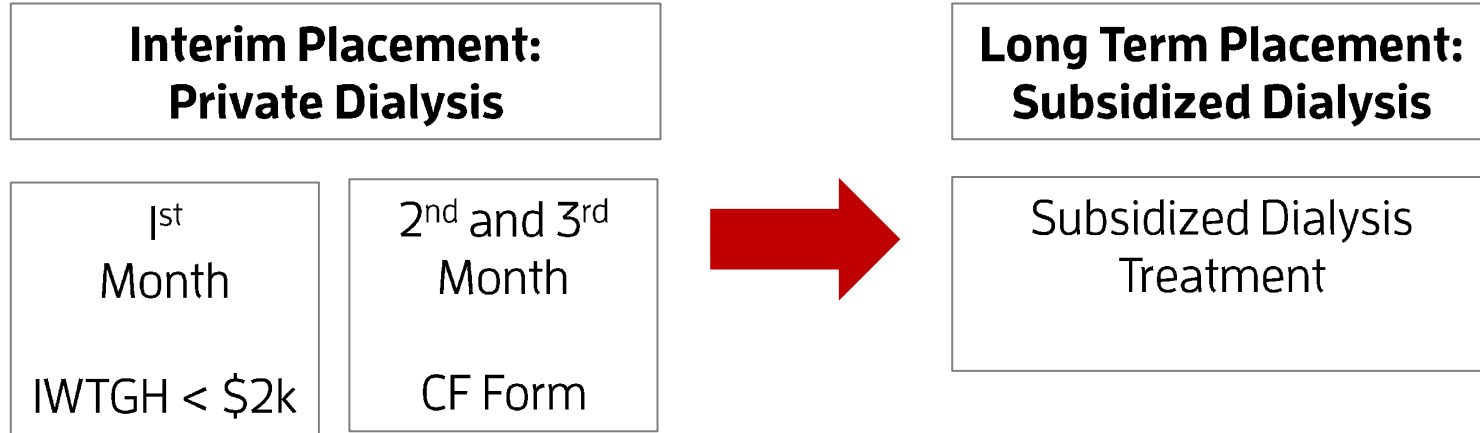
Background

No. of Applications & CF Spending per CY



Restricted, Sensitive - Normal

Background



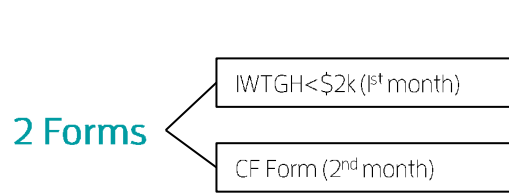
Funding includes:

Dialysis sessions + Medication + Procedure + Blood Test + Scan + Transport

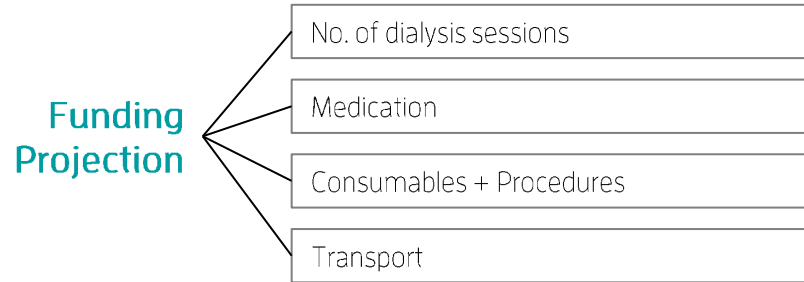
**Amount need to be exact*

Background

Initial State



**Require actual discharge date to project actual no. of dialysis sessions*



Drawback

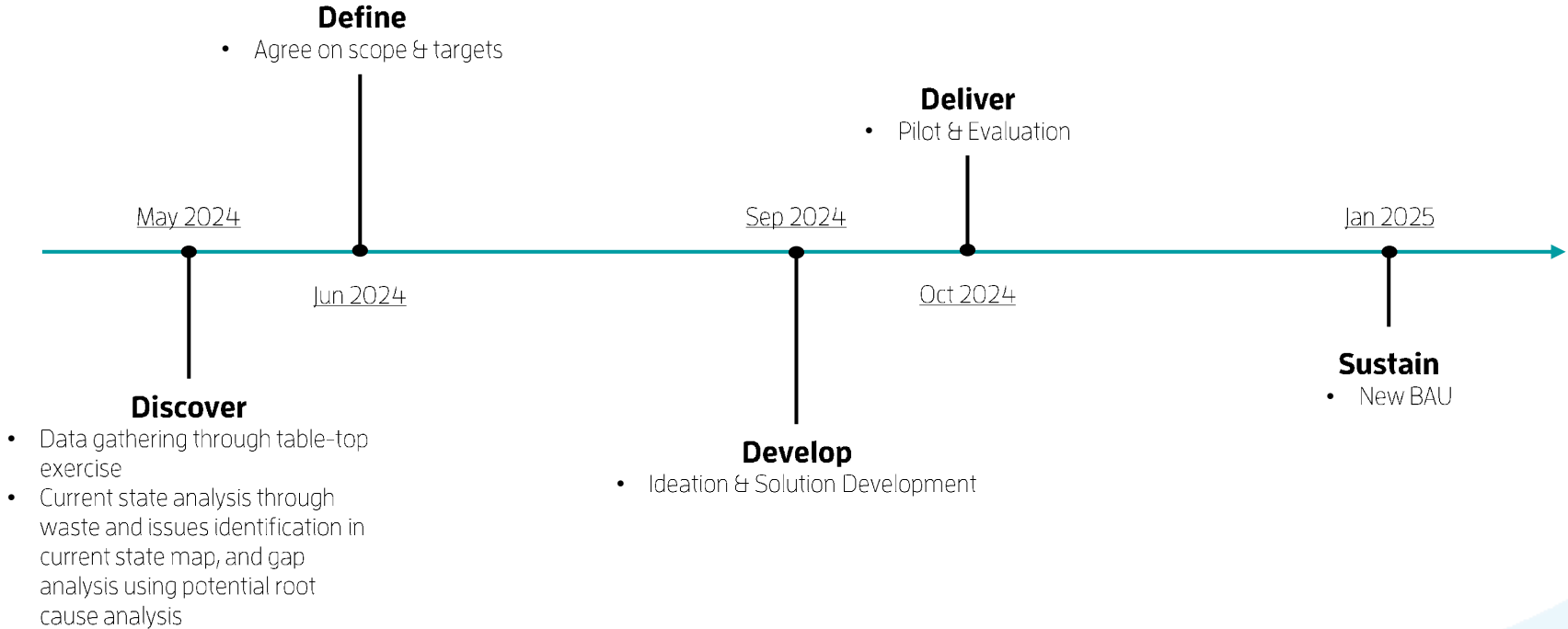
- MSW can only complete form after 'Fit for Discharge' is declared
- Clarifications need to be done if invoice amount/ item(s) does/do not tally with the approved application(s)

Objective of this project

1. Analyse the underlying factors contributing to extended form preparation times and cause for multiple clarifications and re-work.
2. Propose actionable solutions to reduce the
 - a) Time taken for CF application and reimbursement
 - b) Number of clarifications and
 - c) Number of re-work
3. Assess CF application process impact on length of stay (LOS)

Renal patients were selected for this assessment as they represent the highest spending group within CF and are raised as the most challenging to discharge due to the requirement to secure dialysis centre placement prior to discharge.

Timeline

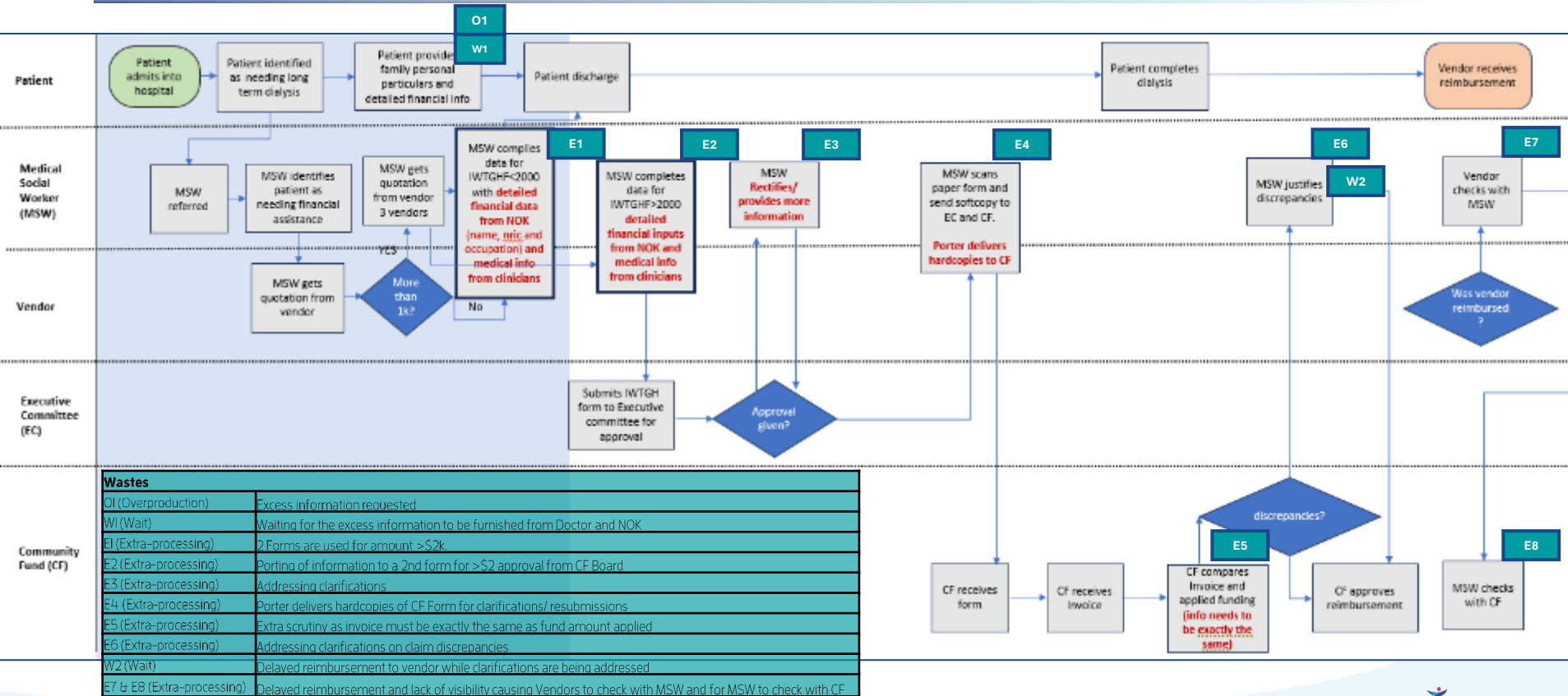


Initial State Findings

(Before Oct 2024)

- **Waste Identified**
- **Issues**
- **Gap Analysis**

Waste Identified through Current State Map



Restricted, Sensitive - Normal

Summary of Issues



Complex application procedures

Multiple forms used and excess info collected



Prolonged time needed to fill up form



Rework & resubmissions



Extensive manual processing

These contributed to the pain point of long time needed to prepare forms, which is concerning given the expected increase in new renal patients entering acute care

Issue I

1

Complex application procedures

- Different forms for different funding schemes
- Multiple data fields across forms = extensive data collection and duplicated form filling
- Complex manual calculation for dialysis funding
- Multiple applications for the same patient required for extended funding needs

This is a screenshot of a form titled 'TAN TOCK SENG FUND'. It contains several sections with various data fields, including a table with columns for 'No.', 'Date', 'Status', and 'Remarks'. The form is densely packed with text and fields, illustrating the complexity of the application process.

This is a screenshot of another form titled 'TAN TOCK SENG FUND'. It is very similar to the first form, showing multiple sections and data fields, further demonstrating the complexity and duplication of forms required for funding applications.

Issue I

1

Complex application procedures

Baseline

- 124 Renal cases processed in 2024 require more than one form

This is a screenshot of a 'TISH Case Study Form' (Form 1) for a patient with a renal condition. The form is titled 'TISH Case Study Form' and 'Form 1' and includes a header with the TISH logo. It contains several sections for data entry, including 'Patient Information', 'Clinical History', 'Investigations', and 'Management'. The form is filled out with text and numbers, and includes a table at the bottom for recording data over time.

This is a screenshot of a 'TISH Case Study Form' (Form 2) for a patient with a renal condition. The form is titled 'TISH Case Study Form' and 'Form 2' and includes a header with the TISH logo. It contains several sections for data entry, including 'Patient Information', 'Clinical History', 'Investigations', and 'Management'. The form is filled out with text and numbers, and includes a table at the bottom for recording data over time.

Issue 2

2

Long turnaround time to fill up the form

- Form requires extensive information from doctors and NOK, resulting in lengthy completion times
- MSW spends significant time calculating precise funding required for dialysis sessions, medications, procedures, blood tests, scan and transport costs.

The image shows a screenshot of the TTSH Community Fund application form. The form is titled "TTSH Community Fund APPLICATION FOR THE COMMUNITY FUND". It includes a "Description" section, a "Budget" section, and a "Details of the proposed project" section. The form is annotated with several "1 HOUR" callouts, indicating the time spent on each section. The "Budget" section is particularly complex, with a table for "Details of the proposed project" and a "Summary of the proposed project" table.

Year	2022	2023	2024	2025	2026	2027	2028	2029	2030
Revenue									
Expenditure									
Net Income									

Issue 2

2

Long turnaround time to fill up the form

Baseline

- Between 2hrs 15mins and 6 hours
- Median of 4hrs 20mins

Case of application: _____ Reference Number: MSW/DSM/1/02/2005

TTSH Co^ommunity Fund

APPLICATION FOR TTSH COMMUNITY FUND

Important Note:
This document is primarily a proposal to apply for the cost of public health care for a patient, and it is not approved by TTSH Co^ommunity Fund.

This application is of medical-legal significance to show that the entire Evaluation Committee that approved the use of public health care has reviewed the application and approved it. All the necessary issues and comply with the following:

1. The application form should be completed by a relevant doctor, and the information in the form should be addressed by the doctor in the attached one to reflect considerations of patient and caregiver.

Application Form Fields:

1. Name of patient: _____

2. Address of patient: _____

3. Date of birth: _____

4. Age: _____

5. Sex: _____

6. Occupation: _____

7. Date of admission: _____

8. Date of discharge: _____

9. Date of follow-up: _____

10. Date of completion: _____

11. Name of doctor: _____

12. Signature of doctor: _____

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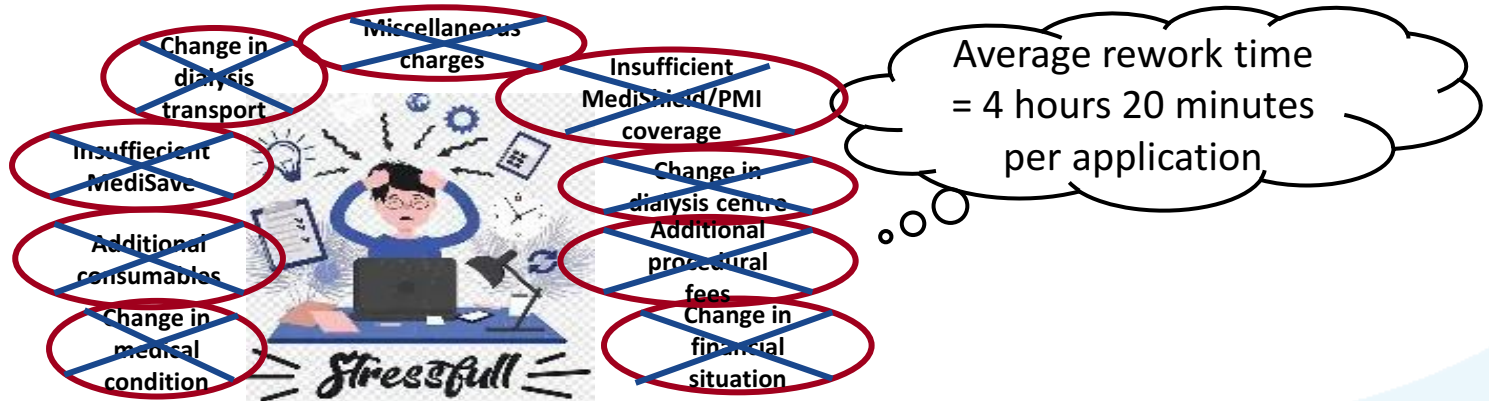
100. Signature of doctor: _____

Issue 3

3

Rework & resubmissions

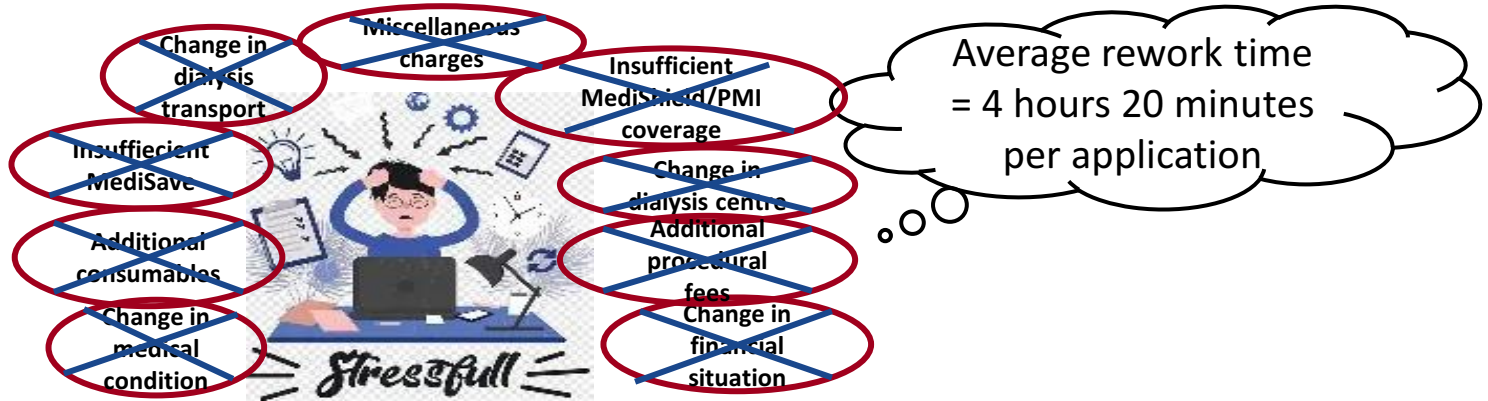
- Occurs when actual expense exceeded projections due to unanticipated changes to patient's medical condition (i.e. Dialysis patient requiring additional treatment)
- Additional time taken to identify discrepancies, complete reapplication and reapproval.



Issue 3

3 Rework & resubmissions

- Baseline: 13 forms per year (~4hrs 20mins each)

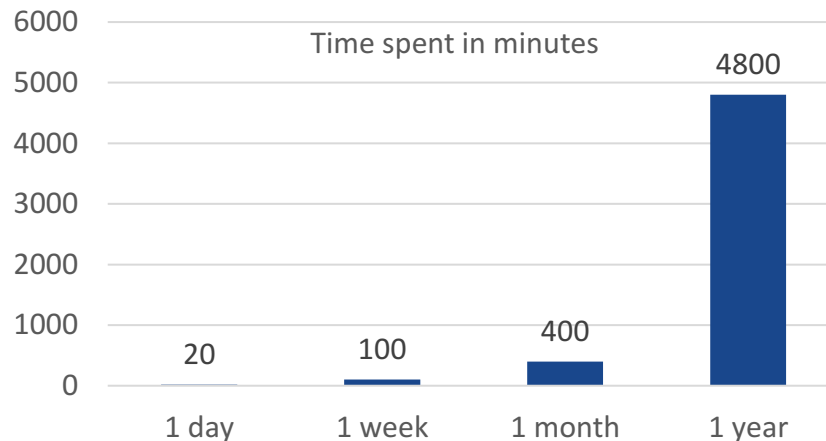


Issue 4

4

Extensive Manual Processing

- Printing and multiple handoffs of hardcopy applications for endorsement and submission to different staff/dept
- Hand-delivering documents from CNC to Development Fund office daily to enable timely application and payment processing

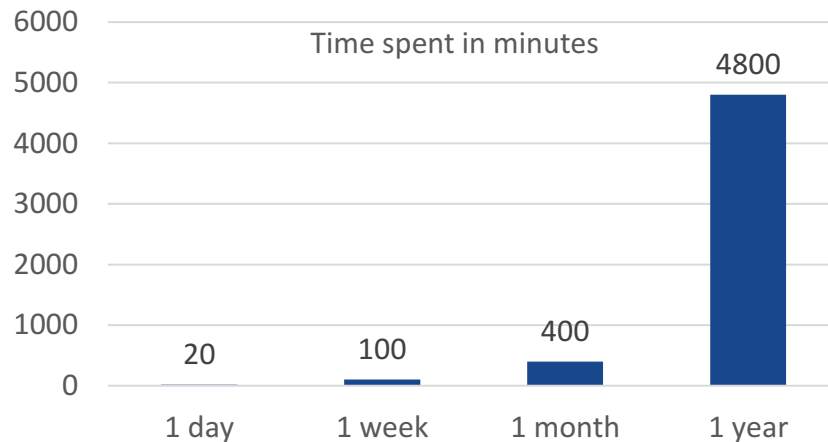


Issue 4

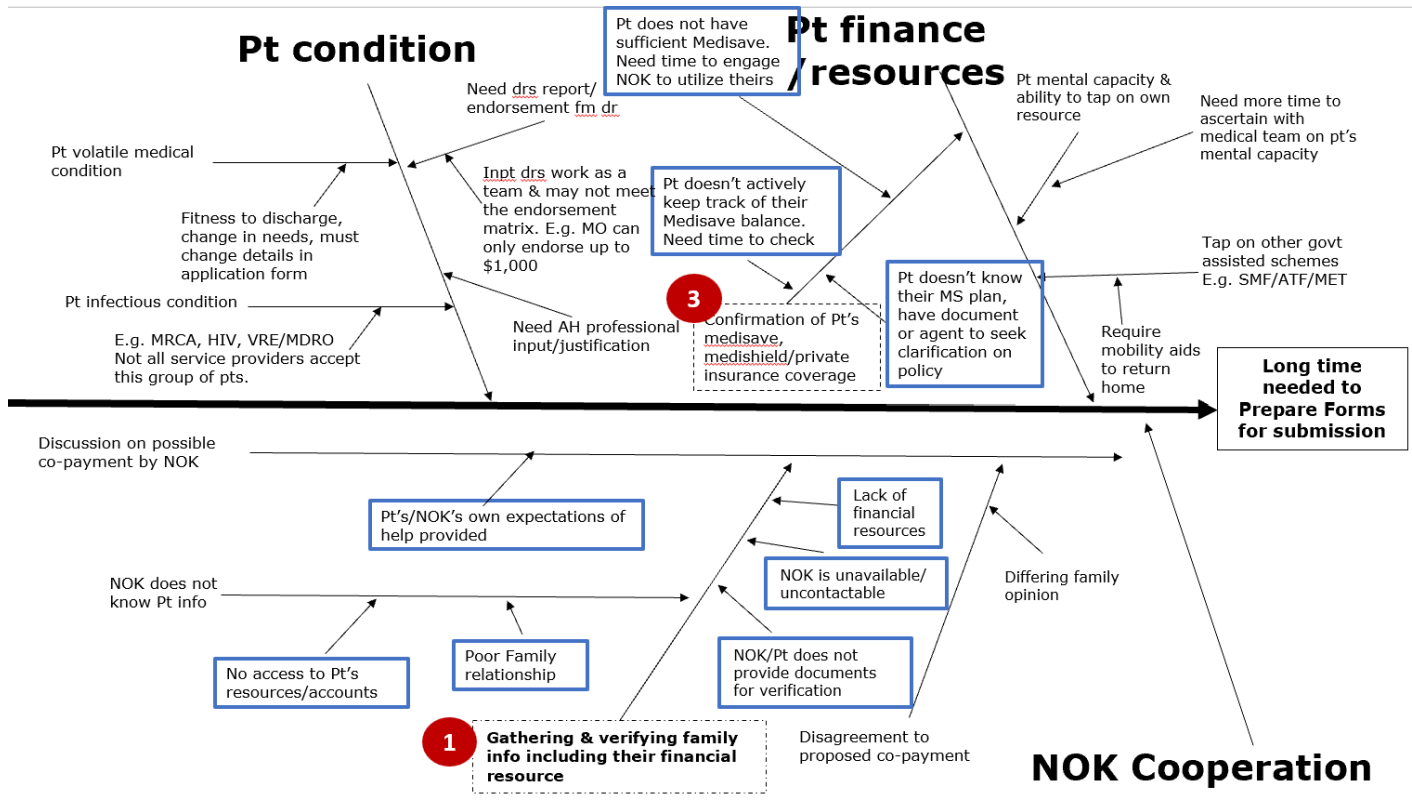
4

Extensive Manual Processing

- Baseline: 4800mins per year

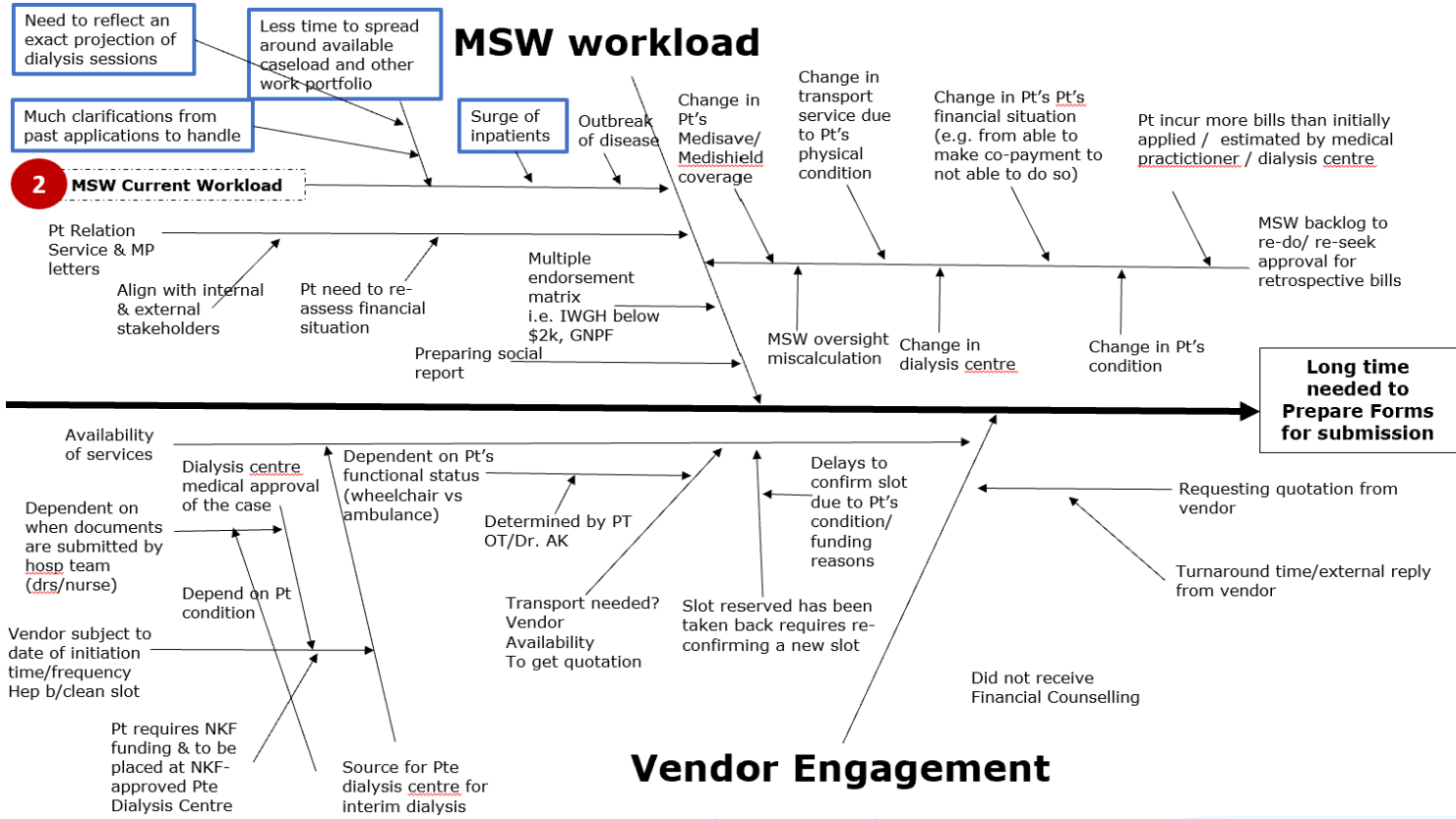


Root-Cause Analysis (RCA) on Why Long Time Needed to Prepare CF Forms for Submissions (I)



Restricted, Sensitive - Normal

Root-Cause Analysis (RCA) on Why Long Time Needed to Prepare CF Forms for Submissions (II)



Translating RCA Findings to Opportunities

Pain Point: Long Time Needed to Prepare Form for Submission

Themes	Potential Root-Cause	Opportunities
1 Gathering & verifying family info including their financial resource	Pt's/NOK's own expectations of help provided	Form Redesign To remove given financial data and clinical inputs
	Poor Family relationship	
	No access to Pt's resources/accounts	
	NOK/Pt does not provide documents for verification	
	NOK is unavailable/ uncontactable	
	Lack of financial resources	
2 MSW Current Workload	Less time to spread around available caseload and other work portfolio	Find ways to reduce on-going case loads Example: <ul style="list-style-type: none"> - Re-work - Clarifications
	Surge of inpatients	
	Need to reflect an exact projection of dialysis sessions	
	Much clarifications from past applications to handle	

Translating RCA Findings to Opportunities

Pain Point: Long Time Needed to Prepare Form for Submission

Themes	Potential Root-Cause	Opportunities
<div style="background-color: red; color: white; border-radius: 50%; width: 35px; height: 35px; display: flex; align-items: center; justify-content: center; margin-bottom: 5px;">3</div> Confirmation of Pt's medisave, medishield/private insurance coverage	Pt doesn't know their MS plan, have document or agent to seek clarification on policy	Provision of Bundled Package
	Pt doesn't actively keep track of their Medisave balance. Need time to check	
	Pt does not have sufficient Medisave. Need time to engage NOK to utilize theirs	

Confirmed State Findings

(After Oct 2024)

- **Solutions**
- **Current State Map**

Final Solutions

1

Form Redesign



- ✓ 9 forms to 1 form
- ✓ Essential fields only
- ✓ One-time data entry

2

Digitalisation



- ✓ Electronic approval & submissions
- ✓ MS Teams channel set up
 - for core group to seek clarifications (if any) before submission
 - for digital form movement & storage
- ✓ Automated cost calculation

3

Bundled Funding

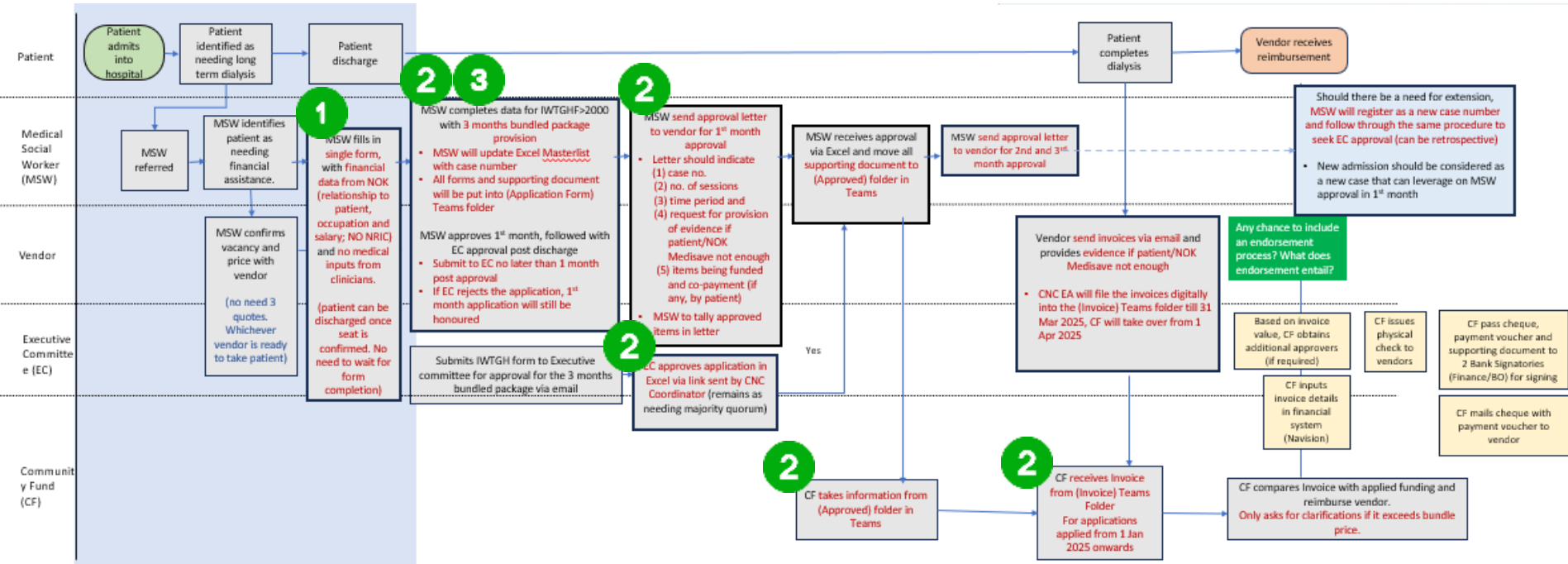


- ✓ 1 application for extended needs
- ✓ Flexible to account for variables
- ✓ Reduce need for queries & rework

Confirmed State Map

Solutions

- 1 Form redesign (2 in 1 forms)
- 2 Digitalization -> increasing visibility & communications (Teams channel and excel form with in-built formula)
- 3 Bundling Funding



Final Solutions

Initial State

2 Forms

IWTGH < \$2k (1st month)

CF Form (2nd month)

- *Require actual discharge date to project actual no. of dialysis sessions*

Funding Projection

No. of dialysis sessions

Medication

Consumables + Procedures

Transport

Drawback

- MSW can only complete form after 'Fit for Discharge' is declared
- Clarifications need to be done if invoice amount/ item(s) does/do not tally with the approved application(s)

Final Solutions

Confirmed State

I Form

IWTGHF >\$2k (3 months)

- 1st month approved by CNC for expedited discharge.
- Then full 3 months projection submitted to EC after discharge
- No CF clarifications required with bundle provision.

Funding Projection

Bundled projection of 14 sessions per month (42 in total for 3 months)

- No. of dialysis sessions (42 X)
- Medication (lump sum for 42 X)
- Consumables + Procedures of \$300/month (lump sum for 42 X)
- Transport (lump sum for 42 X)

- Standard all patients to indicate deduction of Medisave-\$450, MediShield-\$1100
→ If vendor cannot claim in part or in full from Medisave, vendor should provide evidence
- MSW gives approval for 1st month (can be more than \$2k, no quantum limit)

Benefits

- MSWs can project discharge dates and sessions without waiting for 'Fit for Discharge'
- No clarifications required when amounts and sessions stay within projections
- Simple email justification needed for amounts exceeding projections
- Reduced workload for CF and MSWs

Success Indicators

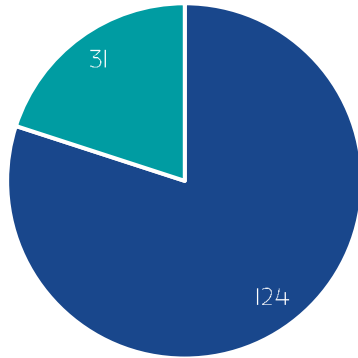
Pre read

		<u>Initial State</u>	<u>Target</u>	<u>Confirmed State</u> Calculations of Productivity Savings <small>(if all are down to zero, based on norm cost for MSW of 1.38 per min)</small>
Change Impact on all CF applications				
1	No. of Submissions with > 1 form for 1 case in 2024 (both Inpatient & Outpatient) - All cases except SCF	All Cases: 155 cases Renal Patient: 124 (out of 155) <i>Requires more than 1 form</i>		<i>All cases only need to fill in one form</i>
Change Impact for CF Applications applying to I24 Renal Cases in 2024				
		Based on Table-Top Exercise of 12 Renal Inpatients in Jun 2024		Based on Table-Top Exercise of 32 Renal Inpatients from Jan – Jun 2025 for process timings post intervention and case sizing using 2024 numbers
2	Time taken to complete form for submission (touch time)	Time taken to fill in form (including form filling, talking to NOKs and liaising with dialysis centre and transport) IWTGH < \$2k Range: 2hrs 15mins – 6 hours Median: 4hrs 20mins	30mins	Range: 30mins – 6 hours Median: 1hr 30mins Productivity savings from 2hrs 50mins touch time saved from preparing each form: 170mins x \$1.38 per min x 124 cases = \$29,090.40
3	Additional time for clarifications	Complex Cases = [40mins X 20% of 40% of 124 cases] = 40mins x approx. 10 cases = 400mins Simple Cases = [20mins X 80% of 40% of 124 cases] = 20mins x approx. 40 cases = 800mins	0 mins 0 mins	Due to bundling, all cases are classified as simple and clarifications much reduced (1200mins x \$1.38 per min) – (15mins X 20% of 124) X \$1.38 per min = \$1656 – (15mins x approx. 25 cases x \$1.38 per min) = \$1656 – \$517.50 = \$1138.50
4	Additional time for re-work	Avg no. of forms requiring re-fill: 13 forms per year Total time taken per year = (4hrs 20mins x 13 forms)	6 forms	Only 1 form needed re-work (for dialysis cases only, up till 14 Aug 2025) Productivity Savings from 12 forms: \$1760.40 (using 1hr 30mins to fill up 1 form)
5	Transition to Digital Filing	4800 mins required for manual dispatch	0 mins	Productivity from dispatch savings 4800 X \$0.40 per min = \$1920.00
Total productivity savings per year				SGD33,909.30

Success Indicators

I. Integration multiple forms into I

No. of submissions with > 1 form Total = 155



■ Renal ■ Others

Initial State

Renal cases accounted for 124 of 155 multi-form submissions (80%) in 2024, spanning inpatient and outpatient cases but excluding SCF.

Confirmed State

All submissions require only **1 form**, making the process much simpler.

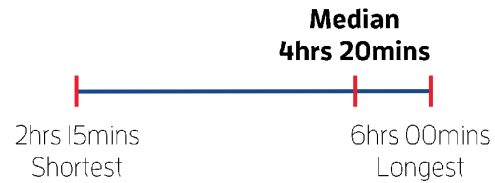
**The integration into 1 form has also benefited other submission requiring 2 forms.*

Success Indicators

2. Time Reduction to Complete Form

Time taken to complete form

Initial State



Confirmed State

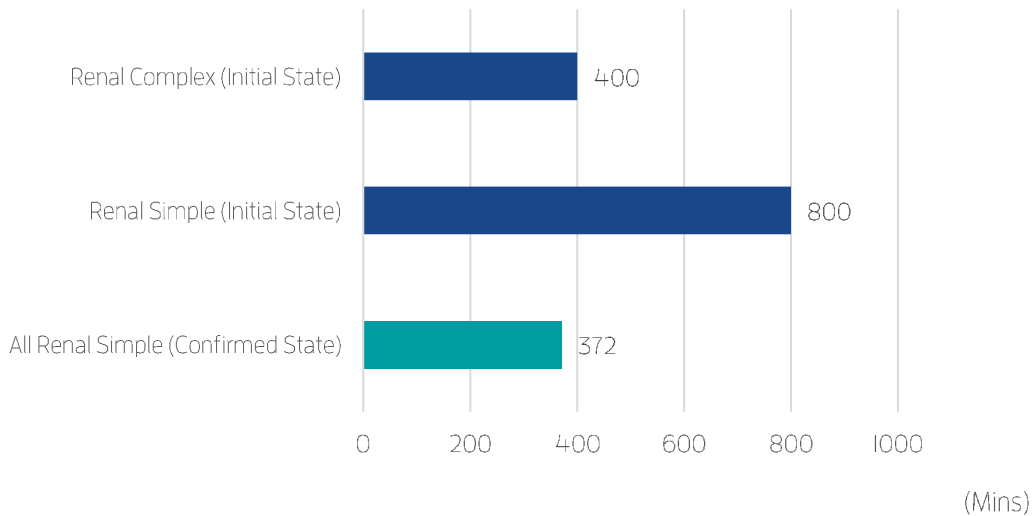


There is a **2hrs 50mins in reduction** of median time take to complete form.

Success Indicators

3. Time Reduction for Clarifications

Additional time for clarifications



The clarifications are more straightforward now, resulting in an overall **reduction of 69%** in time require.

Success Indicators

4. Reduction in Forms Requiring Re-work

No. of forms requiring re-work

Initial State



Confirmed State



An average of about 13 forms requires re-work per year.

Only **I form** requires re-work this year for now.

Success Indicators

5. Transition to Digital Filing

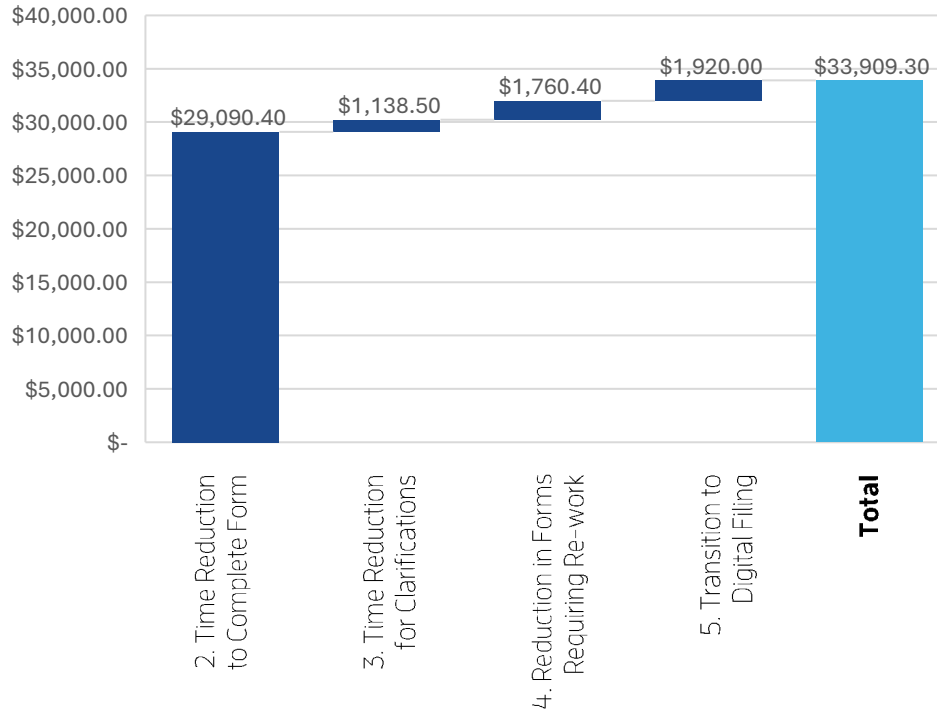


4800 mins saved

TEAMS filing implementation **saves 4,800 minutes** annually compared to previous manual dispatch processes.

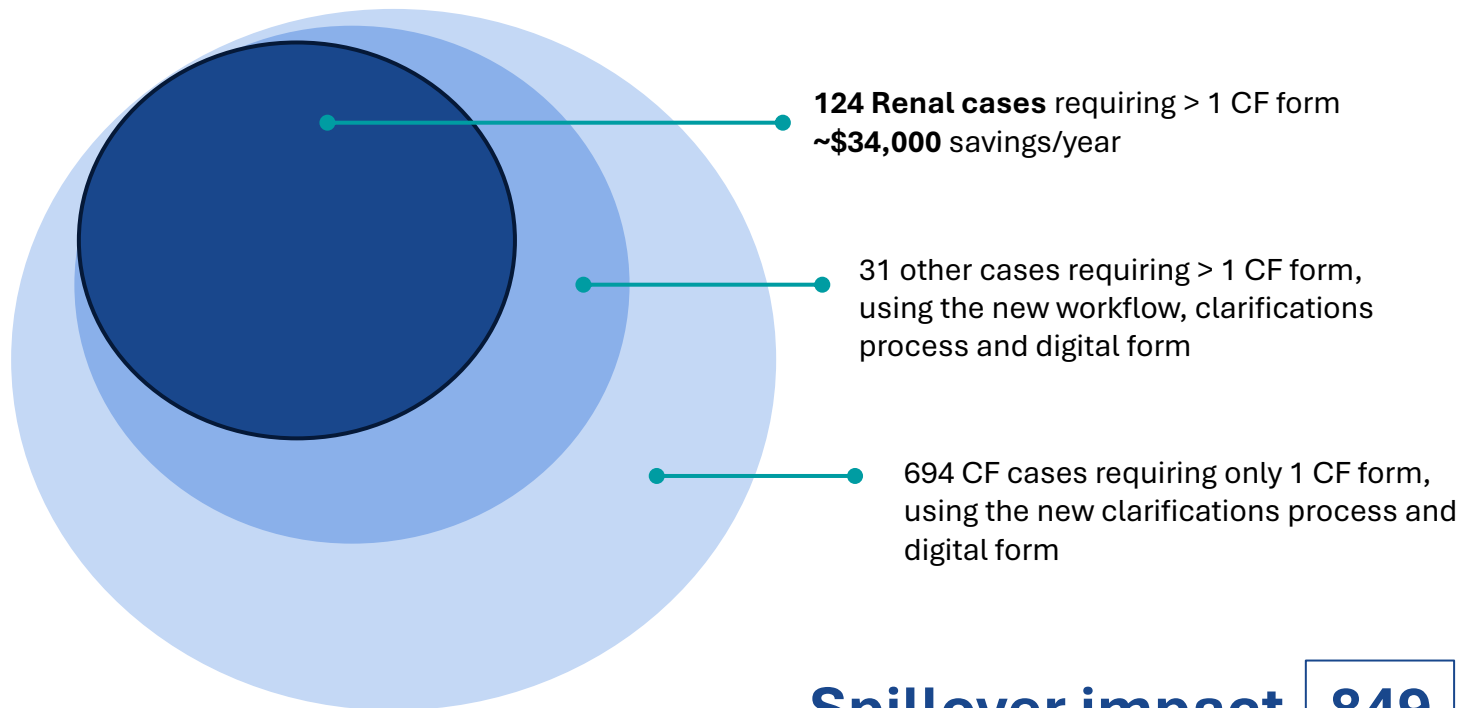
Success Indicators

Total Potential Productivity Savings



There is a potential **productivity savings of about \$34k** in a year.

Impact of Project



Spillover impact

849

cases

Positive Feedback received from Medical Social Workers (MSWs)

GOOD FORM DESIGN

"Once you select which form the excel is activated for, the correct **cells would be highlighted in yellow**, hence, it helps draw my attention on which info to fill in."

BUILT-IN CALCULATION

"With the standard package funding provision, much **time is saved from the calculation**"

"The new Excel form as opposed to the original Word document comes with fixed formula hence made it easy for funding calculation. I just need to select the private facility (name of vendor) and the **price per session will be auto-populated** for the package calculation."


REDUCED STEPS

"Patient can be **discharged with 1st month's approval letter and not wait for EC's approval**. 1st month's approval letter can be printed once supervisor approves; no need to wait for EC approval."

"Positive Feedback on the form:
1) Much easier as there is **no need to get inputs from the medical team**. MSW will just input brief diagnosis
2) Medical information - **only need to know which discipline and diagnosis**
3) **One form used for different assistance/schemes** so if patient requires different forms, MSW just need to fill in one form"

Bonus Outcome!

Savings from process conversion for Entire TTSH CF applications except Social Care Fund (based on 2024, 849 case loads projections)

	Success indicators	Pre-implementation (2024)	Post-implementation (2025)	Annual savings
	Paper saved	8490/ 500 = 16.98 reams	0 reams <i>Used for approval</i>	16.98 reams
	Ink cartridge used ¹	0.75 cartridges	0 cartridge	0.75 cartridges
	CO ₂ e emitted ³ <i>Paper and ink cartridge</i>	<p>Paper (3.08 kg CO₂e /ream x 16.98 = 52.30kg CO2e)</p> <p>Ink Cartridge (10.21kg CO₂e /cartridge x 0.75 = 7.66 kg CO2e)</p> <p>52.30 + 7.66 = 59..96 kg CO2e</p>	N/A	59.96kg CO₂e
Financial cost	Paper ² \$3.32/ ream	\$56.37	0 paper	\$56.37
	Ink \$313.60/ cartridge	\$235.20	0 cartridge	\$6235.20
Governance	Applications Records	Printed and filed hardcopy approvals	Digitally tracked on Excel	N/A
Social	Clarity	Only know if applications is successful after submission	Clarifications done via Teams along the way More clarity, less re-work	

1 Based on IK Copy Paper (A4, 80 GSM) and cartridge model HP W1470YC. Based on latest outpatient observations, 1 ink cartridge can yield 11,300 pages of A4 prints.

3 Information extracted from ChatGPT. Prompts used (1) What would be the CO₂e for per ream of this paper purchased from Indonesia to Singapore. (2) What would be the CO₂e for one HP LaserJet W1470YC black toner cartridge manufactured in China and shipped to Singapore?

Reflection

What Went Well

1. Adoption of digitalisation for form filling and processing of applications by both departments & committee members
2. Achieved a new dialysis funding package that better reflects current dialysis costs and reduces need for duplicated applications
3. Adoption of calculator in the excel sheet to minimise need to manual calculation and human error

What Helped

1. Getting a common understanding on package and details
2. Through this project, **both departments unlocked a more open communications:**
 - > An MS Teams channel is set up for communications between CNC and CF (representatives include CNC Coordinator, MSW Renal In-charge, Clinical Support Lead, CF Lead and CF Account Assistants). This is also the same channel where CF applications are stored.

What Did Not Go Well

1. Due to CNC workload, there are a number of changes post adoption to correct application form
2. Multiple changes lead to multiple/delayed communication to ground users, vendors and committee members
3. Digitalization of form did not result in faster updates expected

What Hindered

1. Due to frequent changes to dialysis costs and subsidies framework, especially in 2025, there is a need to update the formula frequently.
2. Vendors adjusting to case reference usage



Thank You

Tan Tock Seng Hospital • Khoo Teck Puat Hospital • Woodlands Hospital • Yishun Community Hospital • TTSH Integrated Care Hub
Institute of Mental Health • National Skin Centre • National Centre for Infectious Diseases • NHG Cancer Institute • NHG Eye Institute • NHG Heart Institute
Population Health • NHG Polyclinics • Diagnostics • Pharmacy • Community Care • NHG College • Centre for Healthcare Innovation