Reduce waste for follow-up appointment process

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Introduction / Project background:
Frontline PSAs coordinate patient appointments based on TCU instructions given by doctor. However, appointment slot availability in OAS can be uncertain due to factors like unpublished calendars and validity issues. To address this, PSAs print TCUs and manually sift through them when slots open, resulting in administrative challenges and environmental impact from the monthly printing of over 300 paper TCUs. Additionally, periodic paper shredding is required.

Objective / Mission statement:
We aim to reduce waste in the TCU process by 50%, within **6 months.**

Root Cause Analysis

The team produced a Cause & Effect Diagram (Exhibit 1) and shortlisted the potential root causes to tackle below.

1. Manual process due to mode of TCU
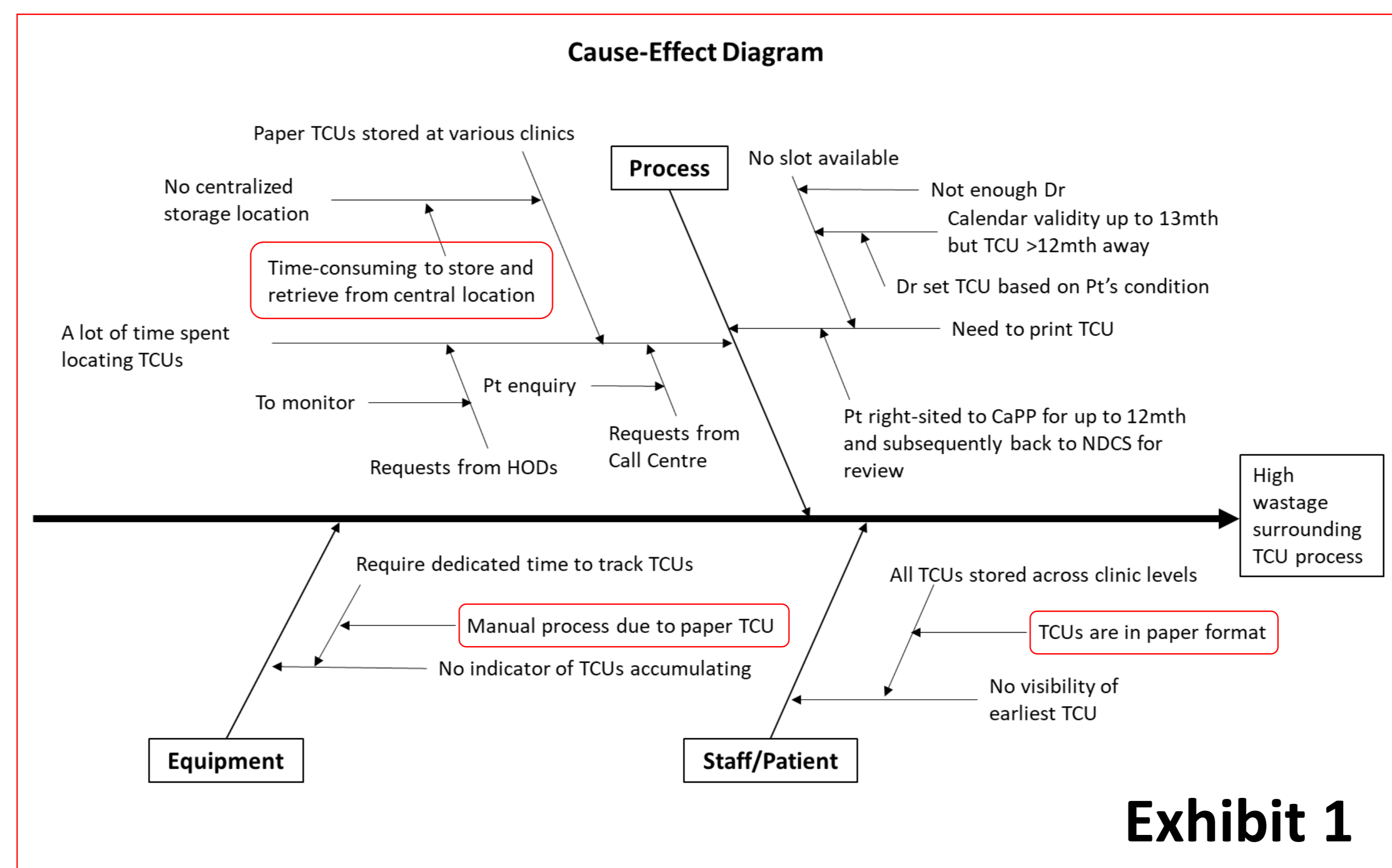2. TCUs are in paper format
3. Time-consuming to store and retrieve TCU
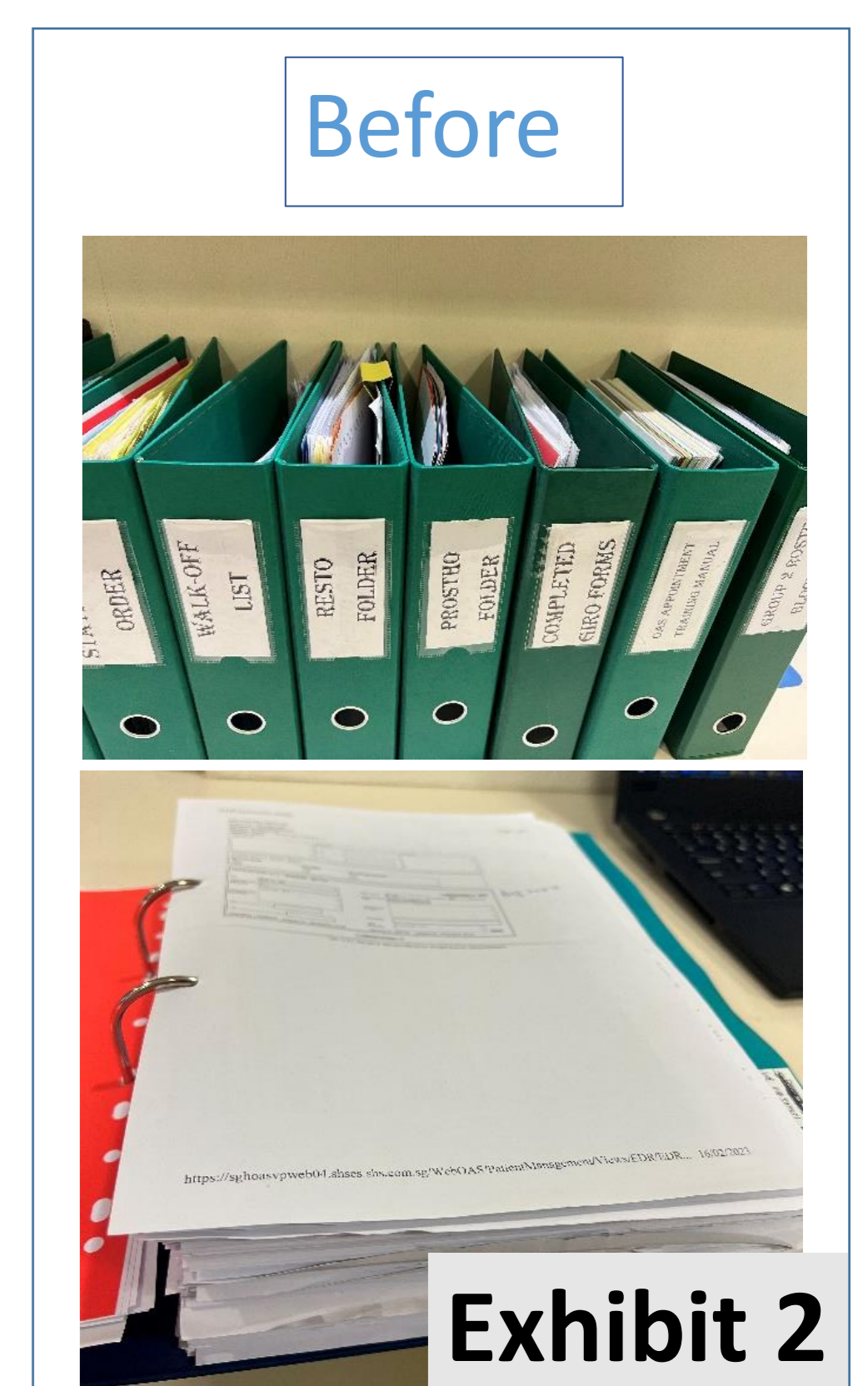

Exhibit 1 — Cause-Effect Diagram

Before
Exhibit 2

Intervention

The team conducted an experiment by transitioning from the traditional method of printing and storing paper TCUs (Exhibit 2) to a digital platform called e-TCU, powered by Nintex Forms (Exhibit 7). This new approach was tested in March 2023 and officially implemented on 3 April 2023. TCUs are no longer printed, and are stored electronically as e-TCU, within SharePoint. The entire process is broken down into 3 parts indicated below (Exhibit 3,4,5) to compare the old and new processes, as well as approximate time taken for each process. It was a 3-step process for the paper TCU process, while it is a 2-step process for the e-TCU.
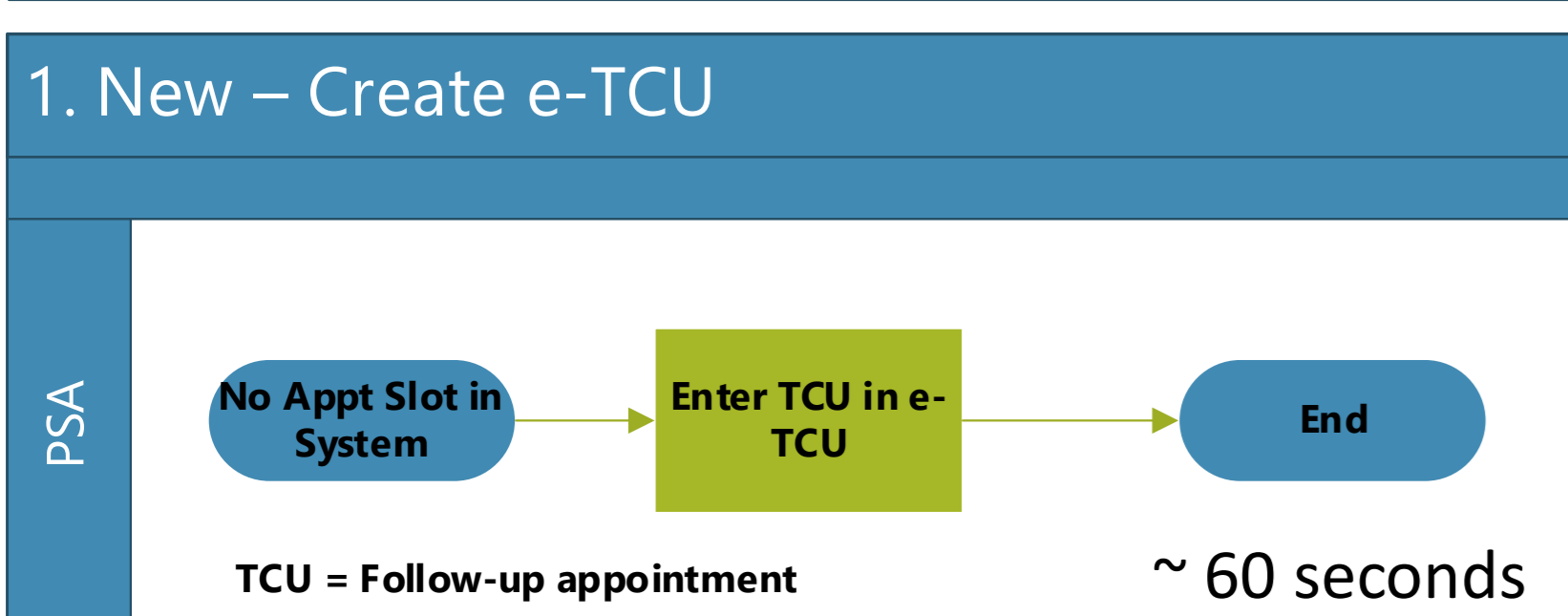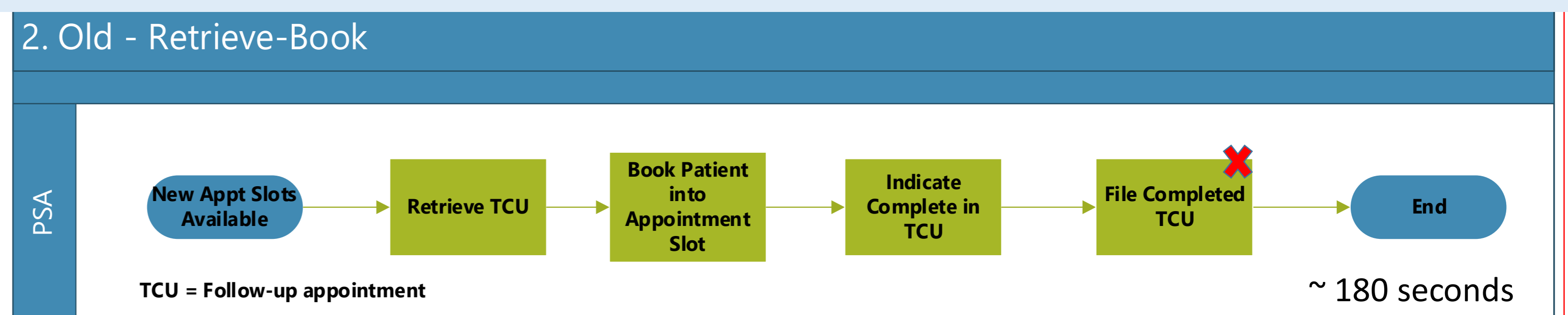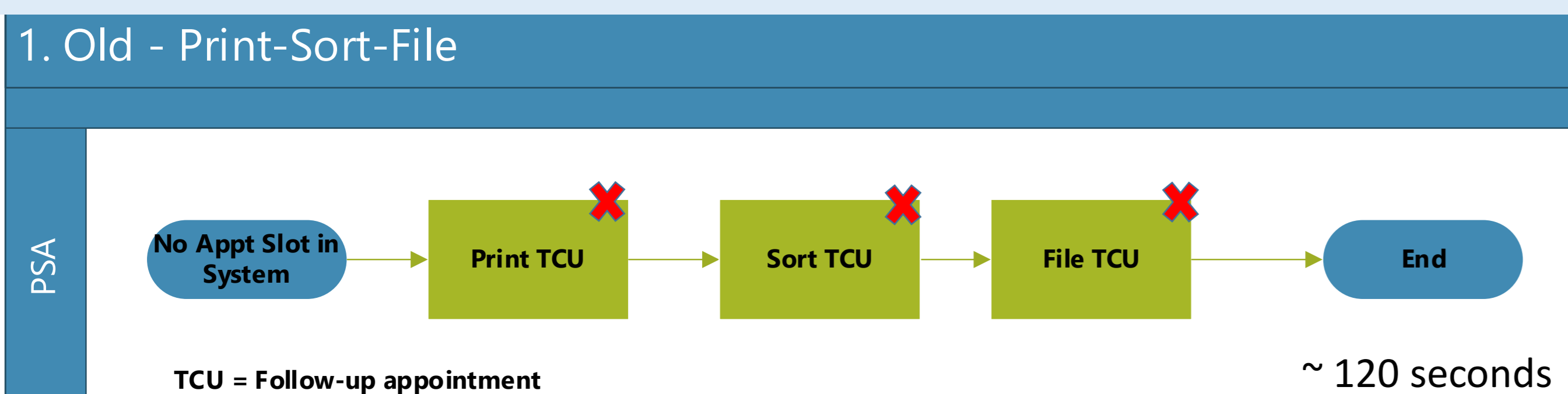

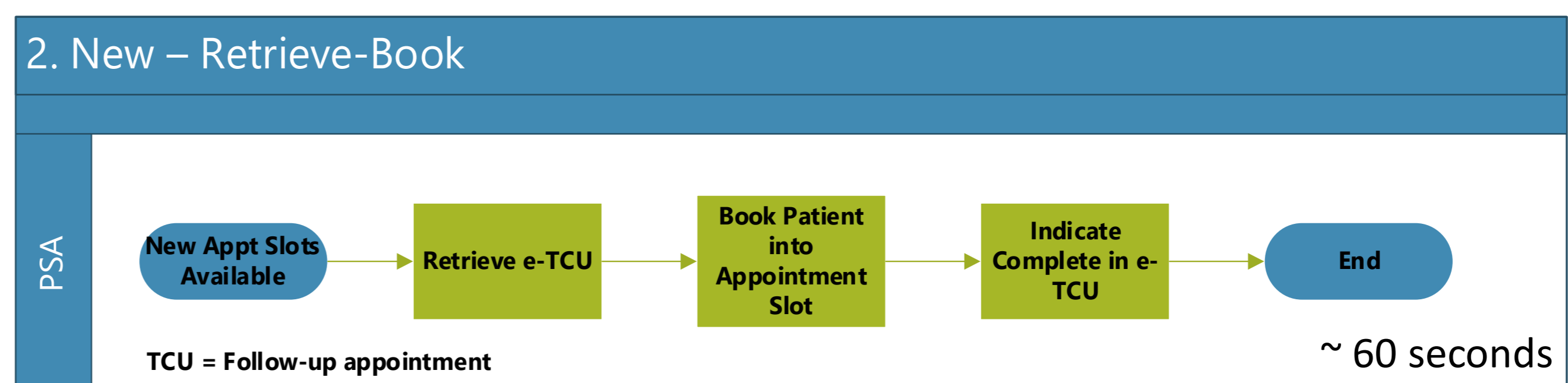1. Old - Print-Sort-File: No Appt Slot in System → Print TCU → Sort TCU → File TCU → End. TCU = Follow-up appointment. ~ 120 seconds
1. New – Create e-TCU: No Appt Slot in System → Enter TCU in e-TCU → End. TCU = Follow-up appointment. ~ 60 seconds
Exhibit 3

2. Old - Retrieve-Book: New Appt Slots Available → Retrieve TCU → Book Patient into Appointment Slot → Indicate Complete in TCU → File Completed TCU → End. TCU = Follow-up appointment. ~ 180 seconds
2. New – Retrieve-Book: New Appt Slots Available → Retrieve e-TCU → Book Patient into Appointment Slot → Indicate Complete in e-TCU → End. TCU = Follow-up appointment. ~ 60 seconds
Exhibit 4

3. Old - Consolidate-Shred: Start → Consolidate TCUs to be shredded → Shred TCU → End. TCU = Follow-up appointment. ~ 60 seconds
Exhibit 5

Paper TCU Printed
Exhibit 6

After
Exhibit 7
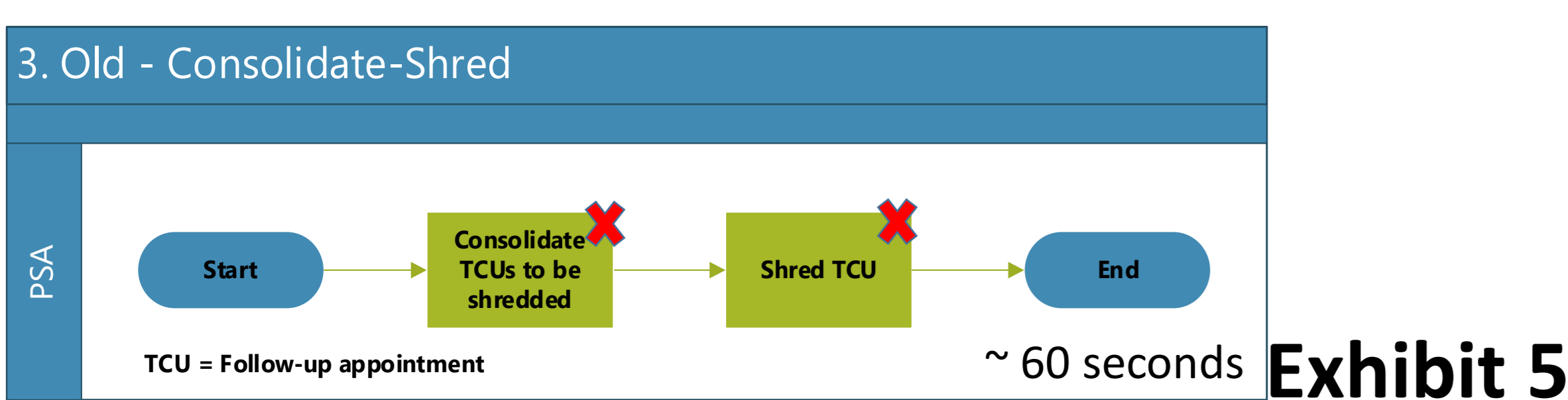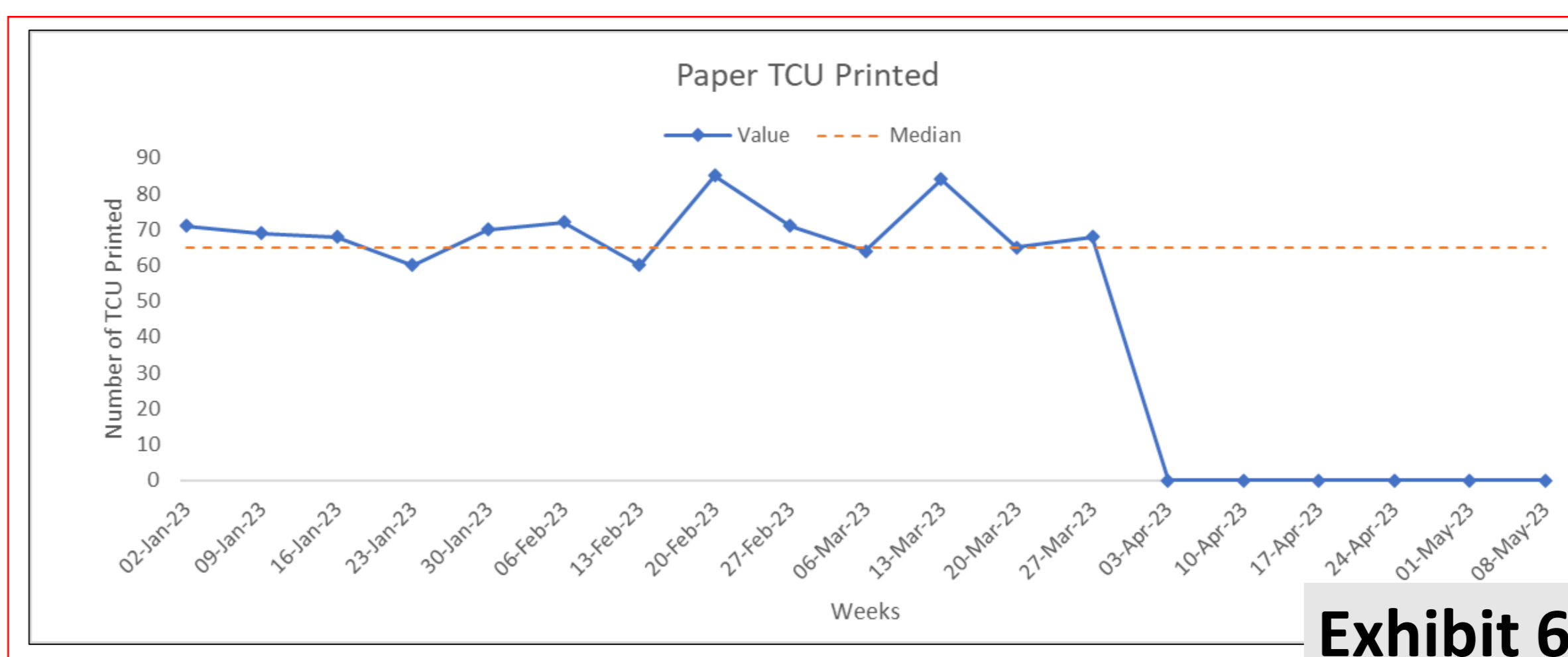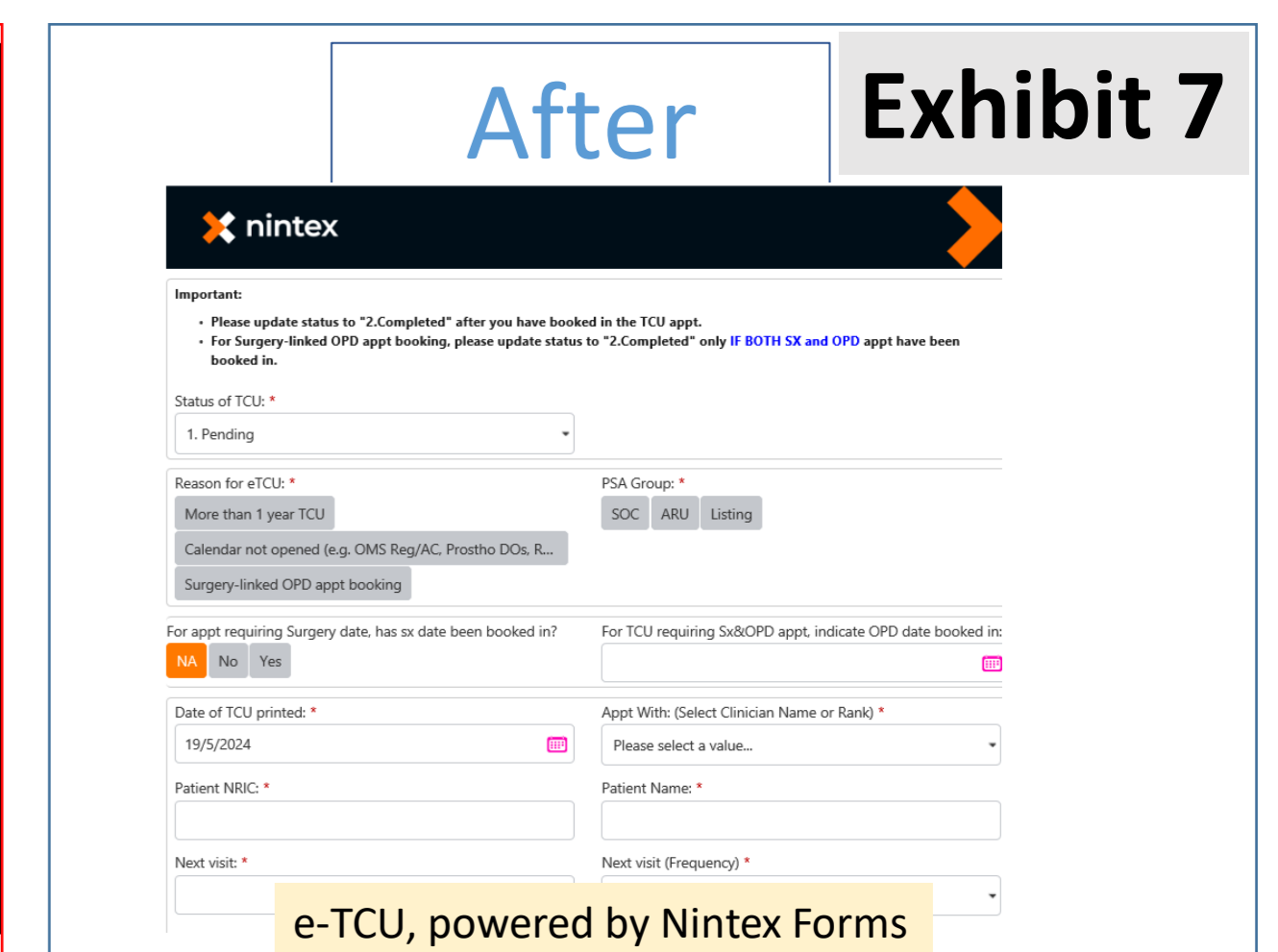e-TCU, powered by Nintex Forms

Results

A grand total of **1,962** paper TCUs underwent digitization and were transformed into e-TCU. An average of **300** e-TCUs are created monthly (derived from the **Run Chart** above (Exhibit 6)). This digital initiative also allowed the team to efficiently identify a significant volume of pending e-TCUs for any specialty, leading to prompt notifications to the respective Head of Department (HOD) for corrective action. When appointment slots open in OAS, PSAs can access e-TCU to swiftly process pending e-TCUs. It previously took up to **6 minutes** to process a single paper TCU as compared to the current **2 minutes** for e-TCU, netting a time savings of _4 minutes_ per TCU. This translated to _20 hours_ of time savings monthly, on top of paper and toner savings.

Conclusion

E-TCU has significantly improved the efficiency and effectiveness with which staff maintain a record of TCUs, streamlining the tracking process. PSAs are no longer required to manually sift through paper TCUs to locate them for appointment scheduling, thus saving time and enabling them to focus on more valuable tasks. The e-TCU platform also offers added visibility to relevant stakeholders for monitoring and tracking the pending TCU count via filtering options. This solution is also environmentally sustainable, eliminating the need for printing, and shredding as a by-product of TCU processing, ultimately optimizing the limited time available to PSAs. In total, we have tackled **4** of the 8 wastes; namely **transportation**, **inventory**, **motion**, and **extra-processing**.