

Harmonizing Error Correction Efforts for Wrong Registrations / Wrong Merges / Imposters within SingHealth



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BACKGROUND

As health information transits from paper medical records to electronic medical records, it has become crucial to look into the data integrity of health information, especially when two distinct patients' medical records are combined as a result of a wrong registration or wrong merge originating from patient registration systems.

Patient Management Information Services (PMIS) unit, which was setup in 2012 to enhance patient information data quality within SingHealth (SHS) and Eastern Health Alliance (EHA), has started a workgroup in 2015 to examine the existing error correction efforts in the event of wrong registration or wrong merge.

Wrong registrations, wrong merges and imposter cases were dealt with by individual departments within a single institution. In most cases, simple rectification was done only in the registration system or not at all. Communication to affected downstream ancillary systems and other hospitals within the cluster were poor or non-existent. Furthermore, there was no proper tracking and documentation. These issues, if left alone, will undermine data integrity and safety of our patients when clinicians base their treatment on incorrect medical information within patients' electronic health records.

Aim: To harmonize and centralize the error correction efforts for wrong registrations, wrong merges and imposter cases that occur within SingHealth from FY2016.

METHODOLOGY

The team examined the similarities, disparities and flaws in the following aspects:

1. Rectification workflow in patient registration systems (SAP 2. Broadcast list to ancillary systems and OAS) OAS team checked visit history of affected patients but this step was missing in SAP's Receive notification and error Receive the notification from correction form of wrong merge SAP users from users There was no mention of checking Check visit history of affected Visits across OAS and SAP within same Cross-institution visits in both OAS and SAP users do the error User makes necessary changes correction at SAP Broadcast wrong patient merge SAP ISH team help inform users and all the ancillary systems

After all the ancillary system are

done the correction, SAP ISH

SAP user will cancel the wrong

team will inform SAP users

patient master or undo the

There was no mention of checking

(i) Visits across OAS and SAP within same institution

(ii) Cross-institution visits in both OAS and SAP.

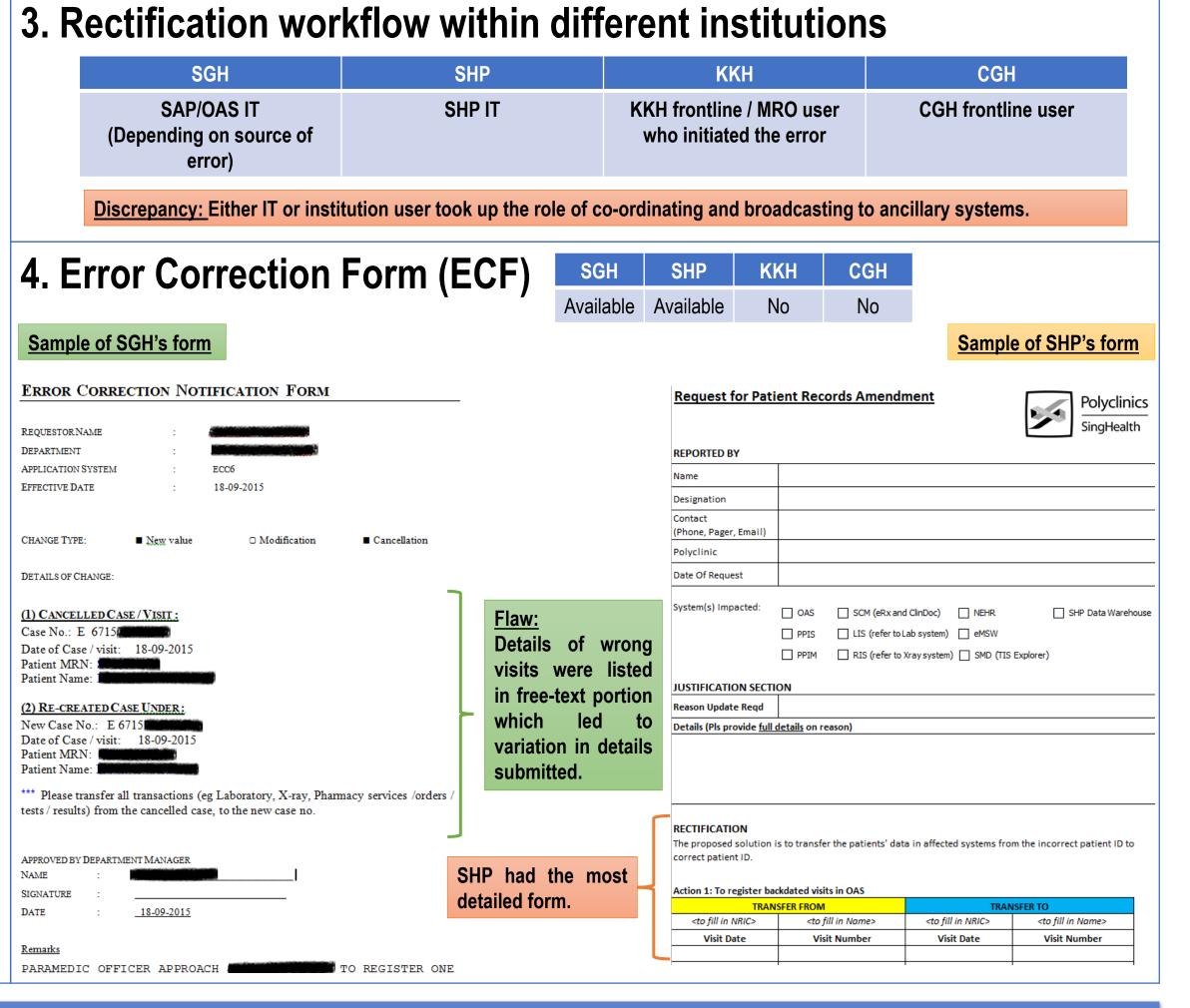
Discrepancy:
Feedback loop was present for SAP cases but absent for OAS cases.
For SAP, feedback loop involved checking for replies.
Flaw:
If no reply, rectification was assumed to be completed. This is risky as some systems might not have performed the correction.

Unique to SAP: Cases are cancelled only after ancillary systems have been rectified due to

Figure 1. Error Correction Notification Form

Date Request Received

Broadcast list: Broadcast list: Users: AO, BO, MRO, SOC, Finance users Site ITs SAP Team **Ancillary systems:** Ancillary systems: Amalga/RIS Cloverleaf CMIS CSRIS eMenu Emerge EMR/HIDS **EMR EMRX** Some ancillary systems were **ePorter** listed in OAS broadcast list but SGH_ESRS ESRS SGH_FMCMS absent in SAP, and vice versa. SGH_IMS The list of ancillary systems is IPS (maxcare)/Pyxis SGH_MAX LAB LIS (Lab) SGH_NUMIS SG_MRTS OAS SGH_OG SAP SAP FI/MM/HR SAP KKH/CGH SMR Trendcare



RESULTS

Central coordinator across SingHealth:

PMIS team took on the role for error correction effective from 1 April 2016.

One common Error Correction Form to be used across SingHealth:

This was initially adapted from SHP's form and further revised to incorporate the necessary details. (Figure 1) It is now mandatory for all systems to include before and after screenshots of rectification for verification by PMIS team.

One error correction workflow across SingHealth:

This was implemented from 1 April 2016 and subsequently revised in October 2016 and April 2017. (Figure 2) The workflow was sub-divided into 5 stages for easy tracking.

Standardized broadcast list to ancillary systems:

A feedback loop was implemented to ensure that all ancillary systems have checked and completed their rectification, if affected. Reminders were sent on a weekly basis.

One tracking system:

The PMIS Register was created using Microsoft Excel in June 2016 to record the error details of each case and to track the number of cases pending at each stage. (Figure 3)

Workflow for Wrong ID rectification (including more than 1 institutions) Error Correction Notification Form To be filled by reporting institution ☐ Wrong ID Registration ☐ Imposter **Wrong Patient** Patient HRN Patient Name atient Date of Birth Patient Date of Birth Patient Gender Details (Pls provide the full details for reason and with attachments if required **Error Correction Notification Form Section B** OAS Affected Institutions Affected Institutions

rrection Form & raise Jsers to cancel the IT Helpdesk ticket fo wrong visits correction (within 3 days) ectification will be reduced from 10 days to 3 days, and 3 days to 1 day Check visit history of Inform affected Check if cancellation is Multiple inst affected patient(s) and filled in correctly impacted clinical records across all the cluster systen Consolidate and check that Inform SCM IT corrections steps are done via Send out an email to infor Send out an email to inform the Coordinators before & after screenshots the SCM (within 1 day) ancillary systems (within 1 day) (within 1 day) Carry out necessary correction step & take before and after screensho (within 10 days) Check and include visits not registered in SAP/OAS Verify patching is done correctly (within 3 days) Inform DMU/NEHR Ops rectification is comple End (within 10 days) Figure 3. PMIS Register – Summary of Cases in SCM Wrong Reg: DTS-SAP Wrong Reg: OAS (Not merged) System re-use of X no. series -**37** 28/04/2017

Figure 2. Error Correction Workflow

CONCLUSION

This collaborative project has achieved its objectives of harmonizing error correction efforts for wrong registrations, wrong merges, and imposter cases within SingHealth. This has not only resulted in the uniformed rectification of wrong patient information within patient source systems, SAP and OAS, but also the electronic medical records in SCM and most importantly, in the National Electronic Health Record (NEHR).