HIS Migration Assumptions and Decisions Made

Scope	Findings	Assumptions	Decision taken / Action Item	Implications
Demographics	Unique Persons Number (UPN) in IQCare has special characters or do not conform to the 10-digit format standardized by MoH. While this data will be migrated successfully, KenyaEMR validation rules will require that any accessed record be updated before an encounter is saved.	Data will be migrated as is. Facilities will clean the data as they provide services to the patients. This will be an on-going process involving verification with physical files. Migration teams have installed the updated version of KenyaEMR for migration purpose.	KenyaEMR validations have been relaxed to accept non-standard CCC numbers received from IQCare during migration.	Some migrated UPNs will not conform to MoH standard format.
	There are patient records with blank UPNs in IQCare on CCC Program.	These are likely older patient records that are not considered in the reports. So, we will largely not affect reported numbers UPN / CCC number masked under a different name/ CCC affiliation can be used as an alternative till data clean up is carried out.	Introduce validations to exclude the patients without UPN from MOH/DATIM reports. Use variate numbers available having affiliation to CCC program area.	Data Loss: Patient records without this key data element will not be migrated unless they exist in a different program area other than HIV.
	Datasets in IQCare with multiple values e.g. 1.Contact/Treatment supporter phone numbers 2. Treatment supporter(s) 3. Guardian(s)	Only one value can be accepted by KenyaEMR and as such only and most recent record is the most accurate and will be migrated	Migrated the most recent record (Take top 1)	Data Loss for other treatment supporter details previously provided.

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	Patient person relationship: IQCare treats contacts such as treatment supporter, emergency contact as persons registered in the system while KenyaEMR treats these as patient attributes unless they have a full "person" profile. **IQCare Classification:** Patient - Person Users - User Treatment supporter - Person Emergency contact - Person Next of kin - Person Guardian - Person **KenyaEMR classification:** Patient - Persons Users - Persons Treatment supporter - Concept Emergency contact - Not available Next of Kin - patient Guardian - Concept	The emergency contact is most likely to be next of kin. Children may have both a guardian and treatment supporter (e.g. If they turn over 18 and choose a different person as TS). treatment supporter can map to the same field in KenyaEMR	• Patients, users and Next of Kin will be transformed as persons registered in KenyaEMR • If multiple Next of Kin(s) are available, then only the latest entry will be migrated • Treatment supporter names and contacts will be used as concepts_id - • In cases of NULL treatment Supporter, the field should be left blank.	Data loss: Some records of previous treatment supporters, emergency contacts data will be lost.
HIV Enrolment	There are patients in some IQCare sites with more than one identifier value i.e. more than one CCC number and with no history of any deletion of the database, (deleteFlag = 0) in the databases checked.	There were patient records in the CPAD system with more than one identifier for CCC.	Use the most recent updated record for CCC record.	Data loss for additional CCC identifiers. One CCC number will refer to one unique individual in KenyaEMR
	HIV clients in IQCare missing date of HIV diagnosis in the enrolment form.	We assumed date of diagnosis was missed during data entry in some IQCare sites.	Date of diagnosis remains blank.	May affect analysis on date of HIV diagnosis & time to enrolment where records are missing this observation.

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HIV Follow up	IQCare does not collect patient population type for every visit while KenyaEMR records for this for every visit.	This does not change, and most recent record is considered as the most updated for the population type.	-	Data loss of historical patient type information.
	There are several HIV Encounters in IQCare missing TCA date. This affects TX_CURR, noting that TCA is used in KenyaEMR for TX_CURR computation	Clinicians may have opted NOT to record TCA date and opted to rely on pharmacy prescription.	To compute "Approximate" TCA based on the duration of ARV drug dispensed as this is used for TX_CURR computation in KenyaEMR	-
	IQCare uses a clinical process to determine WHO staging while KenyaEMR has only the captured indicator for WHO Staging.	The Final WHO stage is a critical data element and will be migrated to KenyaEMR as-is. Eventually KenyaEMR will be upgraded to incorporate the steps in computing the WHO stage.	• Migrate and map the WHO stage from IQCare to KenyaEMR. • Migrate data related to WHO staging workout into temporary tables KenyaEMR • Plan for and make enhancements in KenyaEMR to support the workout and then map the migrated data.	Feature loss for clinical staging in the interim.

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	HIV related data without a one to one match in KenyaEMR yet: Care and Treatment - Follow-up • *Milestones* • *Tanner's staging* • *Previous sexual history* • *General examination* Pharmacy - non-ART drugs prescription Labs - other than CD4 and VL Custom forms - depends on the health facility or partners. Includes • *OPD and respective MoH reports* • *Billing* • *Specialized clinics forms*	Adverse events, allergies, chronic illnesses and WHO staging will be moved to existing KenyaEMR tables. *created_by* and *created_date* to be included in KenyaEMR structure for data audit purposes.	Migrate data to a placeholder in KenyaEMR.	Missed functionality for these variables until enhancements are developed in KenyaEMR.
Patient Treatment Events/ Regimen History	IQCare allows manual input of drugs without any standard while KenyaEMR allows for standard regimens only. The lack of proper mapping of regimens as required in KenyaEMR leads to wrong output indicator calculations.	PMTCT drugs form part of HIV drugs Drugs cannot be dispensed as different regimens on the same day.	Include PMTCT drug events in the regimen history. Map all regimens as captured in the DWH to the standard regimens and update for use in IQCare-> KenyaEMR regimen maps. Reviewed previous ART guidelines to map blue card records whose regimens were outdated for the different combinations. Use last event as the most recent event (Top 1).	Improved match in ART regimens between the two systems.
		Triple molecules: Order of drugs for given regimen is the same (Triple molecules)	Allow any ordering of exact regimens to map to KenyaEMR standard regimen e.g. *NVP/AZT/3TC =3TC/AZT/NVP= AZT/3TC/NVP*	

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		Dual Molecules: Included a column with the possible 3rd molecule that will help map the standard regimens. Regimens that have more than one possibility require a decision based on frequency. Most of them just lack 3TC and therefore mapping to the combination of this will solve the problem.	Map them to the most feasible third molecule based on standards Issuance of these molecules will be restricted in KenyaEMR	Incorrect mapping for cases with more than one frequency. Additional data cleaning initiative in KenyaEMR.
		Monotherapy: Some drugs captured in IQCare are because of data entry errors. Multiple combinations for this.	Migrate it as a non-standard regimen and restrict issuance of the same in future at KenyaEMR.	Additional data cleaning initiative in KenyaEMR once migrated.
		More than three molecules: Assumed to be Non-standard regimens.	Assign placeholder concepts for mapping as Non-standard Regimens	Possibility of inaccurate data Migrated
	IQCare treats drug events as dispensed drugs while KenyaEMR treats ordered drugs as drug events.	Valid drug events are those that are ordered and dispensed. Those events ordered and not dispensed are not included in the drug events.	Dropped ordered drugs and not dispensed from being drug events.	Accounts for drug events for those prescribed only.
HTS	IQCare HTS module provides initial and retest tests. Positive client must have both tests positive while in KenyaEMR, the confirmatory test must be positive for the client to be considered positive.	The retest for IQCare is *SIMILAR* to the confirmatory test for KenyaEMR.	Duplicate IQCare *Retest* and match it to the C*onfirmatory Test* in KenyaEMR.	Missing confirmatory test will be available in KenyaEMR.
	There are invalid (Spoilt) test results in IQCare. Case where used in either test 1 or test 2	Invalid/Spoilt kits are only used enough for kits auditing and for commodities, a feature KenyaEMR does not currently support	Migrate test results that have an outcome (Positive/Negative)	Data loss for invalid tests and spoilt kits.

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	HTS Register in IQTools not populating figures if results not given to patient. In KenyaEMR the patient needs to have final results as positive for the figures to be populated in the register BUT are in HTS reports.			Register in KenyaEMR and IQCare will have a difference of patients who have not been indicated *YES* as to getting final results.
Data Manipulation Queries	Data extraction in IQCare finds Encounters > 1 on the same day.	This is valid for follow ups and enrolments. The assumption is that data was erroneously captured for enrolments >1 or there were follow-up encounters on the same day.	Datasets without encounter_ The queries group events by Encounter Date and Person ID where the greatest variable to be picked for the encounter. This also checks where encounter date is not *null.*	The duplicate encounters have been factored in computation of results for individual sites.
Data Quality	Duplicate patient records in IQCare	Duplicate records can only be deduplicated at facility level due to the decisions that have to be made on the data. This will have to be done either before or after migration.	Per earlier guidance from CDC, the migration tool shall not deduplicate/clean the data. The duplicate records shall be propagated in KenyaEMR if not cleaned.	Some duplicate records will make it to KenyaEMR.
	Illogical data in IQCare	Data cleaning will be carried out in KenyaEMR.	The integrity of the logical issues to be handled in KenyaEMR. Maintain the integrity of data.	Inconsistent data available in KenyaEMR
	HIV clients marked as *New* in the "Patient" variable but have transfer-in details such as transfer-in date and facility transferring from in for both systems.	A new client should not have a transfer-in date/facility.	The toolkit will migrate such record as they are in IQCare.	Change on patient type will affect cohort analysis.

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	Key dates: – Dates for sentinel events • DOB • TCA • Enrolment Date • Start ART date • Diagnosis date • Care termination date	No data verification or cleaning is undertaken on the migration toolkit.	Sentinel events dates moved as is.	Data integrity maintained as-is from IQCare. Illogical dates will remain in KenyaEMR.
	Dates for computation/ logic calculations Age logic for truncation: Rounding of age bands **For Data Reports:** In IQTools 17 years xx months equates to 17 Years old whereas in KenyaEMR, 17 Years over 6 Months equates to 18 Years AND 17 Years under 6 Months equates to 17 years. **For UI page:** In KenyaEMR 17 years XX months equates to 17 Years, while in IQCare, 17 Years over 6 Months equates to 18 Years AND 17 Years under 6 Months equates to 17 years.	This represents inconsistencies in age variables for the two systems. This is expected to affect only age bands segregation in reports only. This does not affect data in any other way other than age banding.	We will migrate the data not the logic.	Indicator disaggregation by age will vary but this should not affect the overall sum of the main indicator. Some reports affected under-age segregation are; 1. MoH 731 report 2. DATIM report 3. ART Drug report 4. HTS Lab Register 5. MCH Related reports This also affects how the age of a patient appears on the user interface.
	Some records have a date value as 01/Jan/0001 in IQCare.	This is an issue arising from certain legacy IQCare versions where null date value was treated as "01/Jan/0001"	This should be treated as Null value and should be captured in the migration queries.	No impact expected
Strategic Information	**DATIM Computations:** Both systems use 30 days after TCA for TX_CURR	Logic for calculations are not being migrated	Use existing logics for each system	Some discrepancy with MoH reports for TX_CURR indicators in some facilities.

	MoH 731 Computations: **IQCare/IQTools:** • Uses Prescriptions to calculate CURR_ART (CurrART is a function to number of days the drugs are dispensed not TCA) • 0 days for CurrART (on ctx/dapsone also apply) on TCA date (A patient with a TCA today is considered on ART until the day elapses as they have drugs for the said date) • 0 days for TX_CURR after TCA • T.O. is effective from the next TCA **KenyaEMR** • Uses TCA to calculate CURR_ART (CurrART a function of the TCA date) • 0 days for CurrART (on ctx/dapsone also apply) on TCA date (A patient with a TCA today is considered active if and only if they have a visit today otherwise inactive) • 0 days for TX_CURR after TCA • T.O. is effective immediately • Persons with data inconsistencies like enrollment date > DOB, / StartART date > DOB / StartART date > Enrollment date are not accounted for in the age desegregations segments of MoH 731 and DATIM reports being viewed via excel format. **Background**: IQCare uses duration of dispensed ARV drugs to compute current on care while KenyaEMR uses TCA.	There is a relationship for the expected return date from both the listed TCA in EMR to the addition of number of drugs dispensed from the last prescription date Date inconsistencies should affect data segregations in the various reports	Use existing TCA in IQCare. Where TCA is not available, compute is as below: ***If*** *Expected return date (Most recent pharmacy prescription date + No. of days prescribed) > most recent TCA* ***then*** *new TCA = Expected return date* ***Else*** *use most recent TCA*	Some ddiscrepancy with DATIM reports for TX_CURR indicators TX-ML will be affected in cases where a patient had a TCA for one month but a prescription of say 60 days, they will be deemed as defaulter in IQCare if the TCA passes without a visit but will not be a defaulter in KenyaEMR as the calculated TCA is 2 months. Appointment date/calendar differences between the two systems (KenyaEMR will use calculated TCA while IQCare will use the Clinical TCA) Defaulter reports will be different in both systems Differences are expected where a patient TCA falls on the reporting day whereby in IQCare they are considered active but in KenyaEMR they are not.

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	Finding: A scenario where a client is given a shorter TCA in IQCare but given drugs to cover longer period covering multiple reporting periods. **Deduction**: For such a client, KenyaEMR may mark the as inactive if the TCA is not honoured. In IQCare, the client is still active regardless of the TCA outcome			
	DATIM Report Some patients who are currently active on treatment have a recent VL Result in IQCare but are not appearing on the KenyaEMR Datim Report who have had a VL in the last 12 Months.	Only clients who have been on ART for three months need be in the DATIM report	The Patient does not meet the 3-month criteria for the PVL indicator hence not appearing on the KenyaEMR report. No changes should be done in either system	Differences in IQCare and KenyaEMR Datim Reports. IQCare includes patients who have not been on 3 months on ART in the report.

Color (Fill)	Interpretation
White	No Change
Green	New changes for this version
Yellow	Item Updated in this version