DWAPI Data Transmission SOP

[Last updated: 12th May 2021]

TASK:	Load and send data from the 3 dockets
OBJECTIVE:	How to use DWAPI for differential uploads and sending data to the National Data Warehouse
WHO:	Clinicians/Data Staff
REQUIRED MATERIALS:	Functional DWAPI v 2.6.0 and above, Functional KenyaEMR ver17.3.4 and above, Internet Connectivity

SUMMARY*: DWAPI is a cross platform Data Warehouse API client tool designed to connect to EMRs at facility level. It can connect to different types of EMR databases supported by PEPFAR to extract data on Care & Treatment and HIV testing. The datasets contain data elements collected by the different program tools and implemented by the EMR. DWAPI runs data quality checks on the data and provide feedback to users. It also Identifies possible duplicate patient records in the EMR and notifies user for rectification. Finally, it provides a secure transmission channel to the DWH over the internet.*

UNDERSTANDING DWAPI DASHBOARDS

DWAPI provides a comprehensive dashboard that highlight various indicators and metrics about the database and the data extracted in general. These include:
- Quality indicators
- EMR indicators
- DWAPI Metrics
- Database connection properties
- DWAPI Version

The dashboard gives facilities deeper insights into the data being uploaded into NDW and provides better opportunity to take corrective actions where inconsistencies are identified.

SECTION 1: UNDERSTANDING DWAPI DASHBOARD

Action	Screen shot
Quality Indicators - A summary of quality checks is provided under the dashboard to show status of selected quality indicators. - Green status signifies no user intervention required. - Red status requires urgent attention by the user.	**Quality Indicators** <table><tr><th>Indicator</th><th>Status</th><th>Checked</th></tr><tr><td>Last EMR Login date</td><td></td><td></td></tr><tr><td>MFL Codes in the database</td><td>Your MFL code is 14081</td><td>15 hours ago</td></tr><tr><td>Last EMR Encounter create date</td><td>You may be uploading an old database. The last EMR encounter create date is 43 days ago. Please confirm you have the latest database.</td><td>15 hours ago</td></tr><tr><td>Last EMR ETL Refresh date</td><td></td><td></td></tr><tr><td>Current on ART</td><td>Your current on ART is 3600</td><td>15 hours ago</td></tr><tr><td>DWAPI Application Version</td><td>You are using the latest version of DWAPI</td><td>15 hours ago</td></tr></table>
EMR Indicators - DWAPI performs basic analysis on selected EMR indicators for the loaded database. The indicators include: HTS, C&T, Retention, last recorded encounter date and the facility MFL code. - Users should verify the values under each indicator for concordance	**EMR Indicators** <table><tr><th>Indicator</th><th>Value</th><th>Description</th><th>Status</th><th>Period</th></tr><tr><td>HTS TESTED</td><td>16</td><td>Individuals who received a HIV test. Computation : Count of all individuals who received HIV Testing Services (HTS) and received their test results in a given month</td><td>Checked</td><td>Apr 30, 2021</td></tr><tr><td>HTS TESTED POS</td><td>10</td><td>Individuals who tested positive during a HIV test. Computation: Count of all individuals with a positive in a given month</td><td>Checked</td><td>Apr 30, 2021</td></tr><tr><td>HTS INDEX</td><td>1</td><td>Individuals who were identified and tested using Index Testing Services (PNS or contact tracing) and received their results. Computation: Count of all individuals identified and tested using Index Testing Services in a given month</td><td>Checked</td><td>Apr 30, 2021</td></tr><tr><td></td><td></td><td>Individuals who tested</td><td></td><td></td></tr></table>

DWAPI Metrics	DWAPI Metrics		
This acts as facility DWH upload log to indicate which dockets were loaded and which ones were sent to DWH.	Docket	Activity	
	Care and Treatment	Loaded	13 hours ago
	Care and Treatment	Sent	an hour ago
	Hiv Testing Services	Loaded	9 minutes ago
	Hiv Testing Services	Sent	6 minutes ago
	PKV Services	Loaded	16 hours ago
	PKV Services	Sent	
	Migration Services	Loaded	
	Migration Services	Sent	

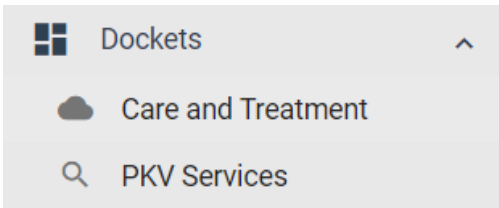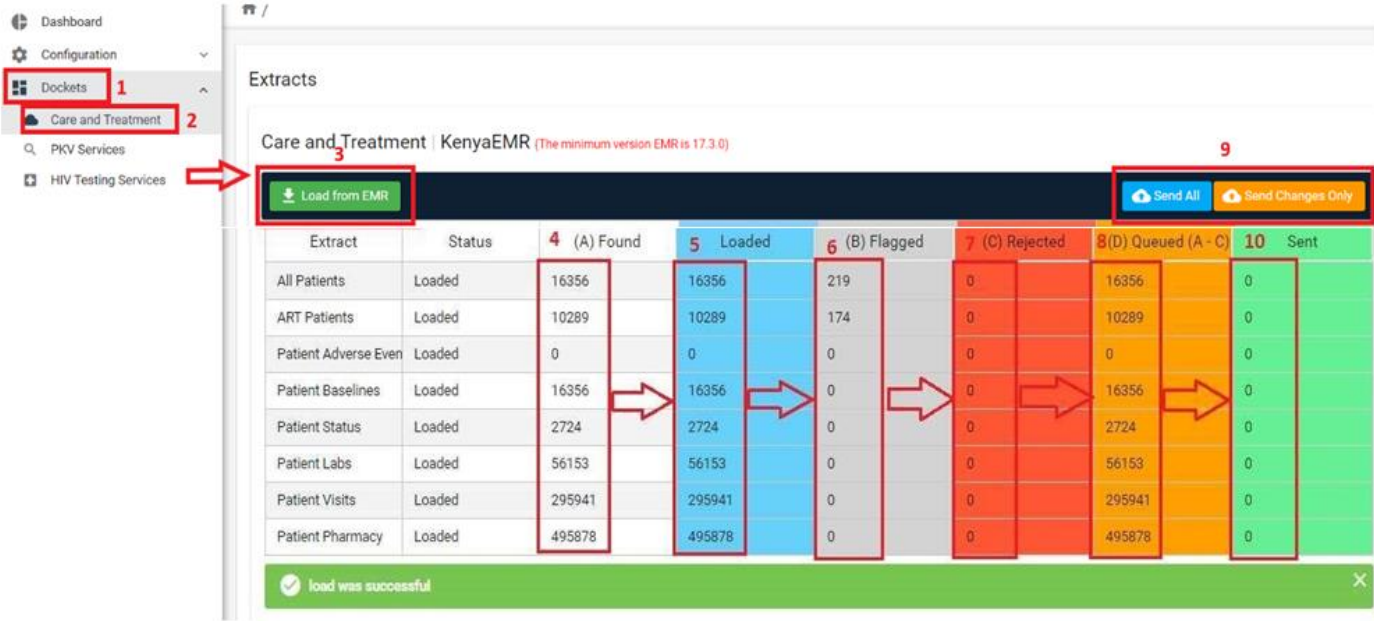| DWAPI Database connection properties:	
A set of database connection properties that DWAPI relies on to connect to create and access its database. *For more information refer to DWAPI configuration SOP*	**DWAPI Database Connection** Database Provider MySQL Server kenyaemrstaging_kenyaemr-staging-mysq Port 3306 User dwapi Password ••••• [Verify Server] [Verify Database] [Save]

SECTION 2: DATA EXTRACTION AND UPLOAD PROCESS	
Action	Screen shot
DWAPI DOCKETS There are three main Datasets that exist in DWAPI. It is important to extract and submit datasets from all the three datasets.	**KEY:** - Care and treatment: Extract and send HIV related datasets - PKV Services: Extracts and submit patient unique identifiers (patient Key Values) - HIV Testing Services: Extracts and submit all HTS related datasets
Loading and sending Care and Treatment Data **Step 1:** Navigate to Dockets and expand the menu **Step 2:** Click on **Care and Treatment** **Step 3:** Click on **Load from EMR** **Step 4-8:** Review the validations and if corrections are needed kindly do them as per the flagged column **Step 9:** Click on "**Send All**" **Step 10:** Review the sent column	

Loading and Sending Master Patient Index Data

Step 1:
Navigate to Dockets and expand the menu

Step 2:
Click on **Master Patient Index**
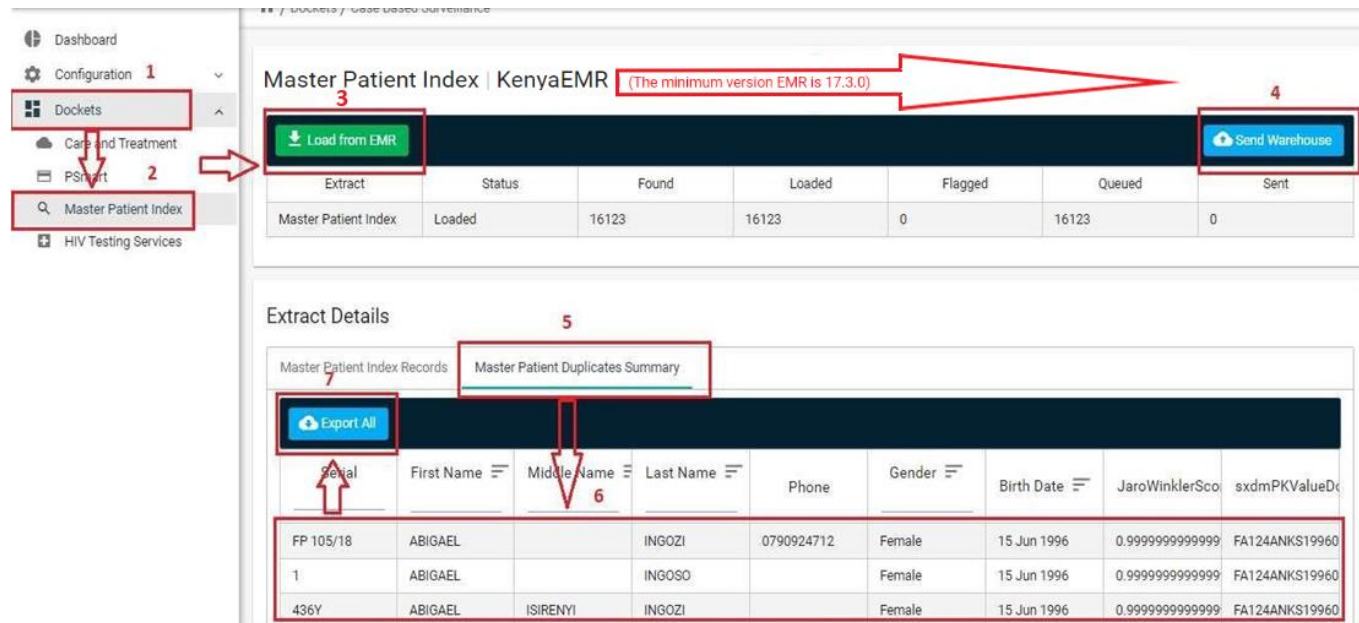
Step 3:
Click on **Load from EMR**

Step 4:
Click on "**Send All**"

Step 5-7:
From the validation summary, review any possible duplicates and export the list to excel for onward cleaning.

Master Patient Index | KenyaEMR (The minimum version EMR is 17.3.0)

Extract	Status	Found	Loaded	Flagged	Queued	Sent
Master Patient Index	Loaded	16123	16123	0	16123	0

Extract Details

Serial	First Name	Middle Name	Last Name	Phone	Gender	Birth Date	JaroWinklerSco	sxdmPKValueD
FP 105/18	ABIGAEL		INGOZI	0790924712	Female	15 Jun 1996	0.9999999999999	FA124ANKS19960
1	ABIGAEL		INGOSO		Female	15 Jun 1996	0.9999999999999	FA124ANKS19960
436Y	ABIGAEL	ISIRENYI	INGOZI		Female	15 Jun 1996	0.9999999999999	FA124ANKS19960

Loading and Sending HIV Testing Services Data **Step 1:** Navigate to Dockets and expand the menu **Step 2:** Click on **HIV Testing Services** **Step 3:** Click on **Load from EMR** **Step 4-8:** Review the validations and if corrections are needed kindly do them as per the flagged column. **Step 9:** Click on Send "**Send All**" **Step 10:** Review the sent column	

Extracts

HIV Testing Services | KenyaEMR 1 (The minimum version EMR is 17.3.0)

3 Load from EMR   9   Send to Warehouse

Extract	Status	4 (A) Found	5 Loaded	(B) Flagged	(C) Rejected	(D) Queued (A	10 Sent
Hts Clients	Loaded	7277	7277	0	0	7277	0
Hts Client Tests	Loaded	7295	7295	219	0	7295	0
Hts Client Linkage	Loaded	50	50	0	0	50	0
Hts Test Kits	Loaded	7297	7297	219	0	7297	0
Hts Client Tracing	Loaded	0	0	0	0	0	0
Hts Partner Tracing	Loaded	0	0	0	0	0	0
Hts Partner Notification Services	Loaded	4	4	0	0	4	0

Dwapi Differential Uploads process

Step 1:

- On the left pane, select Care and treatment docket
- Once the Care and Treatment option is selected, click load from EMR button to load care and treatment data and wait for the process to complete.
- Once loading is complete, a green flag will be displayed to notify you of successful Care and treatment data load and total number of records loaded will be displayed under Loaded.

Step 2:

- Click on the send all button to upload the whole datasets to the National Datawarehouse (This is done during the initial/first time upload, after installation or upgrade of dwapi

Step 3:

- Click on the load from EMR button under care and treatment Docket.
- Once the upload is done click on the send changes only button to upload part datasets.
- Only new or updated records in the EMR will be uploaded to the national data warehouse.

(This process is done for subsequent uploads to the national data warehouse

NOTE:

For the Differential Upload feature to work effectively the following conditions have to be met:

1. *A facility has to Send All data atleast once before using the differnetial feature in subesequent uploads. This applies also to new KenyaEMR and DWAPI installations and Reinstallations.*

2. *ETL has to be recreated prior to extracting data into DWAPI*

3. *For offsite (boadroom) DWAPI uploads, ETL table MUST be recreated prior to data extraction into DWAPI.*

4. *REST Endpints MUST be correctly set under KenyaEMR Protocols (see EMR settings)*

Care and Treatment | KenyaEMR (The minimum version EMR is 17.3.0)

spep 3

⬇ Load from EMR → step 1   step 2 ← ☁ Send All | ☁ Send Changes Only

Extract	Status	(A) Found	Loaded	(B) Flagged	(C) Rejected	(D) Queued (A - C	Sent
All Patients	Sent	12591	12591	2	0	99	12492
ART Patients	Sent	10526	10526	1245	0	0	10526
Patient Baselines	Sent	12355	12355	0	0	0	12355
Patient Status	Sent	6976	6976	0	0	0	6976
Patient Labs	Sent	100395	100395	0	0	0	100395
Patient Pharmacy	Sent	30451	30451	0	0	0	30451
Patient Visit	Sent	709874	709874	0	0	0	709874
Patient Adverse Eve	Sent	0	0	0	0	0	0

Data Extract Details	
Note: It is important to send all THREE (3) dockets whenever data is being uploaded to the Data Warehouse. All flagged records should be cleaned. However, it does not prevent the user from sending data and continuously carry out data cleaning. For data cleaning processes, refer to Section 5 of the **DWAPI Data Cleaning Job Aid**	

THE END