

MediXcel – Helping you Manage your referrals

HOW MEDIXCEL HELPED HOSPITALS MANAGE THEIR REFERRALS COMING IN and BEING REFERRED OUT

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Table of Contents

MediXcel – Helping you Manage your referrals	1
Client Profile.....	3
Business Requirement	3
How did MediXcel's Referral Management System worked for the Client?	5
Benefits of MediXcel Referral Management for the Client:	14
Contact Plus91.....	14

Note: All Images are from Test and Training Client Sites and do not represent the client discussed here.

Plus91 Confidential

Client Profile

XXXX is a leading Hospital having tie-ups with Health Centres within their locality.

The Hospital and 2 of local centres use MediXcel as their EMR and HIS software. 2 centres currently do not use any software.

Business Requirement

XXXX Hospital constantly get referrals from their local health centres for providing specialized services (consultations with specialist not available at the centres / high-end services like MRI / CT-Scans etc).

XXXX Hospital also send referrals back to the more localized health centres for post-surgery care management to continue their care when at home, especially if patients are coming for further afar.

Given these 2 scenarios XXXX Hospital wanted an integrated tool within their MediXcel HIS which would help them manage their referrals for better outcomes. Some of the referrals from the private health centres also needed to be reimbursed back to the centre, so financial tracking would also have to go hand in hand.

Key concerns for the client were:

Referral In:

- Patients being referred in were not properly tagged hence doctors were missing out on vital information related to their previous visits at the health centre.
- Re-imburement tracking was haphazard leading to private health centres getting into payment disputes with the hospital and loss of future business.
- Patient progress was not being communicated in specific cases where needed back to their community doctor at the health centre to close the loop in the continuum of care.

Referral Out:

- Doctors referring patients back to the Health centres for continued care were following each their own method of documentation causing confusion at times.
- Hospital had no follow-up mechanism on knowing how these patients were doing once referred out.

Key requirements stated by client were:

- Have a consolidated of all Referral Health centres which can refer in or be referred out to, with their contact information, services they can refer and re-imbursement rates if any.
- Provision for addition of Referral source with requisite information while adding an appointment (Referral from a Health centre not using MediXcel)
- Viewing and automated conversion of an incoming referral from a centre using MediXcel.
- Ability to share patient report snapshot with the referring Health centre doctor.
- Ability to generate a Referral Letter for a patient being referred from the Hospital to a Health centre and share with the health centre.
- Capture the referred out Patient status update
- Calculate and confirm payment of Re-imbursement to Health centres.
- Referral In and Referral Out Reports.

How did MediXcel's Referral Management System work for the Client?

MediXcel is a full-fledged HIS which is enabled for the Client. MediXcel was enhanced with a referral module and additions into already existing workflows to make it seamless in its use.

- **Database of Referring Health centres:**

We added inside MediXcel a new screens and database to store all the various referral facilities and the rules related to the referral facility. This gave XXXX Hospital a single location from where to track all their referral Health centres and also access to their contact information which otherwise was always missing as show in Figure 2.

The screenshot shows the 'Manage Referral' interface. At the top, there are navigation tabs: 'Home', 'Management', and 'Manage Referral'. Below the tabs, there is a search bar with 'Search' and 'Reset' buttons, and 'Bulk Upload' and 'Add New Referral' buttons. The main content is a table with the following columns: Sr.No, Name, Attached Health Facility, View, Update, and Freeze. The table contains 6 rows of data, all with 'All' in the 'Attached Health Facility' column. The 'Name' column is partially obscured by a blue redaction box. Below the table, there are three buttons: 'Export To Excel', 'Go to Management', and 'Go To Dashboard'.

Sr.No	Name	Attached Health Facility	View	Update	Freeze
1	U	All	View	Update	Freeze
2	A	All	View	Update	Freeze
3	K	All	View	Update	Freeze
4	K	All	View	Update	Freeze
5	D	All	View	Update	Freeze
6	A	All	View	Update	Freeze

Figure 1: Referral Health Centre Listing options

Whether a facility could refer in or refer out or both. If the facility was using MediXcel and using the internet send referrals and requests. If the facility need re-imburement tracking and if yes their rates could be also added by service as shown in Figure 3.

Home > Management > Manage Referral > Add Referral

Add Referral

Name*

Email

Mobile

Address

Qualification

Type Doctor Hospital

Email Report No Yes

Report No Yes

Set Rates All Procedure Individual Procedure

Fee Type

Set Procedure Details

Unit

- AUDIOLOGY
- Blood Bank
- Cardio
- CHILD HEALTH - ASTHMA
- CHILD HEALTH - CARDIAC

Figure 2: Add Referral Health Centre

Upload Fees Data No file chosen

Add Fee To All (Selected Procedure)

#	Unit	Procedure	Fee (GHS)
<input checked="" type="checkbox"/>	FM-EYE CLINIC	Eye OPD New Consultation - Adult	<input type="text" value="100"/>
<input type="checkbox"/>	FM-EYE CLINIC	Eye OPD Review Consultation -Adult	
<input type="checkbox"/>	FM-EYE CLINIC	Eye OPD New Consultation - Child	
<input type="checkbox"/>	FM-EYE CLINIC	Eye OPD Review Consultation -Child	

Figure 3: Re-imbursement Tracking Rate Management

This database could be added or updated by their administration staff at any point in time to ensure the information was accurate and up-to date.

- **Referral Ins:**

Patients from Health centres could be referred to the Hospital for specialist appointments or high end diagnostic services not available at the Health centre.

Patients would usually be given a referral note from the Doctor at the Health centre for him or her to present at the reception at the hospital for an OPD Visit. MediXcel was updated to be able to do the same.

- **Tagging Referral In Patients:**

Initially MediXcel would allow you to add a referring source in a Text box for record keeping. However this was enhanced significantly for this module.

- a. Patient being referred manually with a referral note from a Health centre

Figure 4: Manual Tagging of Referral during Appointment creation

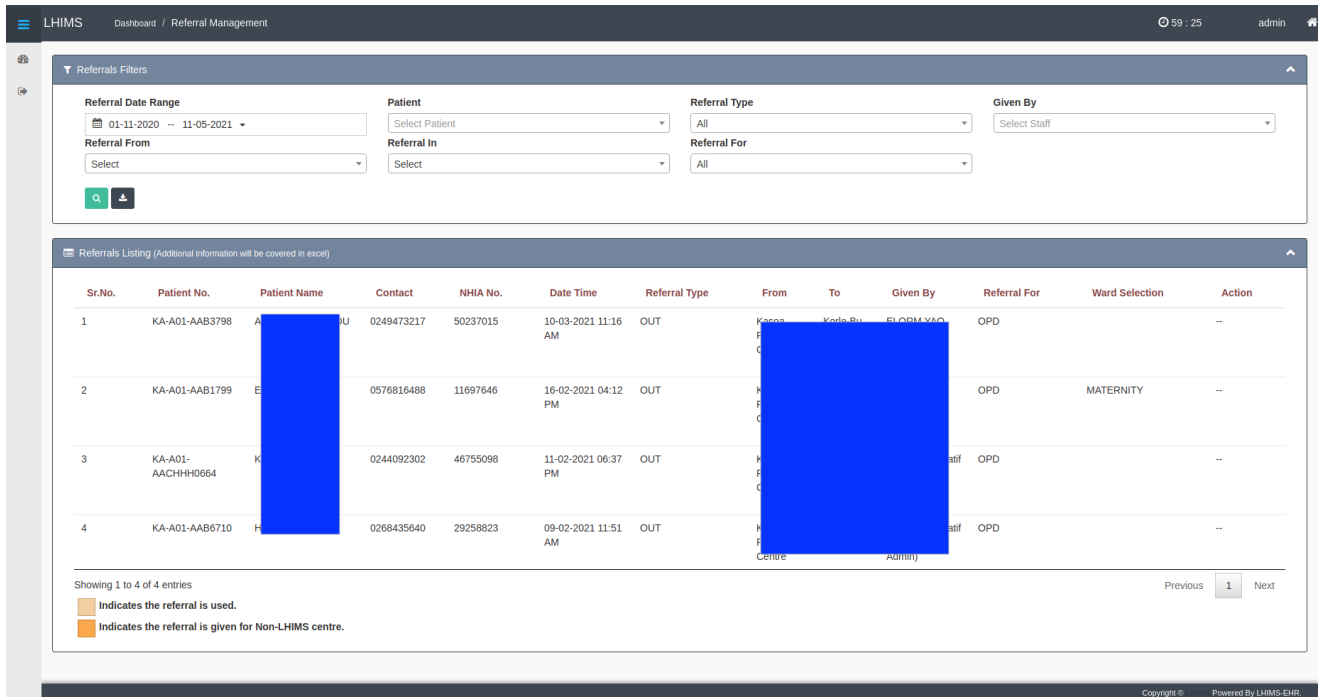
Now while adding an appointment in MediXcel if a Patient was referred from an external facility manually with a Referral note the Receptionist would tag the referring facility as show in Figure 4.

Figure 5: Manual Attachment of Referral Details

After the tagging they could also scan and attach the note and key information about the patient’s referral note for easy access to the doctor to view to continue with the care provision as show in Figure 5.

b. Patient being referred automatically from Health centres using MediXcel

Health centres where MediXcel was being used could refer patients and their key information via an API. These patients were seen on a special listing screen for Refer-Ins with their referral note visible to the Receptionist as shown in Figure 6.



The screenshot shows the LHIMS Referral Management interface. At the top, there are filters for Referral Date Range (01-11-2020 to 11-05-2021), Patient (Select Patient), Referral Type (All), and Given By (Select Staff). Below the filters is a table titled 'Referrals Listing' with the following data:

Sr.No.	Patient No.	Patient Name	Contact	NHIA No.	Date Time	Referral Type	From	To	Given By	Referral For	Ward Selection	Action
1	KA-A01-AAB3798	[Redacted]	0249473217	50237015	10-03-2021 11:16 AM	OUT	Kanna	Koda-Bu	ELORM YAO	OPD		--
2	KA-A01-AAB1799	[Redacted]	0576816488	11697646	16-02-2021 04:12 PM	OUT	[Redacted]	[Redacted]	[Redacted]	OPD	MATERNITY	--
3	KA-A01-AACHH0664	[Redacted]	0244092302	46755098	11-02-2021 06:37 PM	OUT	[Redacted]	[Redacted]	[Redacted]	OPD		--
4	KA-A01-AAB6710	[Redacted]	0268435640	29258823	09-02-2021 11:51 AM	OUT	[Redacted]	[Redacted]	[Redacted]	OPD		--

Below the table, it indicates 'Showing 1 to 4 of 4 entries' and includes a legend: a blue box indicates the referral is used, and an orange box indicates the referral is given for Non-LHIMS centre. The interface also shows 'Previous', '1', and 'Next' navigation options.

Figure 6: Referral Dashboard - API based Referrals

Once added their key medical consult snapshot from the Health centre is also visible to the Nurse and Doctor to continue with care. More importantly the Health centre on their refer out page can see the status of this patient as pending, scheduled, completed to ensure the cycle is completed. Once completed they can also see the referred doctor's consult snapshot to continue care.

This ensures that there is a feedback loop to complete the patient journey.

○ **Accessing Referred in Patient History:**

Being able to access the Medical records of a patient from their previous visit at the Health centre can be vital to the continuum of care. Doctors who have access to patient history can make better and more informed decisions. MediXcel using its existing integrations and recent enhancements done for the Referral module ensure every opportunity is provided for this to happen.

External Referral History

x


Sr.No.	Date	External Referral	Diagnosis	Procedure	Attachment	Notes
1	10-03-2021	NA		OPD DETAINED FOR OBSERVATION -CHILD [EMERGENCY TRIAGE]	null	null
2	10-03-2021	NA		OPD DETAINED FOR OBSERVATION -CHILD [EMERGENCY TRIAGE]	null	null

 Expired External Referral(s)

Close

Figure 7: Manual Attachment of Reports from Referred Patients

In the case of this client for patients coming from unconnected Health centres their existing referral notes and paper records if any can be scanned, appropriately tagged at the receptionist desk for access by the Doctor as seen in Figure 7.

 Indicates that the appointment is cancelled

Patient Remote Reports

OPD Reports

Sr.No	Report Name	Doctor Name	Report Date	Clinic Name
1	EYE ADULT (WITHOUT PROCEDURE) REPORT	Consultation Team	07-06-2019	Ca [redacted] tal
2	EYE OPD CONSULTATION - ADULT REPORT	Consultation Team	06-08-2019	Ca [redacted] tal
3	EYE OPD CONSULTATION - ADULT REPORT	Consultation Team	07-08-2019	Ca [redacted] tal
4	ENCOUNTER REPORT	Pearl Esuman Gwira	16-08-2019	Ca [redacted] tal
5	EYE OPD CONSULTATION - ADULT REPORT	Consultation Team	04-09-2019	Ca [redacted] tal

IPD Reports

No Discharge Card Found

Figure 8: Automatic Syncing of Reports from a Linked Facility

In case of patients from a connect Health centre using additional APIs the MediXcel setup of the Health centre shares PDF copies of the consultation as part of the patient medical history for the doctor to see. This happens in the background when the appointment is added using a referral entry as seen in Figure 8.

Additionally medical records can also be ported (not in the case of this client but in general) as below:

- Patient can upload their reports using a Patient Portal or Patient App provided as a MediXcel Add-on
- Using our Web APIs which can be exposed to pull in Patient PDFs from other sources
- Using our Web APIs to be pull objective EMR records using the FHIR standard.
- In India, using the new National Digital Health Mission workflow

○ **Sharing Patient Reports to Referral Centres:**

Similar to the above case when a referred patient has completed his or her visit to the Client, the doctors at Hospital XXX can share the patient consultation report with the Health Centre.

They can:

- Email a copy of the consultation pdf report as show in Figure 9.

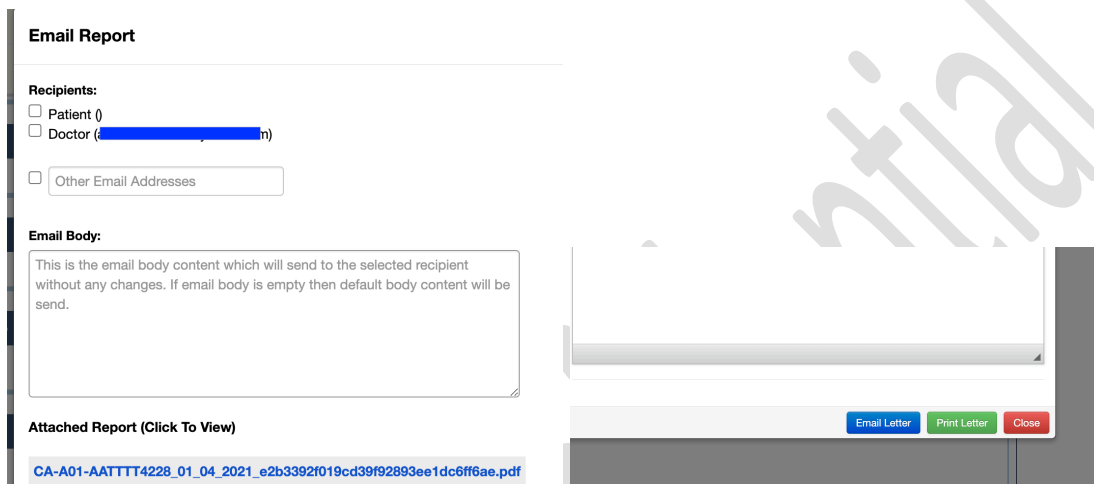


Figure 9: Email Report / Email Referral Letter option in MediXcel

- Send a referral letter and referral back if they need to continue care at the local Health centre. Email option is show in Figure 9 above.
- If linked then using the above API they report PDF will automatically be synced to the MediXcel record at the Health centre instance as seen in the previous section.
- **Referral Outs:**

The Client also referred out patients to local Health centres who could continue their care at a more closer level given they would have to travel far distances. MediXcel referral management allowed selection of Centres where Referral out was allowed.

○ **Sending a Referral Out:**

The Doctor at the Client Hospital XXXX could send out a referral at the end of his Consultation or In-Patient discharge by creating a Referral letter. The letter allowed for free text and also had a structured form. The form ensured the format was more formal and considered all necessary information as required by the hospital protocol to be included in the referral letter.

The form also picked some fields directly from the consultation or IPD record to ensure less typing work for the doctor and quicker letter generation as show in Figure 10.

Staff Details

Staff No.: **SNO-1** Staff Name: **System User (Super Admin)**

Referral Details

Referral In* **Referral Date*** **Referral Time***

Reason for Referral*

For specialist review

Referral For* + Add Another

✖

Principal Complaints

known diabetic managed for dizziness repeatedly
symptoms still persistent
no ear itch or pain
known diabetic and hypertensive on medications

Treatment Notes

Referred to korlebu polyclinic department of family medicine

Principal Complaint List (Patient Referral Letter doesn't draft this details.)

✖ review ✖

Observed Complaint List (Patient Referral Letter doesn't draft this details.)

ICD-10 Details

1] R42 (Dizziness and giddiness) given on 10-03-2021 (Is Chief : Yes | Code Status : Old | Is Confirmed : No)

Once patient referral details drafted, any consultation changes will not be reflected here in referral letter.

Figure 10: Structured Referral Letter format in MediXcel

These letter now could be printed, emailed or automatically sent to linked Health centres via an API.

○ **Updating Patient Status:**

For patients where a referral letter was sent to an External Doctor at another Health centre the Referral management module provided a closed loop system for feedback.

For Health centres which were not linked it provides fields to manually confirm if an appointment was booked and completed by patient at the referred centre along with an option to scan the consultation document. The listing also provided the patient's and centre's phone numbers' for ease of use to call as show in Figure 11.

The screenshot shows a web interface for managing referrals. At the top, there are two dropdown menus: 'Recommendation Status' (set to 'Pending') and 'Referral Facility' (set to 'Select Any'). To the right, there is another dropdown menu labeled 'Recommendation In' (set to 'Select Any'). Below these are five buttons: 'Filter' (green), 'Reset' (yellow), 'Lock' (red), 'Go To Dashboard' (grey), and 'Convert To Appointment' (green). A section titled 'Patient Report' contains a 'Show 10 entries' dropdown. Below this is a table with the following columns: '#', 'Patient', 'Procedure', 'Rec. Date', 'Ref. Fac.', 'Rec. On', and 'Rec. By'. The table contains one entry with the following data: '# 1', 'Patient [redacted]', 'Procedure Major Dressing', 'Rec. Date 01-04-2021', 'Ref. Fac. [redacted]', 'Rec. On 01-04-2021', and 'Rec. By [redacted] (58039)'. There is a blue eye icon next to the procedure name.

Figure 11: Referred Out Patient Listing

For linked centres the Referral Dashboard automatically updated the Referral as Scheduled or Completed with an option to view the Consultation Note once Finalized by the attending Doctor.

● **Reports:**

Referral Management has reports to ensure Tracking is complete and the benefits of all this data are seen by the Hospital

○ **Re-Imbursement tracking**

Based on the Patients Tagged manually or automatically the system automatically generates a re-imbusement report for the time period requested. The report summarizes the amount owed to the concerned Health centre for the referral done based on the rules applied at the time of setup. The Report is shown below in Figure 12.

Referral Summary Report FROM 25-03-2021 TO 01-04-2021

Sr No	Referral Name	Referral Type	Total Patient	Total Bill (Rs.)	Total Fee (Rs.)
1	Dr. A [REDACTED]	Ordering Physician	1	5000	700
2	Dr. B [REDACTED]	Ordering Physician	1	2000	0
3	Dr. B [REDACTED]	Ordering Physician	2	1600	300
4	Dr. C [REDACTED]	Ordering Physician	3	4000	1050

Figure 12: Re-imburement Report - Summary for the month

All the reports are exportable to Excel

○ Referral In Report

Referral In report summarizes the Referral that have come in manually or automatically into the system. It gives their status and also allows you to filter the list based on Source, Dates, Status, etc. You can also export the filtered report. Filters and options are show in Figure 13.

Referrals Filters

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Referrals Listing (Additional information will be covered in excel)

Sr.No.	Patient No.	Patient Name	Contact	NHIA	Date Time	Referral Type	From	To	Given By	Referral For	Ward Selection	Action	
1	CA [REDACTED]	JMAN	507388101	[REDACTED]	01-04-2021 10:00 AM	IN	A [REDACTED]	RE	NA	J [REDACTED]	ior	OPD	--
2	CA [REDACTED]	MEDORIA	0241658158	[REDACTED]	01-04-2021 07:00 AM	IN	U [REDACTED]	Coast	NA	J [REDACTED]	ior	OPD	--
3	CA [REDACTED]	HUN	0595985253	[REDACTED]	01-04-2021 07:00 AM	IN	N [REDACTED]		NA	J [REDACTED]	ior	OPD	--
4	CA [REDACTED]	J	0553537734	[REDACTED]	01-04-2021 07:00 AM	IN	S [REDACTED]		NA	J [REDACTED]	ior	OPD	--

Showing 1 to 4 of 4 entries

Indicates the referral is used.

 Indicates the referral is given for Non-LHIMS centre.

Previous 1 Next

Figure 13: Referral Report Dashboard with filters and options

○ Referral Out Report

Similar to the Referral In Report you also have an option to get a Referral Out report. It has similar features, filters and export options. It allows you to manually add the referral status.

Benefits of MediXcel Referral Management for the Client:

- The XXXX Hospital was able to save over 500+ man-hours per month across receptionists, nurses, doctors and financial teams as they could seamlessly track referral in and referral out patients and their reports.
- The XXXX Hospital ensured their private Referral Health centres had their reimbursement total and report shared on the first of the following month with no errors leading to trust and growth in referrals from these locations over 6 months.
- Doctors at XXXX Hospital were able to access previous history of the Patient being referred, either a manually entered snapshot or access to actual patient reports (for Health centres using MediXcel) ensuring better continuum of care.
- Minimum delay in communication was seen as all reports and referral letters were being shared via e-mail directly from the system
- For automated referrals minimal or no data entry was needed to add the patient hence error handling was reduced.
- Overall XXXX Hospital saw reduced processing times, and better patient care completion records. Not to mention an increase in revenue due to the referral management module.

Contact Plus91

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