

# Patient Clinical Summary Enhancement

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## Abstract

The Patient Clinical Summary generates a summary that is being displayed on the patient dashboard which is helpful for the providers to make clinical decisions without going through numerous encounters/observations. Currently, there is no mechanism for providers to provide any feedback to confirm whether the summary is correct or not. When the summary is not correct due to missing data/incorrect data in the system, it would be helpful for providers to provide the correct information to improve the data quality.

As more usage of on mobile application, the same needs should be developed for mobile health application (mUzima) as well.

## Description

- On the server side, the template should be done so that it is configurable in terms of content - e.g. to accept regular concepts and in the future to accept derived concepts).
- The template also needs to be configurable on the server to define what order / grouping the content should be presented.
- Example Summary:  
Summary sub-sections: Demographics | Medical Problems | Vital Signs | Allergies | Current Medications | Diagnostic Tests - the order with which these appear needs be defined in the template.  
Within each sub-section you have several patient identifiers or several concepts - e.g. Demographics: First M Last Names, Date of Birth, Medical Record Number (in mUzima we will already have this information, so might not be interested in displaying them)
  - Vital Signs: Temperature | Blood Pressure | Pulse | Respiratory | Oxygen saturation - this is the order these usually are supposed to appear for clinicians. So, the template should allow easy configuration of the order.
- Allow mUzima to consume both the content of the summary, and the order details
- mUzima to display these based on best fit scenario (based on what is available on Android)
- Ideally, I the clinical summary should allow for creation of the summary subsections, and then through drag / drop, allow for them to be reordered (or arranged in a specific order)
- Then within each subsection, it would allow for concepts or patient identifiers to be selected, and then through drag and drop allow them to be arranged in a specific order.
- This is then saved in a format that is consumable by mUzima (json) - capturing the content and order.

On the mUzima:

- The summary details are downloaded
- Then displayed based on pre-defined templates - so for example - each subsection could be its own tab at the top. Or they could follow one another in one document - scrolling up and down.

Frequency of synchronizing summaries (needs further discussions):

- The server will update summaries and push any changed summary to the device - that can be updated during the next synchronization on the device.

## Requirements

- Good Java and JavaScript skills
- Soft skills to interact with the community in order to gather requirements and technical feedback

## Skills Needed

- Java
- JavaScript
- HTML
- CSS
- MySQL
- Good understanding of Spring framework and OpenMRS API
- REST

## Objectives

- Create patient summary review/feedback which allows providers
  - to confirm the clinical summary is correct
  - to provide recommendation for the changes
    - with options which require data review or without
  - so that those are being queued in the system
- For feedback review, it should allow reviewers
  - to accept recommendations and make changes
  - to decline the recommendations with reasons
- Enhance mUzima to allow consumption of the patient abstract.
  - Develop a high quality user-interface for displaying the abstracts within mUzima.
  - Implement functionality within mUzima to allow for editing of content within the summary.

## Extra Credit

Alert setting - to allow alerts being generated with a user defined frequency that x numbers of messages are waiting for reviewers' attention.

## Action Items

- Install clinical summary module in a local instance and test a few examples of summaries - responsible person Sam Mbugua
- Identify gaps that exist and that would need improvement - responsible person Sam Mbugua

## Resources

- [How to create a Patient Clinical Summary using Reporting Module](#)
- <https://wiki.muzima.org/display/muzima/muzima>

## Achievements

- Generating Patient clinical summaries using SQL data set definitions.
- Creating scheduled tasks to generate patient clinical reports.
- Creating user interface to create report configurations.
- Creating back-end infrastructure to implement functionality.
- Creating endpoints to consume reports from Muzima Android App.
- Modifying Muzima Android app to display reports to the user.

## GSoC Contributions

- [Muzimacore Module](#)
- [Muzima Android App](#)
- **Talk Discussion:** [Openmrs Talk Thread](#)
- **Blogs:** [Medium Blogs](#)