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WEB-RADR

WP3A – Mobile Reporting Platform

D3A.8 – Changes required to the WEB RADR app to move from E2B (R2) to (R3)

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CHANGES REQUIRED TO THE WEB RADR APP TO MOVE FROM E2B (R2) TO (R3).

ABOUT THIS DOCUMENT ____ 3

Target audience ____ 3

Definitions and abbreviations ____ 3

Version ____ 3

References ____ 3

BACKGROUND ____ 5

WEB-RADR mobile reporting API ____ 5

IMPACT ON THE USER INTERFACE ____ 5

Impacted fields from the user interface – requiring an update ____ 6

New fields/functionalities available in E2B R3 to be considered for a mobile app upgrade ____ 6

ICSR VALIDATION RULES ____ 7

SCHEMA FILE ____ 7

API IMPACT ____ 7

ABOUT THIS DOCUMENT

TARGET AUDIENCE

The document "CHANGES REQUIRED TO THE WEB RADR APP TO MOVE FROM E2B (R2) TO (R3)" is intended for systems developers and similar groups that need to understand the impact of E2B (R3) standard on the design of the WEB-RADR app.

DEFINITIONS AND ABBREVIATIONS

Terminology	Description
API	Application Programming Interface
ICSR	Individual Case Safety Report
IMI	Innovative Medicines Initiative
Json	JavaScript Object Notation - Data transfer format
XML	eXtensible Markup Language – Data transfer format
Halmed	Croatia NCA; name of Croatian mobile app
Lareb	Netherlands Pharmacovigilance Center
Yellow Card	UK mobile app
MHRA	Medicines & Healthcare Products Regulatory Agency, UK NCA
VigiFlow	An ICSR management system maintained by WHO designed for use by participating member states enrolled under WHO's international drug monitoring program.
VigiAccess	A WHO database that enables users to browse and view data on suspected adverse drug reactions from various medicinal products
WHO	World Health Organization
ADR	Adverse Drug Reaction
HCP	Healthcare Professional
XML	Extensible Markup Language – a markup language that defines a set of rules for encoding documents in a format which is both human-readable and machine-readable

VERSION

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REFERENCES

Ref No	Name	URL/Document Id
1.	WEB-RADR project homepage	http://web-radr.eu/
2.	EU Individual Case Safety Report (ICSR) Implementation Guide (EMA/51938/2013)	http://www.ema.europa.eu/docs/en_GB/document_library/Regulatory_and_procedural_guideline/2014/04/WC500165979.pdf
3.	ICH E2B(R3) Implementation Guide for Electronic Transmission of Individual Case Safety Reports (ICSRs)	http://estri.ich.org/e2br3/index.htm

	And Appendix I (B) Backwards and Forwards Compatibility Recommendations	
4.	EU ICSR Implementation Guide Business rules Spreadsheet	http://www.ema.europa.eu/docs/en_GB/document_library/Other/2015/10/WC500196023.xlsx
5.	International ICSR standard ISO/HL7 27953-2:2011	
6.	EMA training: Implementing ISO ICSR/ICH E2B(R3) Training Module PhV-M2b	http://www.ema.europa.eu/ema/ doc ID: WC500214145
7.	EMA training: ISO ICSR standard implementation for IT system developers Training Module IT-M1	http://www.ema.europa.eu/docs/en_GB/document_library/Presentation/2017/01/WC500219437.pdf
8.	Eu reference instances	http://www.ema.europa.eu/ema/ doc ID: WC500196027

BACKGROUND

WEB-RADR is a EU supported project (through IMI) developing a mobile app for patients and healthcare professionals to report suspected adverse drug reactions to national EU regulators, and investigating the potential for publicly available social media data for identifying drug safety issues.

Launched in September 2014, the ground-breaking three-year project seeks to utilize the powers of social media and new technologies for pharmacovigilance purposes. It arose in response to the ninth call for IMI projects "WEBAE – Leveraging Emerging Technology for Pharmacovigilance", and is based on the belief that modern pharmacovigilance practices should adapt to these new ways of communicating.

For an in-depth description of the WEB-RADR project and details of all the work-packages, see the WEB-RADR web site (ref 1).

This document specifically focuses on the changes from E2B (R2) to E2B(R3) standard that impact the design of the mobile application, it also provides recommendations regarding new fields/functionalities that should be considered based on the implementation of the E2B(R3) standard.

WEB-RADR MOBILE REPORTING API

The current WEB-RADR app is designed to comply with the E2B(R2) standard and to report safety information from the public (HCP or consumers) to the National Competent Authority (NCA).

During the implementation of the project, some minor deviations to the E2B(R2) standard have been implemented:

- either to collect and report structured information (e.g. customized list of value for qualifications, reporter's email address, etc.) depending on the structure of the destination database (from the NCA).
- or adapting the E2B validation rules to facilitate the reporting (reaction MedDRA coding not mandatory)
- or adapting the E2B validation rules to improve the data quality of information reported by the app (e.g. Birthdate may have been set as a mandatory field in some pilot apps).

This document is aimed to review the changes from E2B(R2) to E2B(R3) and their potential impact on the mobile app design and functions.

The main topics to be considered when assessing the changes are:

- the impact on the user interface (obsolete/New fields, field size, code list values, new functionalities such as attached files)
- Change to the ICSR validation rules
- Change to the schema file of the electronic report (based on HL7)
- Impact on the API used for the transfer of the xml from the WEB RADR servers to the National Competent Authority Safety Database

IMPACT ON THE USER INTERFACE

This section is focused on the impact of the E2B upgrade on the user interface.

It documents also some relevant new fields/functionalities available in E2B R3 standard to be assessed for inclusion in the context of the app upgrade from E2B R2 to E2B R3. The length of some fields has been increase and more details can be found in the implementation guides (ref2 and ref3).

To find more information regarding the user interface design, please refer to the WEB-RADR App Design document and it appendix 1.

IMPACTED FIELDS FROM THE USER INTERFACE – REQUIRING AN UPDATE

- The seriousness criteria E.i.3.2 "Seriousness Criteria at Event Level" should be requested at event level instead of report level
- Number of separated doses (product information tab) should not be requested anymore (removal of field B.4.k.5.3) – However the possibility to enter multiple dosage info for the same medicinal product could also be considered

NEW FIELDS/FUNCTIONALITIES AVAILABLE IN E2B R3 TO BE CONSIDERED FOR A MOBILE APP UPGRADE

the fields/functionalities suggested bellow should be assessed for inclusion by appropriate representatives of patient/HCP users, Pharmacovigilance, technical experts:

Attachment

One of the new functionality to be considered is the possibility to include attachments to the ICSR file. App users could attach information such as pictures e.g from the drug package to enable a detailed product identification or to support the description of the reaction or of the test results (refer C.1.6.1.r.2 Included Documents for more information)

Other relevant fields

- Product information: A lookup on XEVMPD (IDMP) database could be implemented to replace the datafiles from the national competent authorities. Drug identification could be suggested dynamically based on the active substance/trade name, strength and dosage form.
- G.k.7.r "Indication for Use in Case" the app could be upgraded to provide the possibility to enter multiple indications per drug
- G.k.10.r "Additional information on Drug (coded)" to be considered as a drop down list for HCP interface
- Patient Age Group (as per reporter) not used in the mobile app to be considered specifically for the reporting of Foetus reports. In the generic app and some pilot apps, the patient age or date of birth must be provided.
- New field D.7.3 Concomitant Therapies – not requested in the app even in narrative – to consider requesting such info to be entered in the free text field "additional comments"
- E.i.9 "Identification of the Country Where the Reaction/Event Occurred", it is assumed that the event occurred in the country under the responsibility of the agency where the report will be submitted.
- Dosage form is not requested in the WEB-RADR app to be considered in next upgrade using the standard list

ICSR VALIDATION RULES

The mapping and length of the fields should be reviewed to comply with the ICH and EU validation rules.

Null flavors should be used where appropriate to ensure that the ICSR file is compliant with E2B R3.

Please refer to the EU ICSR Implementation Guide Business rules Spreadsheet (ref 4) to check the business rules contained in the EU implementation guide along with additional technical information.

SCHEMA FILE

The schema file of the ICSR report should be developed based upon an HL7 ICSR model.

The ISO/HL7 standard is further detailed in:

–ISO/HL7 27953-1: 2011 Health informatics -- Individual case safety reports (ICSRs) in pharmacovigilance -- Part 1: The framework for adverse event reporting

–ISO/HL7 27953-2: 2011 Health informatics -- Individual case safety reports (ICSRs) in pharmacovigilance -- Part 2: Human pharmaceutical reporting requirements for ICSR Json file is generated from the app to transfer the safety report information from the mobile app to the backend database servers. the Json file will need to be updated to comply with the E2B R3 standard XML format.

Eu reference instances can be found in EMA Website (ref 8)

API IMPACT

The WEB-RADR API at the National Authorities, receiving reports from the back end data service, is not affected by the transition from R2 to R3 but the underlying systems need to be able to handle files on R3 format as well as R2 format. The API itself do not specify the format of the incoming file.