

WM00D-15 Electronic Health Records Systems

24/25

Department

WMG

Level

Taught Postgraduate Level

Module leader

Ruohan Zhang

Credit value

15

Module duration

1 week

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

This module explores key concepts of the design and operation of electronic healthcare records (EHRs) across the healthcare enterprise, including standards and regulatory issues. The module covers the subjects of data quality in EHRs and the link with other systems. It will equip students to understand the semantically-rich capture of data in support of clinical decision-making; EHR storage and sharing; EHR standardization; barriers and facilitators to the adoption of EHR including within the context of data protection issues. Some specific aims include:

- Understanding some of the common methods used in health informatics, and factors that determine their selection.
- Critical review of health information systems.
- Understanding ways to harness computerized data for clinical decision making

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Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

1. Electronic Health Records and patient data integration for clinical care
2. Clinical coding in the context of EHR implementation.
3. Design and implementation of functional components of EHR systems.
4. Syntactic and Semantic Interoperability for EHRs for integrated care.
5. Principles of information governance for Electronic Health Records.
6. Audit and Electronic Healthcare Records.
7. Clinical Research and EHR systems.

Learning outcomes

By the end of the module, students should be able to:

- 1) Critically understand the integrated view of patient data, through the use of Electronic Health Records.
- 2) Synthesize critical knowledge the main functional components of EHR systems.
- 3) Articulate clear understanding of ways to identify the functions of EHR systems within primary, acute and secondary healthcare settings.
- 4) Systematically identify relevant EHR interoperability standards and associated implementation practice.
- 5) Analyse the barriers and opportunities of EHR systems, and appreciate EHR associated risks.
- 6) Critically appreciate the processes that relate the integration of EHR systems in the design of healthcare operations.

Indicative reading list

Sample bibliography

1. E. H. Shortliffe and J. J. Cimino (Eds.), *Medical Informatics: Computer Applications in Healthcare and Biomedicine*, Springer, 2006.
2. H. P. Lehmann, P. A. Abbott, and N. K. Roderer (Eds.), *Aspects of Electronic Health Record Systems*, Springer, 2006.
3. J. M. Walker, E. J. Bieber, and F. Richards (Eds.) *Implementing an Electronic Health Record*

System, Springer, 2006.

4. A. Wright (Ed.), Clinical Problem Lists in the Electronic Health Record, CRC Press, 2015.
5. A selection of research papers from the “Yearbook of Medical Informatics” collections (1995-2015) of the International Medical Informatics Association (IMIA) & various peer-reviewed scientific journals (1980-2015).

Subject specific skills

Understanding of health record systems, understanding of implementing clinical guidelines in the context of EHRs, understanding of coding patient information, knowledge of legal, regulatory and ethical issues, co-production of EHR systems, safety of EHR systems.

Transferable skills

Communication in specifying healthcare services, teamwork developing complex healthcare solutions, organization in document systems, technology literacy on requirements specification and data/metadata description

Study

Study time

Type	Required
Lectures	20 sessions of 1 hour (13%)
Seminars	6 sessions of 1 hour (4%)
Practical classes	6 sessions of 1 hour (4%)
Supervised practical classes	8 sessions of 1 hour (5%)
Private study	110 hours (73%)
Total	150 hours

Private study description

110 hours of self-directed study leading to post module assignment.

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A1

	Weighting	Study time
Assessed work as specified by department	100%	
Part – 1 in the form of technical report, associated with computer-based exercise of about 2000 words. (30%)		
Part – 2 written assignment of about 4000 words. (70%)		

Feedback on assessment

- Formative (oral) feedback during practical classes.
 - Written feedback on post-module assignment.
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Availability

Courses

This module is Core optional for:

- Year 1 of TWMS-B9AA Postgraduate Healthcare Operational Management