Enabling Access to Clinical Care Data for Health Services Research – Recent Developments in Applied Medical Informatics in Germany

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In the course of an unscheduled need to replace its hospital information system (HIS; German: KAS) the University Medicine Greifswald (UMG) initiated the KAS+ project. A novel integrated IT infrastructure will connect patient care ("KAS") and research (the "Plus"). By this, patient care data will be made available for research purposes, and conduct of research projects, e.g. clinical studies, will be supported. The architecture also allows to construct and implement dynamic clinical processes.



The goal is to improve research opportunities and personalization of care simultaneously based on a fully integrated management of clinical data.



conventional KAS Challenge: The previous hospital IT <u>Challenge: According to German as well</u> <u>Challenge:</u> Most infrastructure was built on a multitude of regulations research use of a Components do medical not store EU as systems metadata according to the guidelines of Of many which are not patient's data be medical must interoperable, some where not even specifically consented. Identifying data good epidemiological practice (GEP). In connected. Moreover, neither methods be others, metadata are part of the core have address,...) to (name, implementation and thus hard to extract. nor formats of documentation were separated and particularly protected. compatible. Solution: Data privacy requirements are Solution: A central metadata repository Solution: Medical data from all met by a technically and organizationally (MDR) holds all metadata of data the independent Trusted Third Party (TTP). multitude of heterogeneous clinical data sources are transformed by the data (orchestra platform integration by The TTP provides tools for identity, sources. Manufacturers of all x-tention). To provide adequate data components of the IT infrastructure consent, and pseudonym management. privacy protection, data are cached in a supply their own metadata for the MDR (www.mosaic-greifswald.de) "Privacy Protection & Interface Layer" in a compatible digital format. (PPIL) until a consent is issued. Upon Universitätsmedizin EUROPEAN UNION transferred to the research platform. Investing in our Future Community Medicine European Regional Development Fund

The UMG's KAS+ architecture allowing for an optimal integration of components with existing systems that defines an approach for similar infrastructure projects.

(2) Synchronization of metadata

(3) Provision of research data

SGRY

consent, these are pseudonymized and



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> The KAS+ project is a strategic partnership of the university hospital, health care researchers, and ITindustry providing the platforms for patient care (MCC by Meierhofer AG), and research (CentraXX) by Kairos GmbH).

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