

Continuing Professional Development (CPD) within the Workplace in a Digitised Health-Care System: The Perspective from a German Professional Union

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Here we describe how digitisation of the health-care system may pave the way into a new era of CPD with a direct impact on community health: local health service providers (e.g. hospitals) may organise tailor-made workplace CPD to define future health outcomes based on locally identified practice gaps.

Background

Marburger Bund (MB), the largest doctors' union in Germany (and Europe), has for many years claimed that "CME [Continuing Medical Education] is an integral part of physicians' professional practice. It is an element of quality assurance in medicine. All physicians should have equal access to CME, in particular irrespective of their level of training, function, or professional position. CME should be considered as part of physicians' work performance. It should primarily take place during working hours. Doctors should have the opportunity to practise CME at the workplace (e.g. via the Internet). Cost of CME should be covered by the employer" [1]. To support this claim, before Covid, MB negotiated within its tariff contracts, paid educational leave of up to 5 days per year. This allows doctors to attend external CPD activities like medical congresses; but no major progress has been made in strengthening workplace education [2]. This might now change. In the past, experts have rated the digital maturity of the German health-care system as "inappropriate" [3,4]. However, it is only since the Covid pandemic stressed the entire system, that politicians have been willing to admit that the system as a whole could have performed better, if greater digitisation had facilitated an improved availability and speed of information across the health-care sector. Federal Government subsequently implemented the "Future



of Hospital Care" law ("Krankenhauszukunftsgesetz", KHZG, 5), which came into effect on 29 October 2020. KHZG allows Federal Government, together with the Federal States ("Bundesländer"), to offer 4.3 billion Euros to hospitals in order to modernise their digital infrastructure. Thus, KHZG has resulted in the greatest public investment in digitisation of the health-care system in Germany.

KHZG and CPD

CPD is not a focus of KHZG. In fact, the term CPD (or similar terms) is not mentioned at all in KHZG; nevertheless, KHZG addresses issues relevant to CPD. Under the KHZG, hospitals can apply for funding of digital infrastructure in relation to a number of domains:

- (1) Digital update of emergency departments
- (2) Patient portals
- (3) Digital documentation of nursing care and medical care
- (4) Clinical decision support systems
- (5) Medication management
- (6) Ordering systems for medical procedures
- (7) Coordination of complex medical procedures (e.g. between different hospitals in an area)
- (8) Capacity management of hospital beds (local, regional, nationwide)
- (9) Systems related to information or communication technology, robotics or telemedicine
- (10) IT-security
- (11) Construction measures [6]

Although several of the domains contain items of some importance for medical education, it is particularly domains 3 and 4 which are most relevant to CPD

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- a) To receive funding under domain 3 a project **must** (among others) achieve fully digital, syntactic, semantic, and organisational interoperability of documentation (6, p. 19). It **may** also offer (among others) opportunities to document quality indicators, or facilitate recruitment of patients for clinical trials (6 p. 20)
 - b) To receive funding under domain 4 a project **must** offer (among others):
 - structured storage of patient data with the opportunity for
 - o visual, easy to grasp editing
 - o validity checks of data and data sources
 - opportunity to connect to
 - o data(bases) allowing individualisation of therapy (e.g. based on patient history, or external or internal guidelines or recommendations etc.)
 - o alert systems
 - opportunity to connect to Clinical Decision Support Systems (CDSS) for nurses and physicians, offering
 - o valid documentation for legal purposes
 - o documentation of decisions at variance with recommendations made by the CDSS
 - o plausibility checks and feedback for post hoc analysis of the decision-making process
- Projects **may** include
- artificial intelligence (AI) systems
 - connection to clinical registries, research databases, etc. (6, p. 24)

Potential Implications for Future CPD

According to the widely accepted concept of Moore and colleagues, the ultimate goal of CPD is to contribute to the improvement of community health [7]. To achieve this, CPD not only needs to take into account recommendations derived from clinical trials, “kick-off-competence” [8], but also needs to be informed by the health status of the community and the performance of local health-care providers, “keep-on-competence” [8]. KHZG defines, for the first time, a nationwide unifying framework for the acquisition, processing and use of data in hospital care, which might also have implications for CPD:

- (1) It offers unique opportunities for CPD to become more relevant to community health:

- a) Needs assessment as well as definition of outcomes in CPD can now use local (‘community’) patient data to design CPD
 - b) Relevant outcomes may not only be used to design ‘the next round’ of CPD (leading to CPD as a closed loop model of intervention and feedback, 9), but also for benchmarking (against the own previous performance, other hospitals in the same region, and external recommendations etc.). In so doing CPD would be more targeted at selected (and perhaps even smaller) patient populations (10).
 - c) Defining needs and preparing content by using the results of routine data processing will reduce the need for external funding and probably also potential biases introduced by sponsoring.
 - d) Facilitation of health service research may identify items relevant to CPD, including (among others):
 - geographic variations
 - performance of CDSS or AI
 - relevance of procedural variables (e.g. interdisciplinary or ‘inter-sectoral’ communication etc.) on workflow and outcome etc.
- (2) This model of future CPD would facilitate workplace CPD as an onsite activity delivering content designed to address local practice gaps (‘needs’) (and not just ‘importing’ online education delivered from external sources).
- (3) Since KHZG will lead to the establishment of an integrated digital infrastructure to be used by all professions involved in patient care, this will also offer a unique opportunity to design inter-professional CPD.

Whether these aspirations will be fulfilled depends critically on whether particular concurrent challenges are met:

- (1) It is only hospitals, i.e. their owners and/or executive officers, who can apply for funding. Furthermore, updating digital infrastructure will probably make use of customised solutions offered by IT providers and/or the “medtech” industry. In the past software solutions used in hospitals have mainly been designed to serve administrative and/or economic purposes. Thus, whether the updated digital infrastructure will meet the purposes outlined above will depend critically on the extent to which the expertise of the medical profession (on-site, but also from scientific societies, professional unions, etc.) is going to have an influence on

the development or the choice of algorithms. In this regard, MB has continuously participated in the political debate, and has supported its members' involvement in the development of digital solutions on-site [11–14].

- (2) KHZG makes validity checks mandatory, which will lead predictably to a substantial increase in workload, in addition to all other checks needed to ensure that, for example; guideline recommendations are up to date and/or updated versions have been implemented in the algorithms, etc. This will need additional workforce funding and should by no means compromise patient care [11,13].
- (3) Proof of CPD is mandatory in Germany since 2004 [15] and is mostly dependent on event-based accreditation offered by the Chambers of Physicians, which require (among other criteria) a certain degree of formalisation for education to be eligible for accreditation [16]. Although CPD dealing with data directly linked to community health relates to the higher levels on Moore's pyramid [7,8], it will probably contain more informal elements compared to educational activities separately organised by external providers, making accreditation more complex. Thus, to give workplace CPD the merit it deserves, the Chambers will have to adapt their framework of accreditation rules.

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