

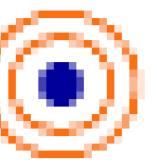
Online Continuing Medical Education (CME) for German Physicians



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Execution and technology



(Feedback and further questions

The available amount of information in medicine is increasing Additional incentives, as e.g. CME-Tools, are necessary to Existing clinical practice guidelines allowed a swift development of exponentially. Suitable strategies are necessary to separate succeed in implementing relevant knowledge or clinical practice questions concerning each medical indication. All questions were the "wheat from the chaff" and impart knowledge relevant to guidelines respectively. The main goal of this concept is to create evaluated by an editorial group of physicians consisting of specific situations to potential users promptly. Evidence based a learning environment for the complex process of medical General Practitioners (GPs) and internists. Aconsecutive usabilitymedicine (EbM) and clinical practice guidelines (CPGs) should knowledge transfer. test with 10 GPs of a quality circle of the university was positive. reflect the contemporary scientific standard of knowledge. The medical knowledge network "evidence.de" of Witten/ Suggestions offered by the users were implemented in an updated

In view of these challenges the knowledge network of the medical Herdecke University has developed an internet platform for version. Between June and October 2003, more than 670 faculty of the University Witten/Herdecke is focusing on two CME in cooperation with a software house as a public private physicians used the platform. 80% of them gave a positive partnership. The user data are filed on a secured Open- feedback in an online evaluation questionnaire (figure 3). different tasks: **Source server** (application server Tomcat, Apache Web server 1. It provides evidence based medical guidelines in a format User response (n=672) and Linux). An Oracle® database and a content management that is meant for easy access and use in daily practice. yes system (CMS) facilitate the easy input of different MC question mostly yes number in % 2. It scientifically explores different ways of presenting and 🗖 mostly no blocks. Each block refers to one of the knowledge network's 20% 100% transferring evidence based guidelines in order to develop better no 📘 clinical practice guidelines topics. Until June 2003, 14 blocks and easier ways of implementation. No problems in registration of tasks were designed within the medical faculty and certified Algorithm dementia, diagnostic Medical History: 2.1 by the responsible medical association (Internet: No problems in execution First signs of dementia 2.1.1: Patient ... For classification of strength of Is forgetful evidence and recommendation www.evidence.de (figure 1) and www.medizinerwissen.de Has language disorders (difficulties in finding words). classes: see <u>Tab1+Tab2</u> Shows changes in personality. Good comprehensibility Keeps repeating the same questions. (figure 2).

 Cannot carry out daily activities Does not look after personal hygienics Recommendations: 2.1.5

Risk factors: 2.1.4 Close relatives with dementia (A). Vascular risk factors (Frequent alcohol consumption (B) Previous head injury (Limited school education Neurological diseases (Parkinson's disease, stroke) (B).

Definition <u>1</u> Diagnosis <u>2</u> : Patients and relatives - medical history concerning: Behavioural and/or personality changes Concealing / triggering factors, medication and alcohol consumption (C) 2.1.3. Depression <u>Tab3</u> and/or physical disorders (B). Present risk factors Box1 2.1.4. ecommendations: 2.1.5 Physical examination (C) 2.2 Recommendations: 2.3.4 Focus on neurological deficits, hypothyroidism, malnutrition, impaired hearing. Tests of cognitive performance: (B) 2.3. Mini-Mental-State-Test (B). Clock- drawing-Test (B) ● IADL-Test: Activities of daily living (bathing, walking, using telephone...) (B). Dementia is present in case of ... definfition DSM IV 1.2 und ICD 10 1.1

. Impaired memory ..*Plus* at least one cognitive disorder: Language disorder (aphasia) 🔳 Motor disorder (apraxia) Recognition of objects (agnosia) Planning, organizing, abstract thinking (executive functions). The impairments lead to a deterioration in social and professional function Delirium is not present Tab3.

evidence	o de
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edi	zinisches	W i	ssensnetzwerk
er	Universitä	t	Witten/Herdecke

	mediz	ر inerwissen.de
Medizinerleitlinien Medizinerwissen		
Quiz-Themen:	Willkommen bei Medizinerwissen	 Neuigkeiten: Positives Feedback von
€ Hypertonie Diagnostik € Hypertonie Therapie I € Hypertonie Therapie II	- dem Fortbildungs-Portal der Universität Witten/Herdecke	620 Nutzern! <u>mehr</u> • 400000
€ Herzinsuffizienz Diagnostik € Herzinsuffizienz Theranie	Das medizinische Wissen ist in ständigem Fluss: Was gestern rich war, kann morgen schon obsolet sein. Sind Sie medizinisch auf der neuesten Stand? Kennen Sie die aktuellen Emnfehlungen?	tig Besucher!

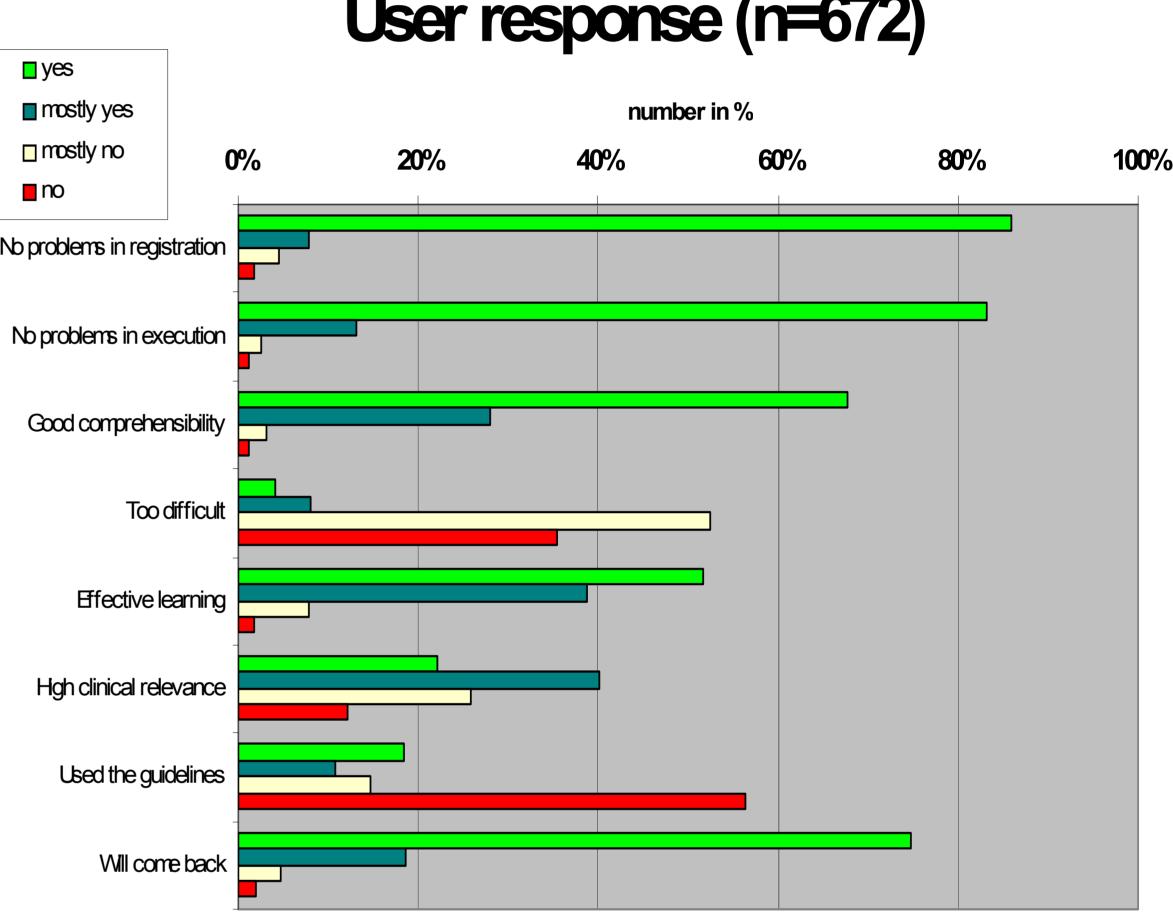


figure 3: user response for testing medical knowledge with "medizinerwissen.de"

Further evaluation <u>2.6.</u> Is dementia present Counseling

Additional clarification of causes:

relevant laboratory parameters (B): <u>2.4.</u>

Blood count

Electrolytes, calcium

Blood glucose

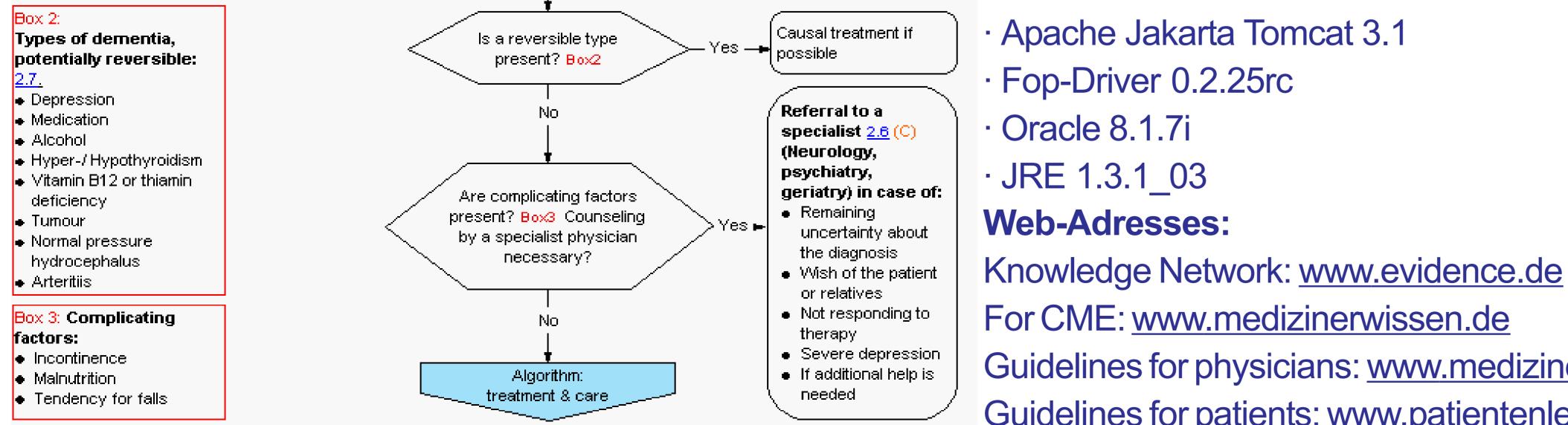
Thyroid function test (TSH)

Urine-dipstick

 Additional laboratory parameters, in case of corresponding suspicion: creatinine, YGT, Vitamin B12...

CT of the skull (A) (possibly NMR) <u>2.5.</u> in patients...

. younger than 65 years of age 2. older than 65 years of age and one of the following criteria: Signs and symptoms for less than one year *or* rapidly progressing state of confusion of unknown origin or focal neurological deficits of unknown origin or head injury in the short-term medical history or recent occurence of urinary incontinence and/or balance disorder. and all atypical factors or events of unknown origin Recommendation: 2.5.1



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∈Herzinsuffizienz Therapie
                                   i neuesten Stand? Kennen Sie die aktuellen Emptenlungen:
 €Kopfschmerz Diagnostik
 € Kopfschmerz Therapie
                                   10 Aufgaben → 60% richtig → 1 Fortbildungspunkt...
 €Demenz
 €Dekubitus
                                   Überprüfen Sie Ihr Wissen online und sammeln Sie
 € Otitis media
                                   Fortbildungspunkte. Zeigen Sie sich und Ihren Patienten, wie gut Sie
 €Gallensteine
                                  sich auskennen. Sie können jetzt sofort, kostenlos und unverbindlich
 €Harnwegsinfekt
                                   das <u>Demo-Quiz</u> beginnen.
 €Kolorektales Karzinom
€ Evidenzbasierte Medizin
                                   Zur Zertifizierung stehen Ihnen 14 Fortbildungsmodule zum Preis von je
                                   8 Euro zur Verfügung.
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universität Witten/Herdecke

Das Quiz Hypertonie Therapie I kann vorübergehend kostenlos figure 2: start page of medizinerwissen.de

Client requirements

· Adobe Acrobat Reader > 4.0 · IE 5.5 + JavaScript / Netscape > 6.0 + JavaScript Server requirements CMS CoreMedia Apache Jakarta Tomcat 3.1 • Fop-Driver 0.2.25rc

patienten

mediziner

Neuer Benutzer

Neuanmeldung

Anmeldung:

Benutzername

Kennwort

Bitte wählen Sie Ihren Bereich

An online platform for CME can support **active learning** and may establish an additional stimulus to absorb knowledge relevant for medical practice. In the future, the medical knowledge network will consider following questions:

· Do online platforms for further education facilitate and accelerate knowledge transfer for physicians?

· Which feedback mechanisms should be implemented?

· Would modified versions of such learning platforms be suitable for patients as well?

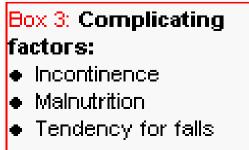
· Can a CME platform support existing disease management programs?

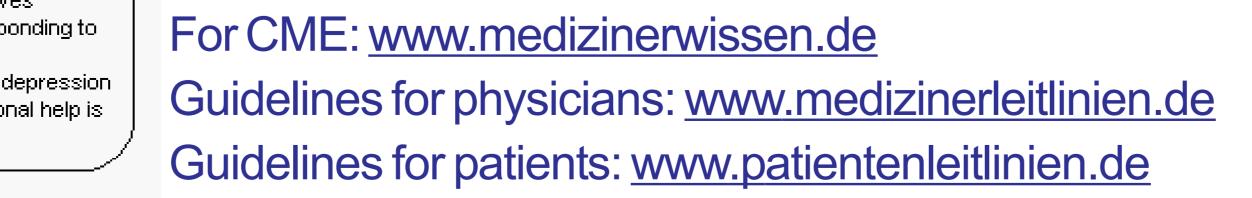
As advanced training becomes mandatory for German physicians starting from January 2004, online CME-Tools will get more and more important for medical education and knowledge transfer.

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figure 1: algorithm dementia



