# Decision support in primary and secondary outpatient care

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### HEALCLOUD

#### Introduction

Application of medical decision support promotes quality of medical care through enhancing prevention, diagnosis, therapy and patient safety and therefore such IT developments serve higher societal needs

Practising physicians in primary care (family medicine) and outpatient secondary care (private practitioner specialists and polyclinics) are in the need for IT-enabled medical decision support during their daily activities and clinical research curriculum to leverage their skills and their 'rapport' aimed at building and maintaining an optimal patientdoctor relationship

Especially GPs constitute to some extent a neglected medic subpopulation regarding such IT support

Next-generation medical practice management system for general and private practitioners offering

device-independent zero-installation policy

mobile usage

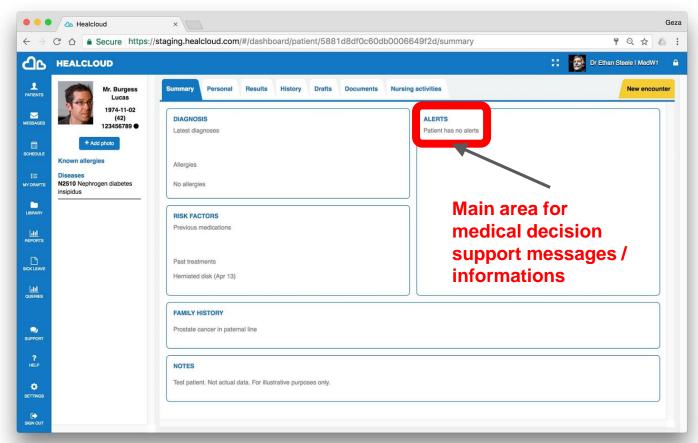
state-of-the-art UX, ergonomic UI

industry-standard data security

Free for medical users: Most probably the single one free EHR system available to include medical logic / decision support !

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	Lyons	Gabriel	123456791	Sep 2, 1976 Male	Austria, 1010 Vienna Opernring 13 4/1 +43 987 654 3213	Jan 20, 2017 11:24:20 AM
	Burgess	Lucas	123456789	Nov 2, 1974 Male	Austria, 1010 Vienna Opernring 11 2/3 +43 987 654 3211	Jan 20, 2017 11:25:01 AM
	Kovács	Miklós	123456795	May 3, 1974 Male	Hungary, 1111 Budapest Szent Gellert ter 1 4/1 +36 987 654 3221	Feb 6, 2017 9:47:41 PM
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	Horváth	Ádám	123456793	Jul 6, 1964 Male	Hungary, 1111 Budapest Szent Gellert ter 2 2/3 +36 987 654 3215	Jan 20, 2017 11:26:17 AM
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#### DDSTs are Healcloud's proprietary implementation of *medical decision support*

DDSTs pertain to selected "high value" therapeutic areas (TAs)

Aim of DDSTs to help the physician forming an initial diagnosis, including risk assessment / stratification to support the caring physician - thus promoting safety and efficacy of patient care - by planning follow-up visit schedule and tracking treatment success attaining therapeutic target outcomes

Development of DDSTs occurs on two echelons: Medical Technical

**Definition - Medical echelon:** 

Explain core medical concepts related to the respective TA

Feature cumulative knowledge from international guidelines

The information contained therein can be used by the Healcloud physician user community, either as a reading exercise of the complete document and/or as a context-sensitive / field-level popup help

#### Implementation - Technical echelon:

Translate the medical-professional text into an IT solution

Framework: Model-View-Controller Model = Hierarchical, adaptive (dynamic) database View = Featuring entities from the database as input sheets Controller = Algorithms for patient / procedure flow: medical logic (automated actions, alerts, etc.)

Combination of programming tools Traditional: e.g. MongoDB, JavaScript, HTML5/CSS AI: Medexter ArdenSuite

The operation of DDSTs is based on Value metrics, extracted from HealCloud databases captured by the doctor as input parameters, via screen forms (input sheets) and / or contained within core databases, e.g. in national drug formularies **Medical logic** to stratify patients according to selected criteria (e.g. risk stratification, patient selection for clinical research) processes for follow-up visit planning, tracking trend of treatment indicators, etc.

#### **Rationale for selection of TAs**

BioPharma *industry* indicators Medicines in development pipeline patterns number of drug candidates Sales figures

Competence of the caring *physician* in the given TA (N.B. primary care, outpatient secondary care)

Patient *population* considerations Epidemiology Availability and accessibility of patients in primary or private secondary care (specialist outpatient) segments

#### **High-impact TAs**

Diabetology Cardio- and cerebrovascular medicine Hypertension Myocardial infarction Stroke Lipidology Respiratory system Chronic obstructive pulmonary diseases (COPD) Asthma bronchiale Algiatry: Pain management (oncological + non-oncological) Autoimmune diseases Rheumatoid arthritis (RA)

Inflammatory bowel disease (IBD): Crohn's disease + Colitis ulcerosa

#### The DTOC(Q) paradigm

Healcloud, enabled by DDSTs, allows evaluation of clinical care along the following domains:



## (Quality: Policy compliance)

# Thank you very much for your kind attention!

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