Decision support in primary and secondary outpatient care

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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 patient-doctor relationship

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

Healcloud #1

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 !

Healcloud #2

Healcloud #3

Healcloud #4

Diagnostic Decision Support Tools (DDSTs) #1

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

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Diagnostic Decision Support Tools (DDSTs) #2

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 pop-
        up help

Diagnostic Decision Support Tools (DDSTs) #3

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

Diagnostic Decision Support Tools (DDSTs) #4

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

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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:

Diagnosis

Therapy

Outcome

Cost

(Quality: Policy compliance)

Thank you very much for your kind attention!