GOING BEYOND ALERTS: CLINICAL DECISION SUPPORT FOR IMPROVED OUTCOMES

Greg Adams
Vice President
Wolters Kluwer | UpToDate
Gregory.Adams@wolterskluwer.com
Doctors Have Clinical Questions

Unanswered clinical questions impact patient management decisions

Approximately 2 out of 3 clinical encounters generate a question

Physicians have approximately 11 clinical questions a day

Answering all clinical questions could change 5 to 8 patient management decisions each day

60% of questions go unanswered
Clinical Decision Support: Getting It Right

- Context & Format
  Clinicians Find Useful

- The Right Guidance

- At the Right Time

- The Right Decision
Clinical Decision Support
Changes Clinical Decisions

37%

Researchers at *Singapore’s National University Hospital* report that bedside use of UpToDate led to changes in patient care decisions 37% of the time.

Solucient\textsuperscript{1} studied the *impact* of UpToDate on length of stay, patient complications and patient safety\textsuperscript{2}

- Significantly shortens lengths of stay
- Significantly lowers complication rates
- Significantly lowers adverse outcome rates

1. Solucient maintains the nation’s largest healthcare database, comprised of more than 26 million discharges per year from 2,900 hospitals.
Researchers at Harvard University Find
UpToDate Associated with Improved Outcomes

Use of UpToDate Associated with...

Improved Quality
- Every condition on Hospital Quality Alliance Metrics

Shorter Lengths of Stay
- 372 000 days over 1 year

Lower Mortality Rates
- 11 500 lives over 3 years
Economic Impact of CDS at Salford Royal NHF Foundation

Forrester Research found Salford Royal NHS Foundation Trust (SRFT) recovered the costs of a leading Clinical Decision Support System in 90 days.

Benefits Included:
- Staff productivity
- Diagnostic test efficiencies
- Improvements in the quality of care

Forrester Research found SRFT recovered the costs of a leading Clinical Decision Support System in 90 days.

ROI = 90 days

Source: November 2011, Forrester Research: The Total Economic Impact Of UpToDate’s Clinical Decision Support System For Healthcare Institutions: A Case Study Of Salford Royal NHS Foundation Trust in the UK
# One Roadmap for the Future

The European EMR Adoption Model in 7 Stages to Highest Quality in Patient Care

<table>
<thead>
<tr>
<th>European EMR Adoption Model&lt;sup&gt;SM&lt;/sup&gt;</th>
<th>Cumulative Capabilities</th>
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<tbody>
<tr>
<td><strong>Stage 7</strong></td>
<td>Complete EMR; CCD transactions to share data; Data warehousing feeding outcomes reports, quality assurance, and business intelligence; Data continuity with ED, ambulatory, OP.</td>
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<td><strong>Stage 6</strong></td>
<td>Physician documentation interaction with full CDS (structured templates related to clinical protocols) trigger variance &amp; compliance alerts and Closed loop medication administration.</td>
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<td><strong>Stage 5</strong></td>
<td>Full complement of PACS displaces all film-based images.</td>
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<td><strong>Stage 4</strong></td>
<td>CDS in at least one clinical service area and/or for medication (i.e. e-Prescribing), may have Clinical Decision Support based on clinical protocols.</td>
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<td><strong>Stage 3</strong></td>
<td>Nursing/Clinical documentation (flow sheets); may have Clinical Decision Support for error checking during order entry and/or PACS available outside radiology.</td>
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<td><strong>Stage 2</strong></td>
<td>Clinical Data Repository (CDR) / Electronic Patient Record; may have Controlled Medical Vocabulary, Clinical Decision Support (CDS) for rudimentary conflict checking, Document Imaging and health information exchange (HIE) capability.</td>
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<tr>
<td><strong>Stage 1</strong></td>
<td>Ancillaries - Lab, Radiology, Pharmacy - All installed OR processing LIS, RIS, PHS data output online from external service providers.</td>
</tr>
<tr>
<td><strong>Stage 0</strong></td>
<td>All Three Ancillaries (LIS, RIS, PHS) Not installed OR Not processing Lab, Radiology, Pharmacy data output online from external service providers.</td>
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“Paperless” patient record environment for **highest quality** of care, **data continuity & full HIE**

- **Full electronic clinical decision support**, and highest medication safety
- Completely electronic diagnostic image management
- **Electronic order entry with decision support** and result reporting
- **Clinical ordering and documentation** – especially nursing care
- A patient-centered electronic data repository
- Electronic diagnostic and pharmacy department information

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THANK YOU

Greg Adams
greg.adams@wolterskluwer.com