

With Intègre[®], Leverage Every Medical Professionals' Skills and Expertise

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Abstract. Intègre[®] is a decision-support software specially designed for collective processes. Collecting all required information for decision making, Intègre harmonizes representations and processes collected data to check users' decisions coherency. During their consultation, specialist doctors access to analysis' results and to patients' data, stored in their own databases or in administration's systems. Then they get supported by Intègre to produce diagnosis in total coherency with medical guidelines and existing information.

Keywords: computer-aided decision making, electronic guidelines, evaluation.

Main difficulties of practice's guidelines permanent use by professionals are guidelines integration into real practice and their update. Moreover, updates, whatever their frequency, have to be adapted with practices and treatments, for a perfect adequacy between referential and practice.

Solving these 2 issues requires to design a referential model which can accept some « gaps » (or norms' violations committed by professionals), which can detect them and exploit them in order to update guidelines and impulse practice evolution.

That's why referential representative existing models can't work :

- « alerts based models » use logic forms which do not accept any contradiction, or any rules violation,
- decision trees models propose an a priori method which doesn't deliver a valid answer in most cases and which update is complex (see previous paragraphs).

As a matter of fact, reasoning suppose to :

- be able to evolve in a logical structure without having all the elements in hand (unknown data)
- accept incoherencies and therefore to search for borderline solutions
- propose multiple choices, to explore other/new options
- allow to evolve freely in the decision tree, without imposed entrance or exit points
- be able to imagine new logic associations and new possible exits.

Normind proposes another direction using logical forms which accept contradiction and keep on assisting decision-making process, while professionals ignore some referential rules. More than a practice guide, guidelines get used to design assumptions

and to select the best decision. Guidelines come to be a real help for deciding, and are no longer constraints to be respected.

Thereby expert systems only play their role when it is about pure decisional logic whereas Intègre technology by Normind assists and guides experts reasonings.

Professional medical people's issue is to set up a virtuous circle meeting the numerous standards and requirements of quality, scientific and administrative programs. Such a process must mix practice policies and data management in order to reach goals as follow :

- To support daily practice, using guidelines and categorizing pathologies
- To manage data collection with standards and expected minimal data
- To run professional practices' assessment
- To detect dysfunctions
- To correct practices and guidelines the right way.

Aiming to take an adequate therapeutic decision, Intègre operates data from different files (internal, administrative...) and supports consultation notes' edition, using best practice guidelines.

Confronting real practices to concerned guidelines in a given context (specialty, pathology) allows to manage the patient's case the best way, orienting it in the most relevant and appropriate commissions.

Based on consultation notes and commissions' choices, Intègre helps to analyze practices through an assessment tool.

- Professional practices assessment based on collected data quality, real practice and referential confrontation, minimal required data sufficiency or practices compliance with recommendations
- Clinical best practice update through impact analysis, updating (new facts) and weak points detection (proposal never or rarely applied, rules never respected, proposals for variables correction ...)

Intègre offers additional functions to professional tools. Doctors shall keep their existing tools for patients' files management and diagnosis support ; Intègre adds technical elements to link these tools. At any stage, the involved persons fully control the decision making process.

Intègre is a commercial product that will be fully demonstrated during the conference. The decision-support process will be demonstrated with the implemented french prostate cancer guideline, embedded in the software.