



The importance of uncertainty calibration

1

3



IBM Watson Algorithms team, c.a., 2009



THINK



JEOPARDY

DENKE

FENSE

\$4,800

What is  
Chicago?  
\$4,800

\$36,681

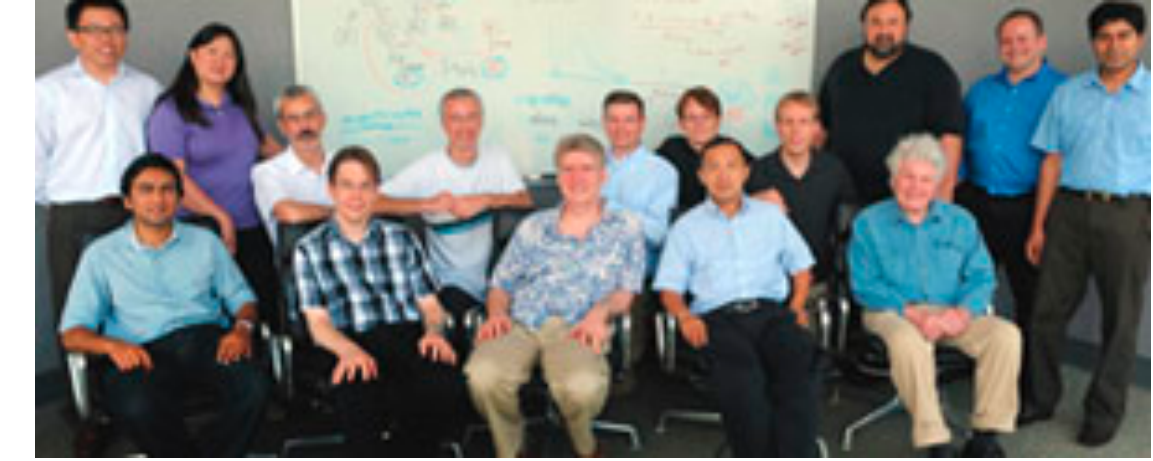
FINAL  
JEOPARDY!

\$10,400

What is  
Chicago?  
\$10,400



# The importance of uncertainty calibration



IBM Watson Algorithms team, c.a., 2009





# Watson for XY and Z

## Watson: Beyond Jeopardy!

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### ABSTRACT

This paper presents a vision for applying the Watson technology to health care and describes the steps needed to adapt and improve performance in a new domain. Specifically, it elaborates upon a vision for an evidence-based clinical decision support system, based on the DeepQA technology, that affords exploration of a broad range of hypotheses and their associated evidence, as well as uncovers missing information that can be used in mixed-initiative dialog. It describes the research challenges, the adaptation approach, and finally reports results on the first steps we have taken toward this goal.

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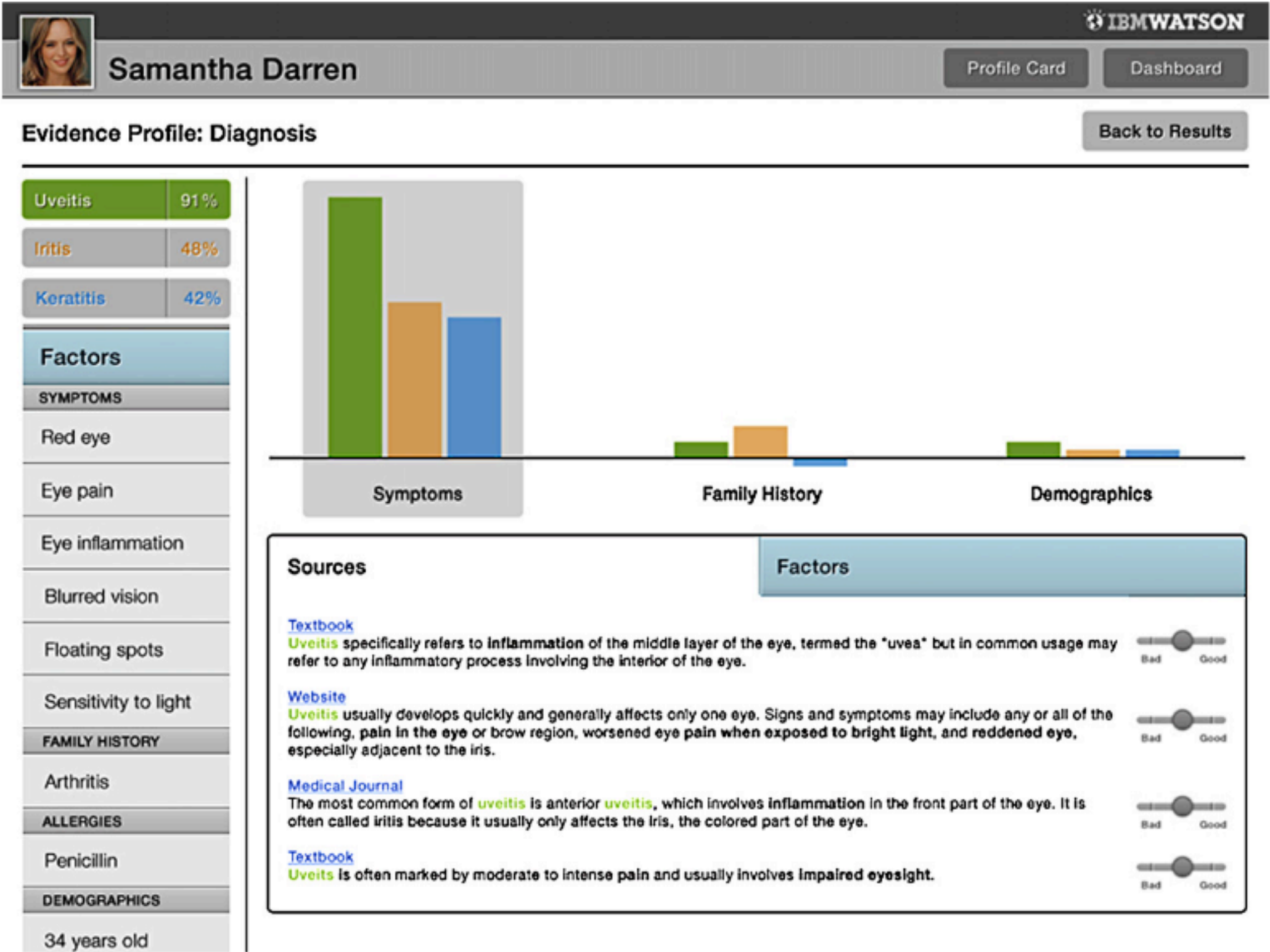


Fig. 4. Exploring differential diagnosis and evidence profiles.

Sources	Factors
<b>Present Factors</b>	<b>Absent Factors</b>
<input type="checkbox"/> Red eye	<input type="checkbox"/> Patient has low visibility
<input type="checkbox"/> Eye pain	<input type="checkbox"/> Patient has loss of hearing
<input type="checkbox"/> Eye inflammation	<input type="checkbox"/> Patient wears prescription lenses
<input type="checkbox"/> Blurred vision	<input type="checkbox"/> Patient has yellow eyes
<input type="checkbox"/> Floating spots	<input type="checkbox"/> Patient has pus in eyes
<input type="checkbox"/> Sensitivity to light	<input type="checkbox"/> Patient is allergic to pollen

Fig. 5. Factors related to Uveitis diagnosis.

Figures taken from Ferrucci et al., 2012