

Digitaler Wandel – eine Chance für IT-basierte Wissensmanagement-Methoden?

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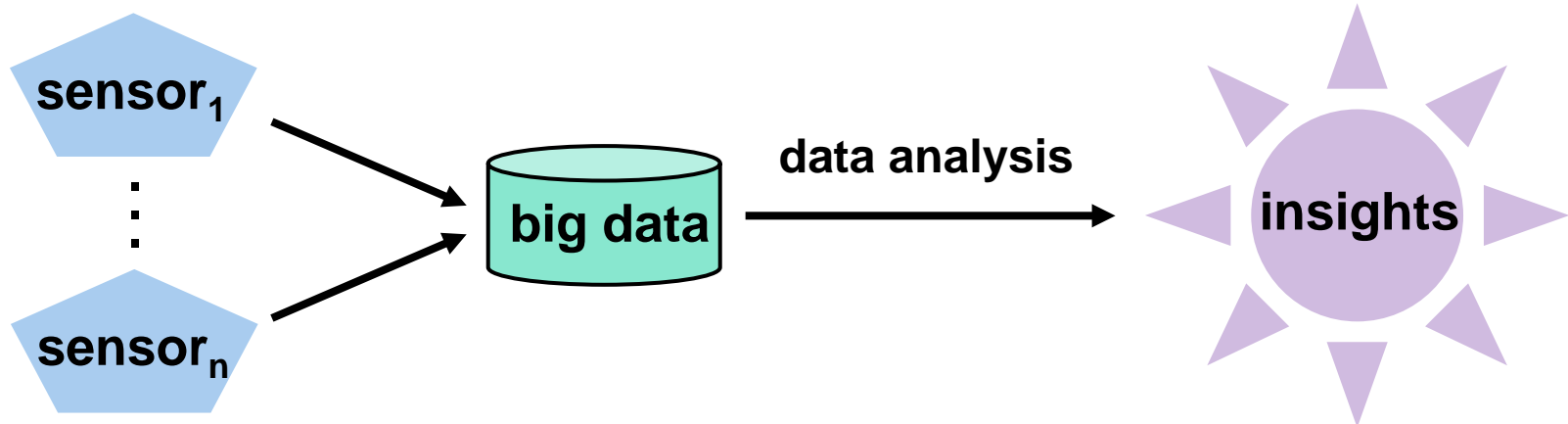
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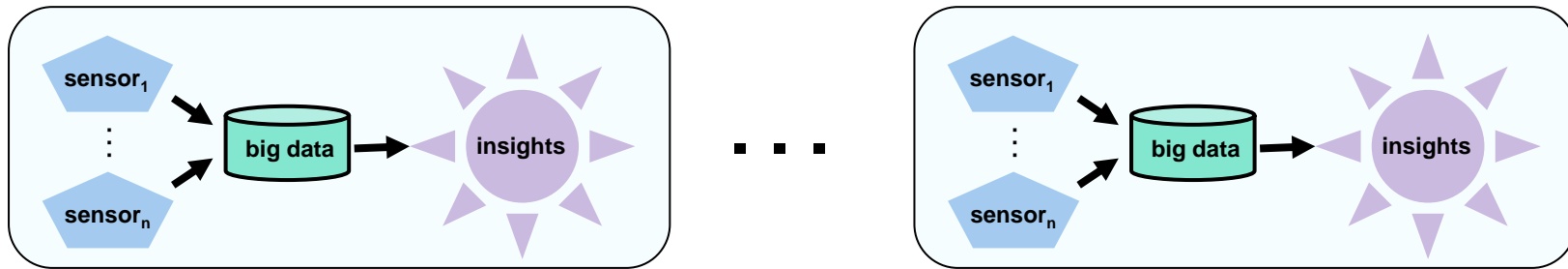


Mining sensor data streams

- **Learning classifiers:** prediction, activity detection
- **Outlier detection:** fraud, malfunction
- **Clustering:** identifying similarities between seemingly unrelated events

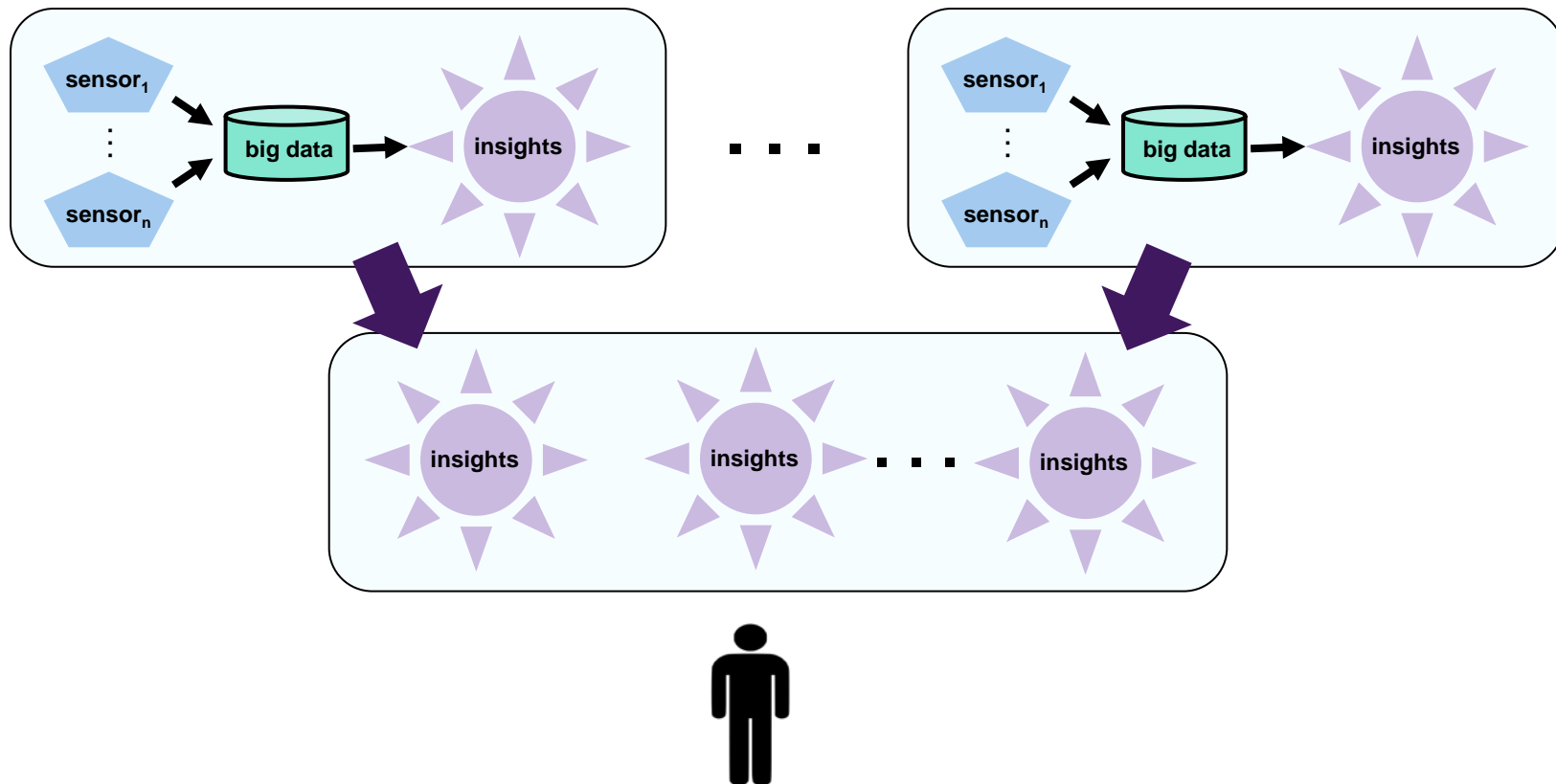


Separate ecosystems



→ Data collection, analysis and use of analysis results are
tailored to specific purposes

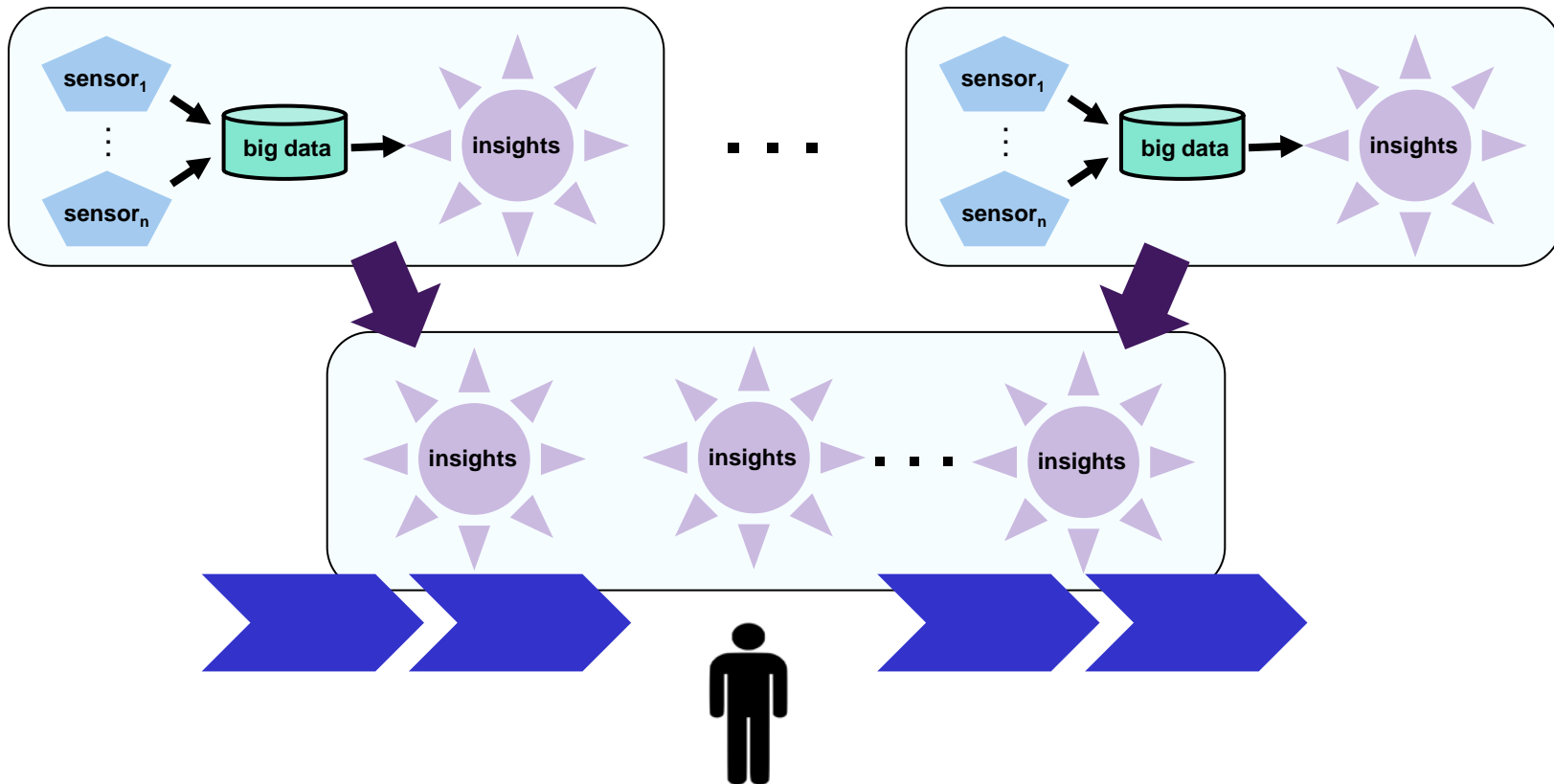
Semantic interoperability across ecosystems



- make data and insights available to other ecosystems
- connect data and insights from different ecosystems



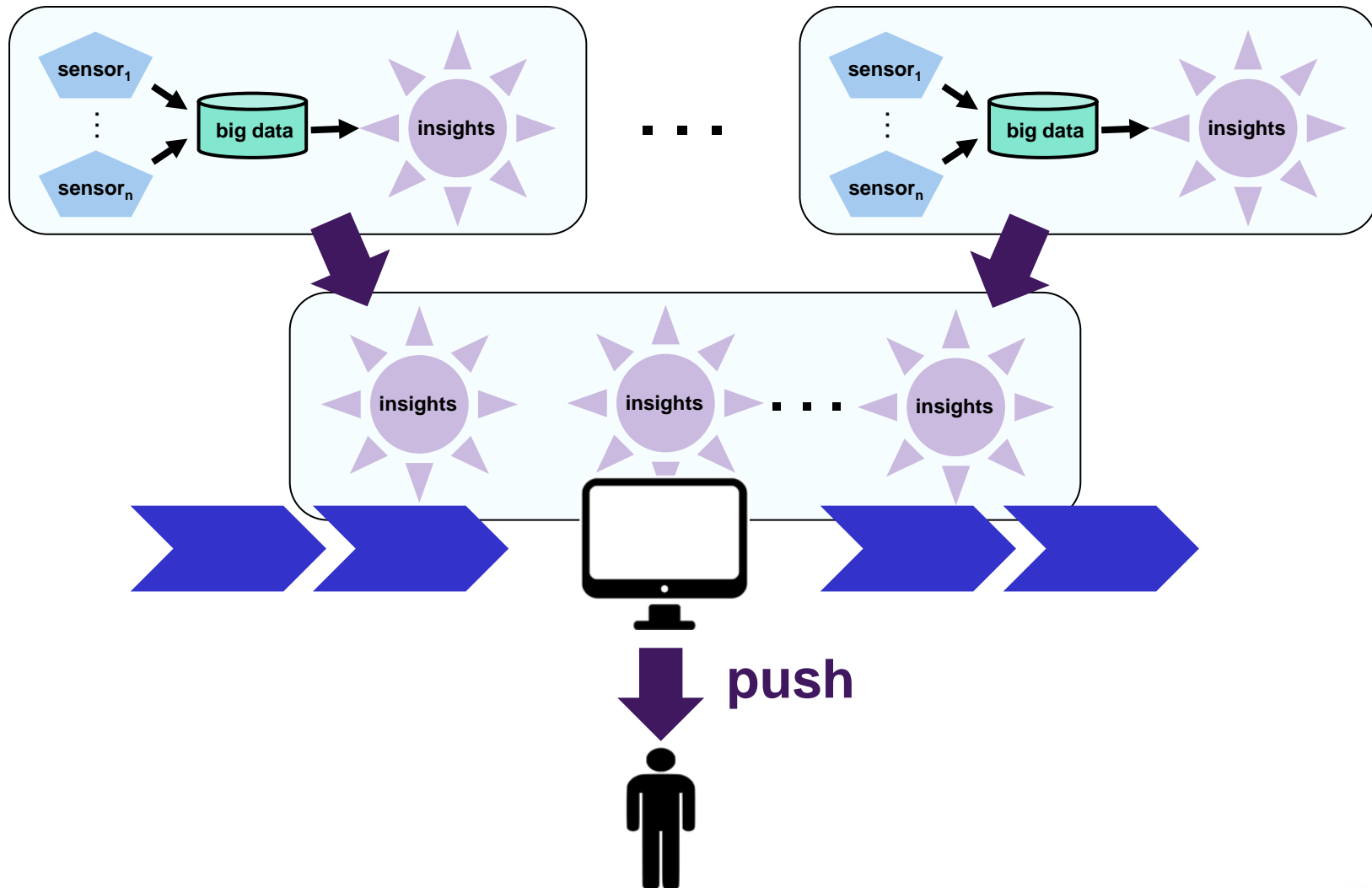
Embed information access into work processes



→ People do not want to spend much time on searching



Embed information delivery into work processes





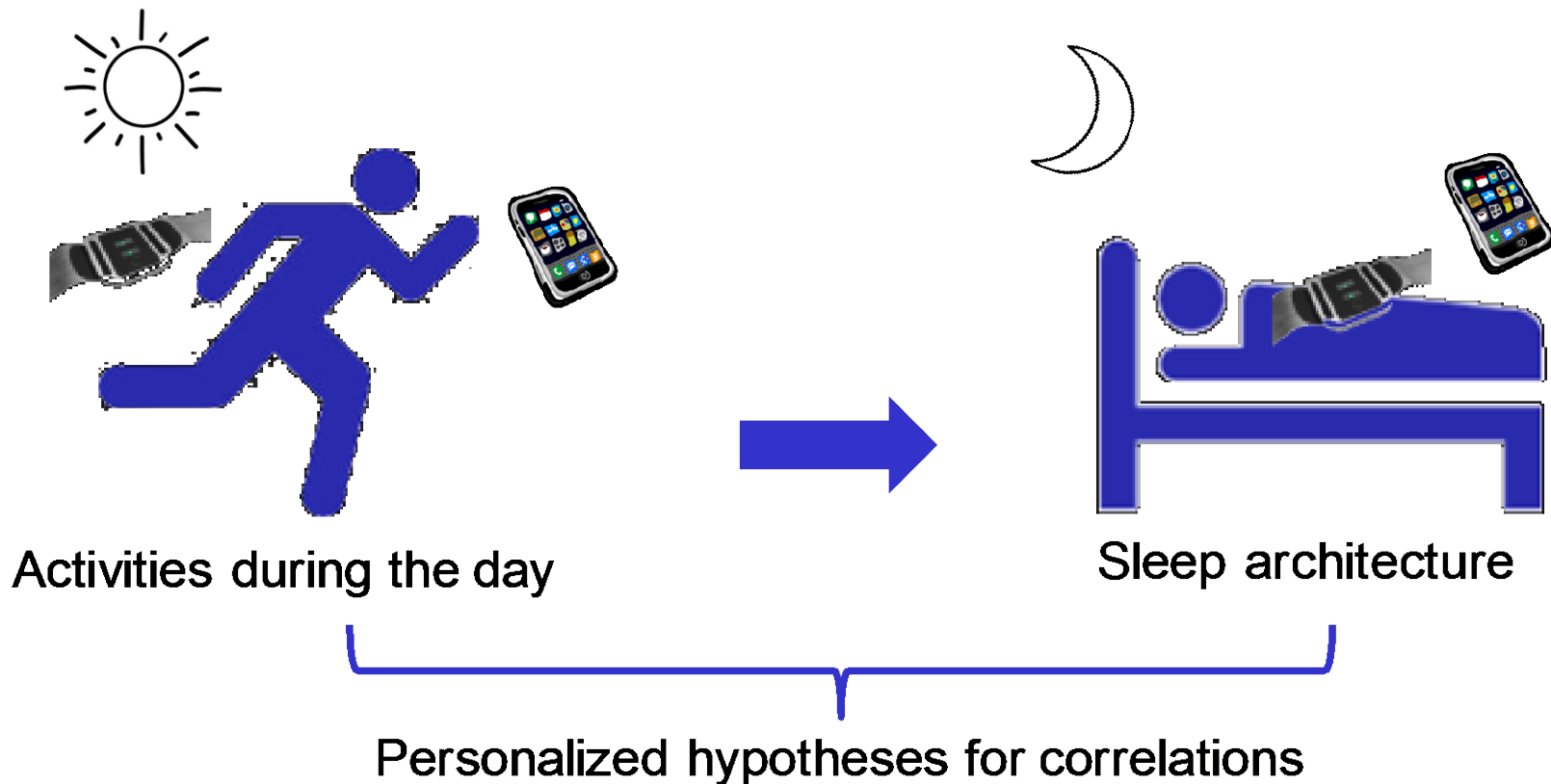
Example: Make personal health data available to physicians

- What happens outside the hospital is a black box to physicians.
 - Personal health data can easily be collected today.
 - Increasingly, intelligent systems derive insights from personal health data.
- Physicians have no time to look at all that data.
- Physicians often cannot make sense of the data.
- BUT: A support system can **proactively provide information** relevant to a specific situation,
e.g. when entering a diagnosis, when prescribing medication



Health data analysis: Correlation of behavior and sleep

→ www.smart-sleep.net





Health data analysis: Typical high-stress situations

→ www.smartcoping.net

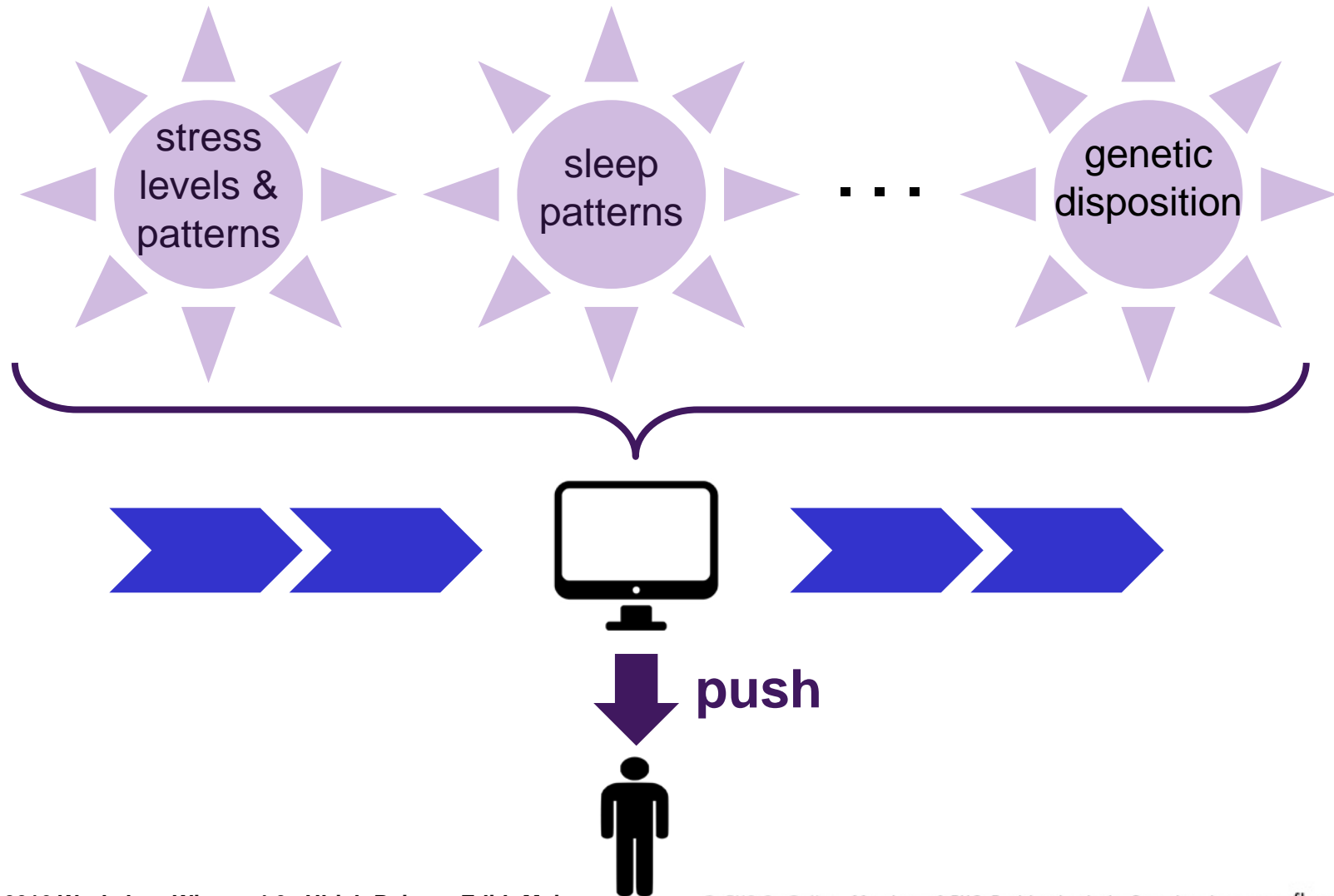


SmartCoping for stress recognition:

- **alerts** when stress is increasing
- **detects patterns** characterizing high-stress situations
- biofeedback for **reducing stress**



Example: Supporting physicians





Outlook

- Collect personal health data → already widely done
- Derive patterns from personal health data → increasingly done
- Interoperable description of personal health data & insights gained from it → build on standards and extend them
- Decision rules to identify relevant information in a given context → research in progress
- Integrate into clinical decision support systems → research in progress