



Medicine Trials in 2050: In-clinic, or decentral?

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Disclaimer

- Consultant to
 - IDRx
 - DeuterOncology
- DMC membership:
 - Seagen
 - Galecto
 - Boehringer Ingelheim

We are on the verge of a tremendous transformation to a true learning health care system, where data collected in the course of delivering routine care may actually be harnessed to drive scientific discovery and, ultimately, improve the quality of care we can provide to our patients.

This has implications, from how best to engage and notify patients of this changes to how best optimize our use of this promising new opportunity.

Reshna Jagsi MD, Dphil

J.Clin.Oncol 2018

On a chilly October Afternoon in 2050

Imagine yourself in 2050, thinking back of 2023
(Source: Medical Futurist)



Was there ever a time without Cubesensors?



2023: There were huge and unfriendly buildings called: Hospitals



Ambulances with drivers



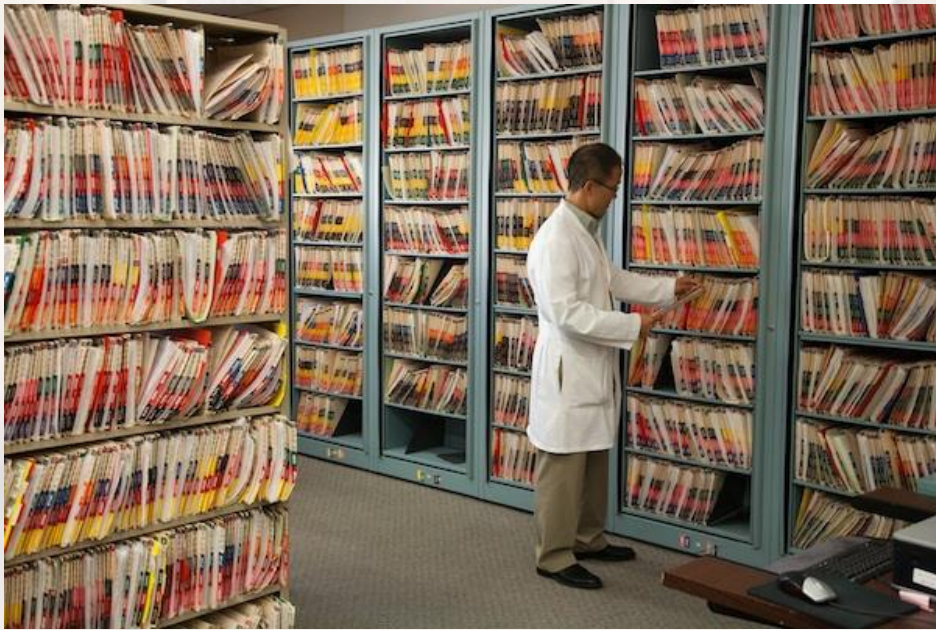
2023: Hospitals



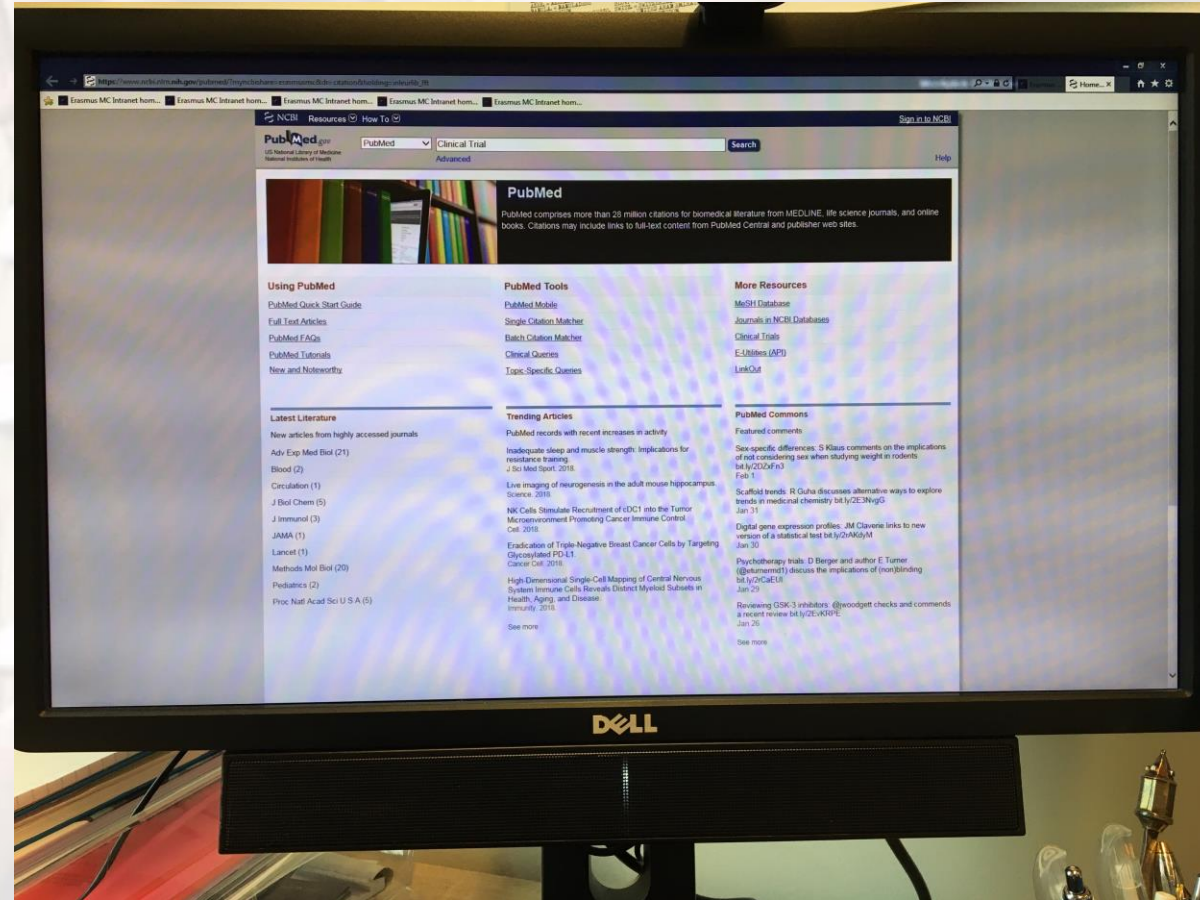
Large imaging tools



Medical records: paper, starting to become digital



2023: Search Databases like Pubmed endlessly



2023: Non-personalized medicine



2023: Hospital lead by managers



Let's go back 37 more years: 1986

Thesis on Mitomycin C

In development since 1954

MOA?

Unpredictable and terrible toxicity

Registered for use, no randomized trials

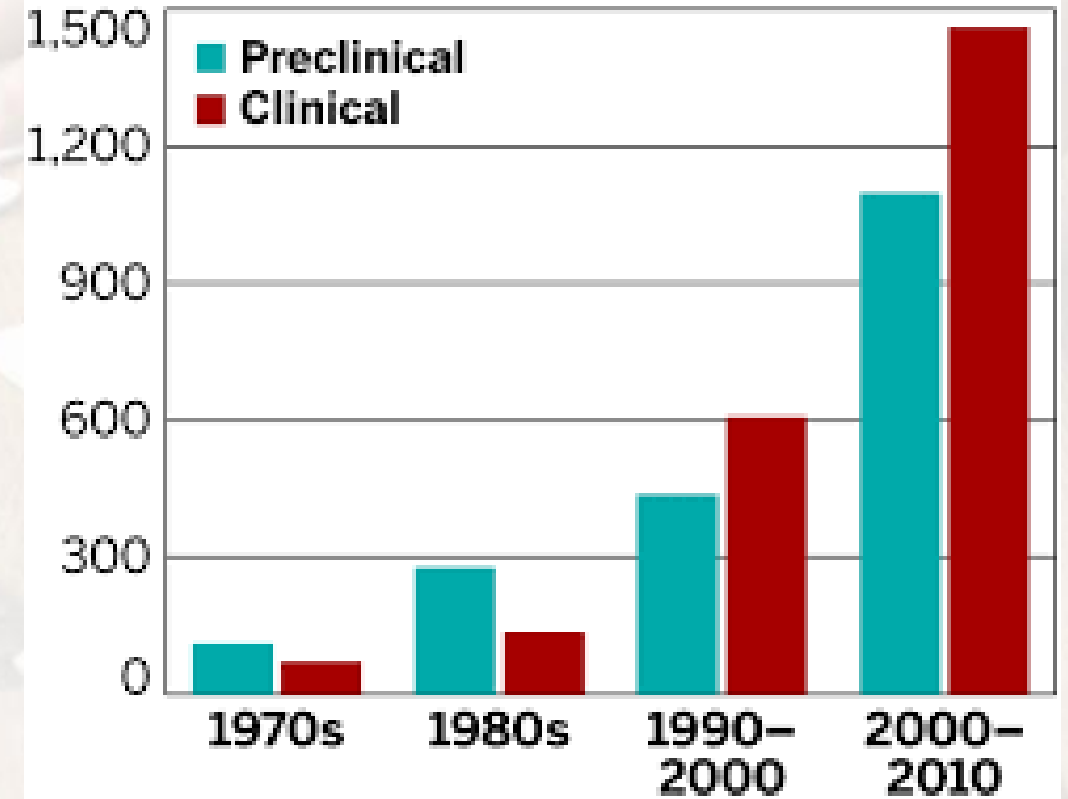
Label: Cancer

2023: Still used in USA

Clinical trial, Drug development costs



Cost, \$ millions



Back to now: 2023

Clinical trials: Lead from clinic

Randomization
Umbrellas and baskets

Targeted drugs
Smart bombs

Still not truly personalised

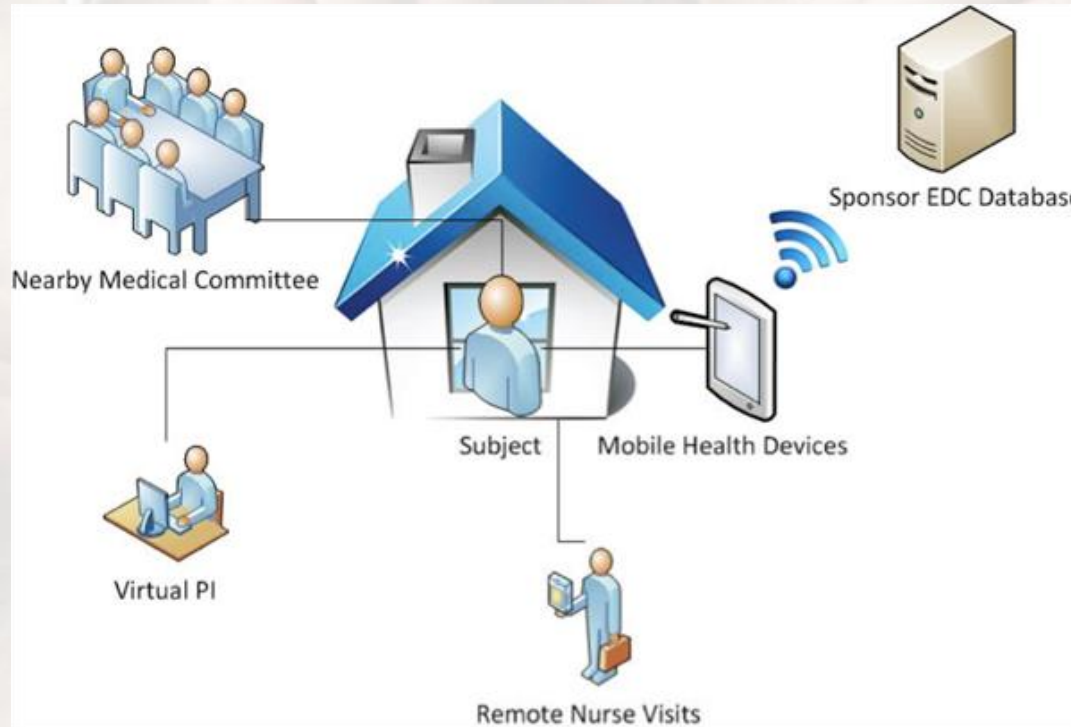
Medical records: electronic – active direct input, by hand or voice



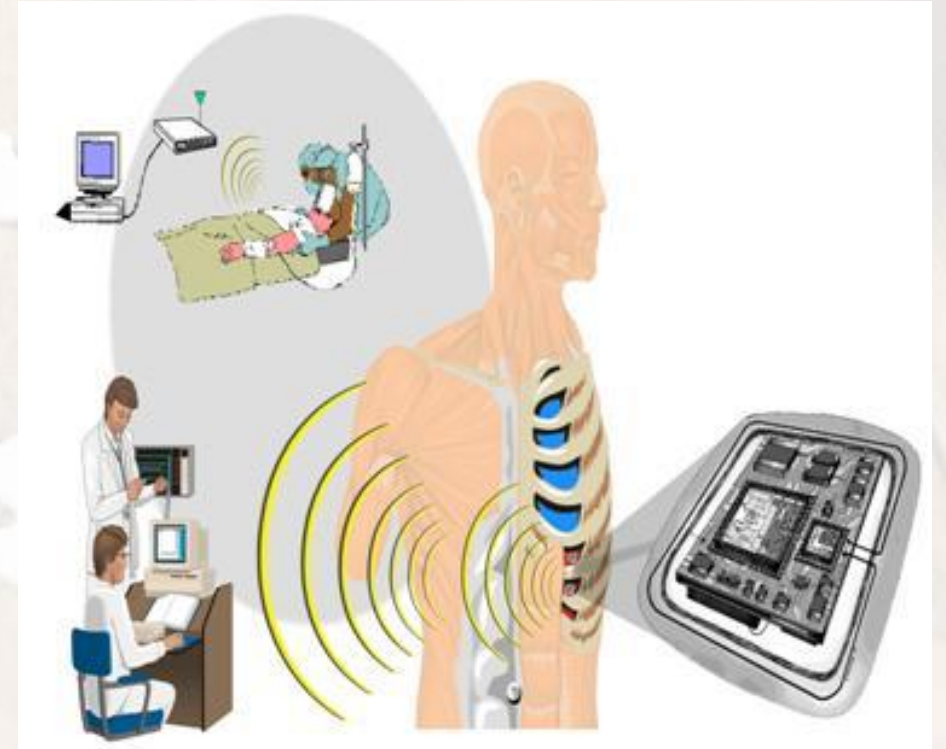
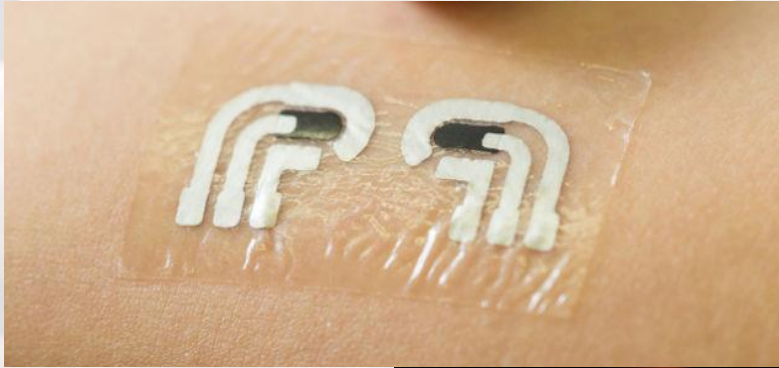
Telemedicine: Digital medical consultation



Already possible: Virtual (de-central) medical trials



And in 2050?: Cubesensors – implanted sensors → continuous profiling etc etc



Records?

Immediate input from device

Everything directly assessable



Drug development in 2050?

- No hospitals anymore? → No clinical trials?
- Artificial intelligence. Continuous learning and adaptation
- Drugs tested on algorithms and physiological models
- Approval of tests and tools, rather than drugs
- Individual drug production based on day specific molecular or genetic profile

Insert your
health swap of
the day here



Conclusions

- In the long run, drug development will change, and true clinical trials will possibly disappear
- The decentral trial will take over

Disclaimer: All of this is based on imagination and assumption. Any comparison to reality is completely coincidental