

Using simulation to drive implementation of healthcare research

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Key points

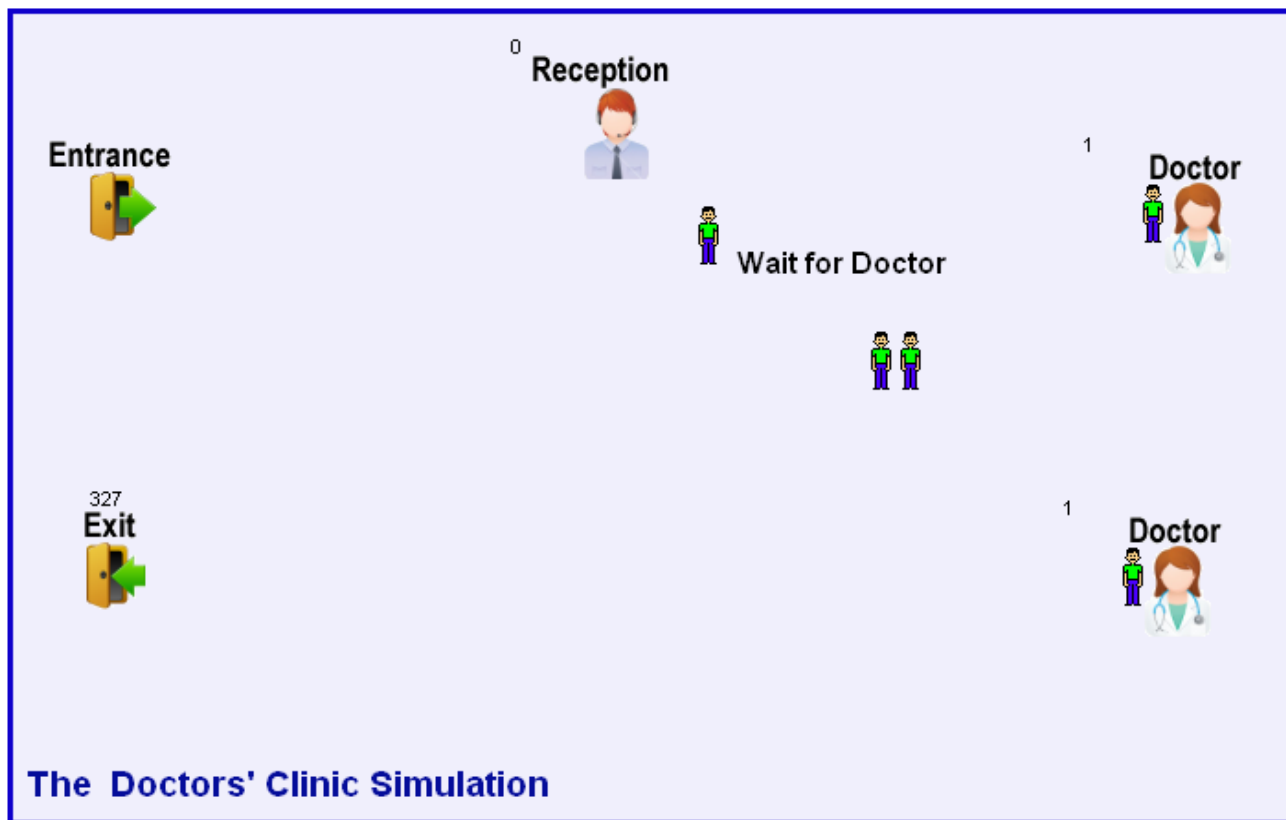
- Education – broadening understanding of simulation
- Using simulation to drive change
- Creating generic simulations for a wider audience
- Where next?

SIMUL8 Corporation

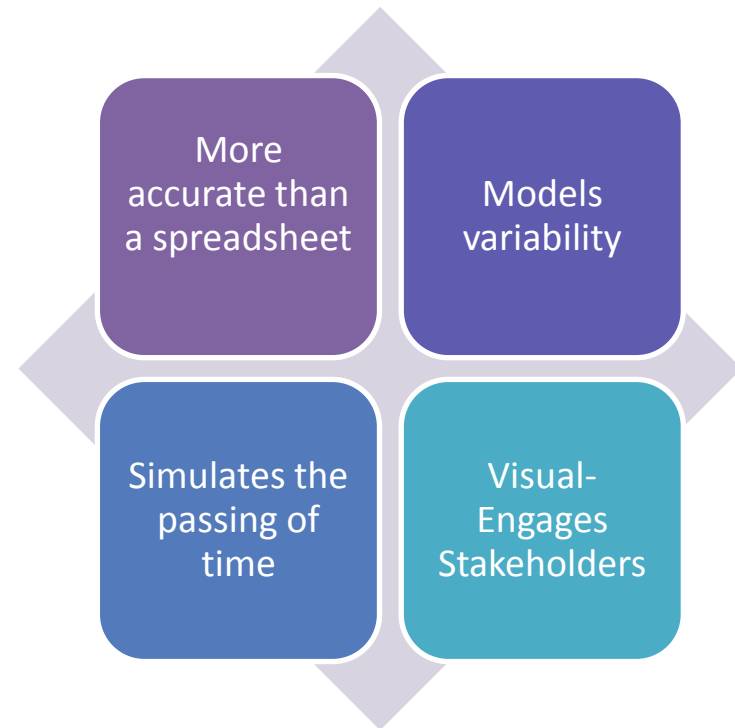
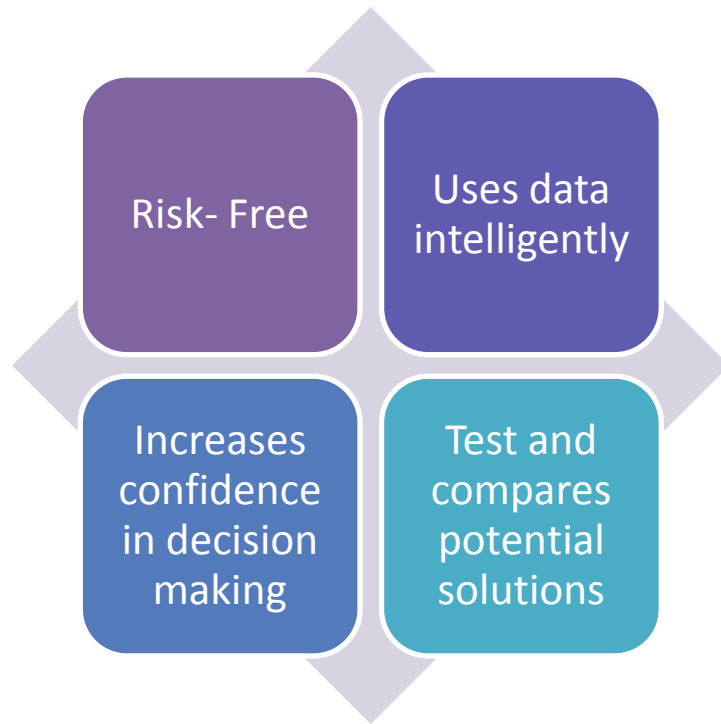
- Established 1994
- Business simulation software worldwide
 - Easy to use
- Provide project support & training
- Specialist in health and social care (third of business)
- Partnership with NHS Institute: Scenario Generator, Productive Series

Explaining simulation

- Simple models to demonstrate concepts



Explaining simulation



Adopting best practice

- Greatest use of Scenario Generator
- Testing assumptions:
 - impact on activity volumes, costs, capacity requirements, resource utilisation and waiting times
- Giving confidence in decisions – producing a robust business case

East Riding – BNP Blood Test

East Riding PCT modelled the impact of BNP blood test on heart failure



Saved £100k per year, national impact, £15m



Now in NICE guidance

County Durham – Stroke Care

Treat new patients with preventative drugs - **cost an extra £415,615**

Treating all new patients with Warfarin **saves £352,414.**



In five years, **savings of over £1m**

Creating generic simulations

Common healthcare questions

- One specific issue to solve
- Pre-loaded scenarios
- User interface to localize specific aspects
- Graphics to aid understanding
- Dialogs to guide user interface
- Results in format to embed in business case

Example: Dementia simulation

DEMENTIAHSJ8 SIMUL8 2011 Professional

File Home Data & Rules Insert View Visual Logic Advanced Developer

Run For: 2628000 minutes

Run Step Speed: Run

Run Trial Multiple Runs

Results Manager Chart Selected Results Custom Reports Export Results

Dementia Custom Menus

Income Statement Finance Results

Costs By Work Type

Duplication Wizard Clipboard

Connection Tools

- Edit Routing Arrows
- Show Routing Arrows
- Options >>

Building Blocks

- Work Entry Point
- Storage Bin
- Work Center
- Work Exit Point
- Resource

Advanced Building Blocks

Simulating Future Service Needs for Dementia Care

powered by **SIMUL8** CORPORATION

This simulation allows users to see the effect of altering % of patients diagnosed with dementia on Dementia Services in 3 years.

Clock: PM Wed Week 27

Simulation Controls

- Run Simulation
- Population
- Edit Diagnosed %
- Edit Services
- Simulation Detail
- RESULTS

Demand

Incidence

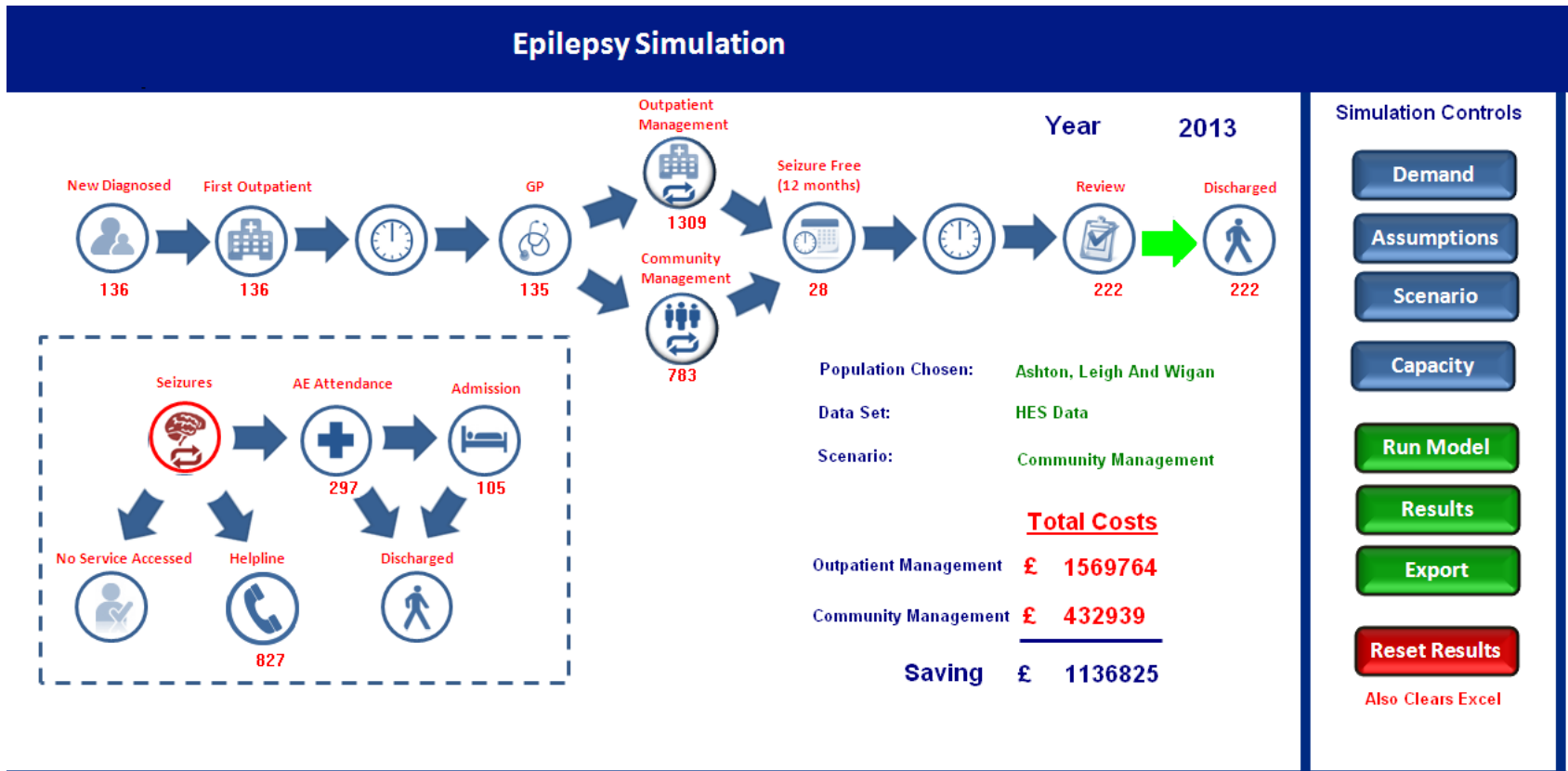
Category	Mild	Moderate	Severe
Undiagnosed	2729	707	243
Diagnosed	647	1306	616

Death 406

Services

Category	Services	Count
Services for Mild Patients	Memory Assessment	72
	Monitoring	72
Services for Moderate Patients	Respite Care	259
	Medical Services	1306
	Non Medical	775
Services for Severe Patients	Home Care	71
	Care Home	545

Example: Epilepsy simulation



Wider audience

- Usable by non-simulation experts
- Online:
 - YouSIMUL8
 - Private channels
 - Embedding on web – HSJ

Next Steps

- More generic applications
- Fit with research
- Simpler simulation tools for specific problems (Productive Ward), Simulation and Lean (SimLean)
- Linking with the Big Data systems
- Getting the benefit of simulation without having to have the “build” expertise

Working together

- We want to improve our software to help you use it more effectively
- Tell us what would help you!

Questions?



