NHS
Improving Quality

Chronic Disease
More than Medicine

A signal of the success in tackling the health problems of the 21st century is the emergence of **Long Term Conditions** (LTCs) as the dominant problem for health and care systems worldwide. Addressing the wider determinants of health along with prevention against infectious diseases, complemented by advances in treatments and technologies means people are living longer and people who once would have died in infancy or youth are living into adulthood.

This paper discusses the approach that NHS England has taken in adopting new models of care based around the person not the disease, and how computer simulation modeling is helping to support decision-making and dissemination of the concept.

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Living with Disease

The changes in life expectancy and advances in treatments and technology mean that people are living with conditions that cannot be cured but need to be managed to minimize the impact on their lives and maintain their quality of life. The recent past has seen this issue become more complex with the emergence and growth of multi-morbidity.
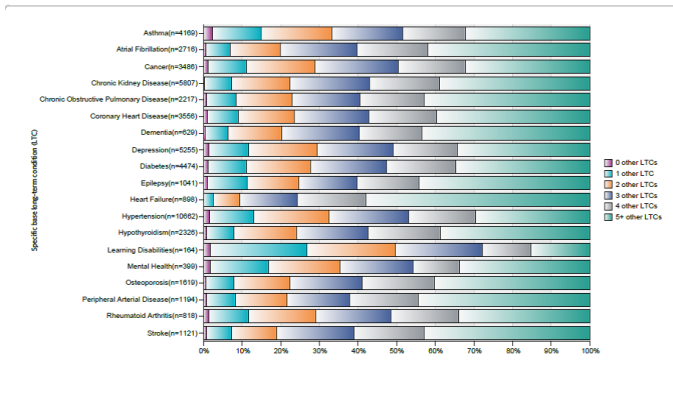
The research shows that more and more people are living with two or more conditions. In England, there are 7 million people with one LTC, 3 million with two LTCs, 3 million with three or more, 1 million people in England with frailty as a LTC, and 0.35 million approaching end of life.

The dominance of LTCs and specifically multi-morbidity requires policy and practice to change to meet the needs of the future rather than those of the past. People need to be supported to manage their health, to have more knowledge, skills and confidence to do so and to take more control of their health and lives. People need more than medicine, *person-centered care sits at the heart of this change*.

NHS England Approach – People not Patients

The National Health Service in England has a vision that supports people to gain far greater control of their own care and for the development of new models of care that will ultimately contribute to preventing some LTCs, and improve the quality of life for people who acquire or develop them. For the vision to become a reality, the functions that models of care are required to deliver need to be clear. In addition, the drivers and enablers to support the functions need to be in place and inhibitors removed. Some of these are technocratic but some are about human behaviour: attitudes, mind-sets, values and needs, in both professionals and people with LTCs.

NHS England has started to change the language of healthcare to develop a new way of thinking and planning for services for this group of people. We are talking about *people not patients and conditions not disease*. We don't separate the physical, mental, social and emotional needs of people, we are aiming for co-ordination of care in all these areas.

Underpinning the approach at a whole system level is the House of Care with four key components and which, like any house, will collapse if parts of it are missing.

Organisational and supporting processes
• Information technology • Safety & experience • Care deliver
• Care planning • Guidelines, evidence & national audits

Engaged, informed individuals and carers
• Empowered individuals
• Information & technology
• Group & peer support
• Care planning
• Carers

Person-centered coordinated care

Health and care professionals committed to partnership working
• Joined up working
• Culture
• Workforce
• Technology
• Care coordination
• Care planning

Commissioning
• Needs assessment & planning
• Joint commissioning of services
• Metrics & evaluation
• Service user & public involvement
• Contracting & procurement
• Care planning
• Tools and levers

Our learning so far

The program has been running for four years now and real progress is starting to be made, although we are very much still on the journey. During the four years, NHS organizations have been reorganized multiple times and it is testament to the strength of the vision that this approach has moved beyond the pilot stage and into implementation.

Some key learning has emerged as early implementer sites have reframed the way they understand and deliver care to this group of people.

We have been able to track people over a number of years, and it is clear that for this group there is a **"crisis curve"**. We need to get behind that curve to prevent exacerbations and the costs that go with them.
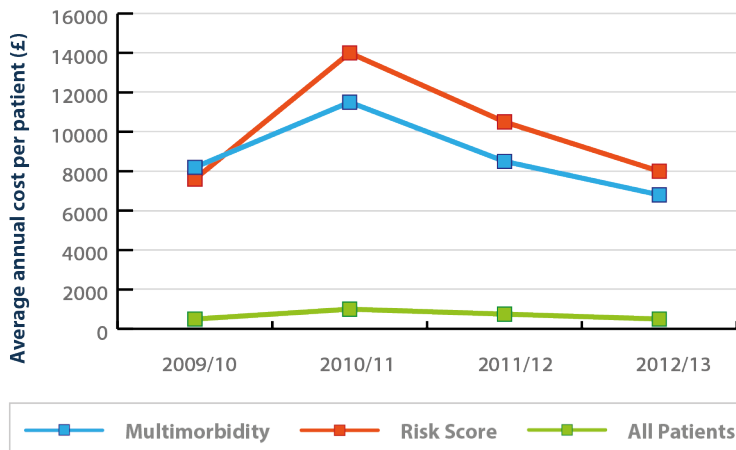
We have also found increasing evidence of the burden of treatment people with multiple LTCs often receive and in some instances conflicts in treatments as people are cared for by different specialties and treated without considering the overall person.

For many older people in particular, social isolation and loneliness is a risk factor for mortality, and has been found to have as much impact on service utilization as another LTC.
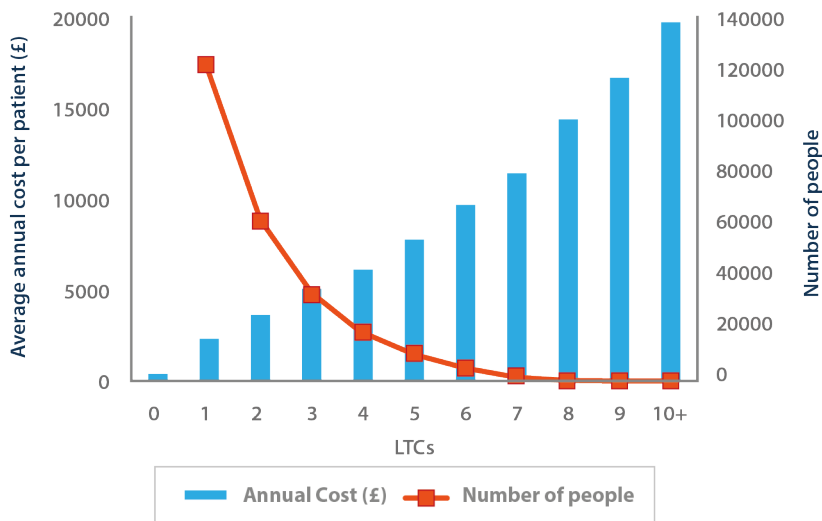
We now understand frailty to be a diagnosable condition and that it causes a threefold increase in the costs of care. We know that **25%** of hospital beds are occupied by somebody who is dying.

Overall costs in the system are strongly related to multi-morbidity and whilst multi-morbidity increases with age, in deprived areas the aging process starts earlier and multi-morbidity is found in people 20 years younger than in more affluent areas.

Surprisingly, whilst 33% of GP visits are with people with LTCs, the average person with a LTC in the UK spends **_less than 4 hours a year with a health professional_**. This contact needs to be as effective as possible.

The national role in enabling change

The national NHS team in England has focused on developing a framework which permits local health systems to develop their local solutions as to what they buy and how they buy it.

Local health systems select their population of focus and track typical use of services in order to agree an annual capitated budget for delivering care across providers (LTC Year of Care Commissioning Model). The system has flexibility to distribute funding to meet patient needs and incentivize organizations to co-ordinate care for the patient.

**Common features of implementation have occurred including:**

- Single point of access,

- Care planning and shared care record

- Supported self-management

- Care co-ordination

- Community multi-disciplinary teams based around primary care,

- Wider neighbourhood support including specialist practitioners, therapists

- Recovery, Rehabilitation and Reablement services
- Care navigators and voluntary sector as a key enabler

The Role of Simulation in Long Term Conditions

Computer simulation allows users to model their existing system in a virtual environment and to test the impact of new models of care prior to implementation. It reduces the risk of implementing "blind", allows stakeholders to be engaged in the change process and provides insight and robust evidence to underpin the case for change. The NHS LTC programme has used simulation from the outset to inform the understanding of how people with multiple long term conditions use services as their conditions change, and the costs and resources likely to be required each year.

North Staffordshire used Scenario Generator, SIMUL8's population health strategic planning tool to simulate the complexity of their current system and to test the impact of increasing social care at hospital discharge on costs and inpatient and community beds. The aim was to get people back to their own homes with support more quickly, rather than spending more time in community beds waiting for assessments.

Their results demonstrates an overall financial benefit to the system, allowing them to negotiate across health and social services to ensure that funding was made available to social care services as it reduced the cost of healthcare.
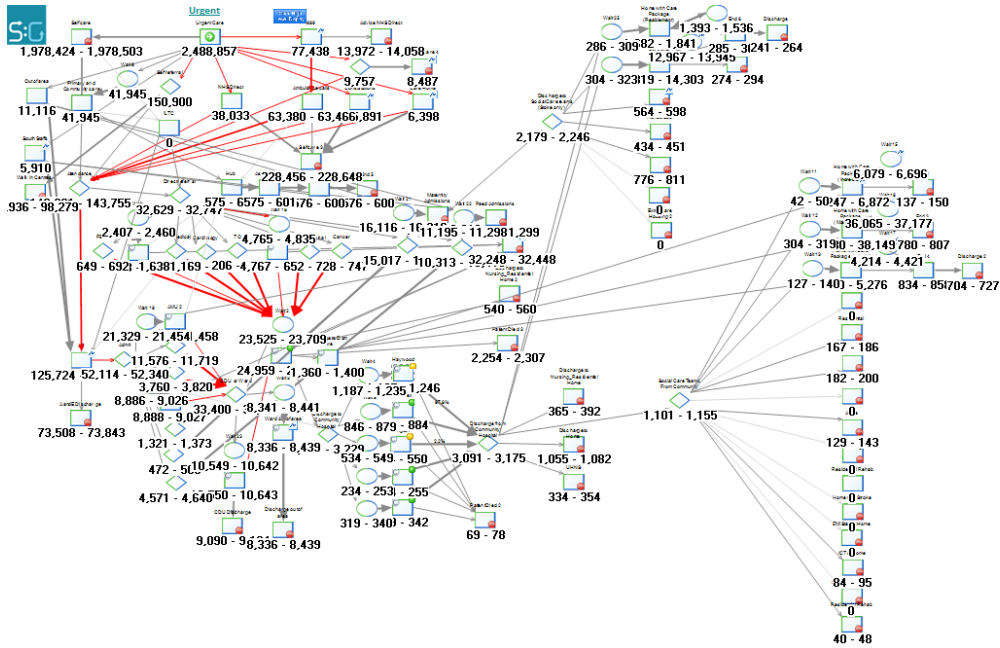
As sites have increased their knowledge of patient flows and processes, the simulation has been refreshed with new data and assumptions to allow other healthcare systems to test the impact of adopting a similar approach. As new research has been published which documents the impact of introducing proactive management of people with multiple long term conditions who score highly on a risk stratification tool, *"what if? scenarios"* have been developed to allow health and care systems to test the impact of new models of care on people in their health community.

The simulation models people identified by a healthcare system as a result of risk stratification profiling and a count of the number of long term conditions. Users can segment the population into four groups representing different types. This varies by individual system. Some choose to group people by numbers of long term conditions, others include further characteristics such as whether the person lives in a residential care setting.
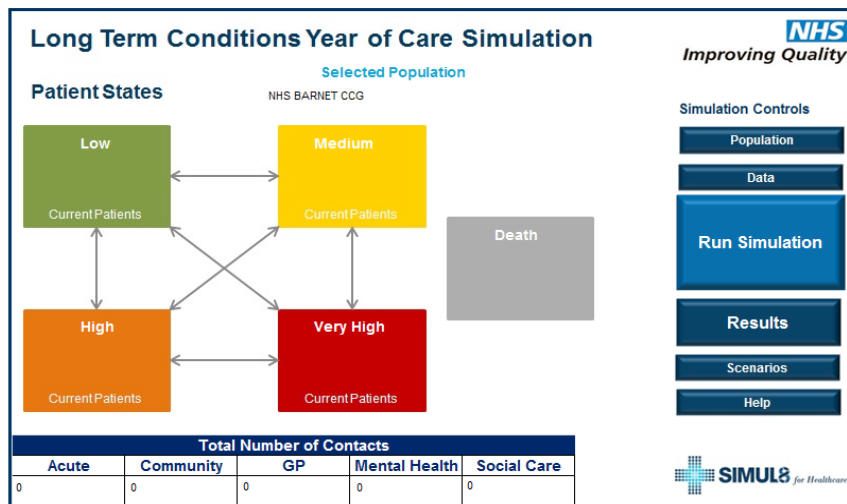

Each group has a different probability of accessing a service during the year, and the full range of services are included: primary and community, hospital and acute, mental health, social care. A frequency probability is applied so that each person may access a service multiple times, and a cost and a resource linked to each service. The simulation transitions people between the four groups as their conditions change.

The simulation runs forward over a number of years from the current state and results predict the annual cost of service by person and category of service for each group and the numbers of staff, beds or other resource required. Cost and capacity requirements are shown for each year to support planning decisions. Simulation users can also experiment with the new models of care they wish to implement and can test the impact of these on cost and capacity before deciding to move forward.
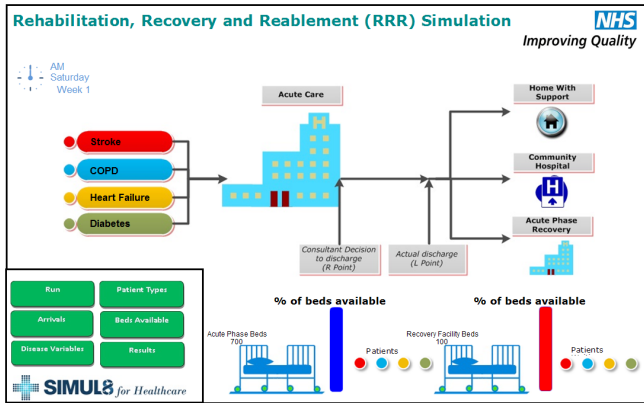
The **"Rehabilitation, Reablement and Recovery"** simulation is also being used to test the impact of moving people into a rehabilitation or reablement facility, managed by a nurse or therapist, at a lower cost, when the physician feels that it is clinically appropriate to do so.
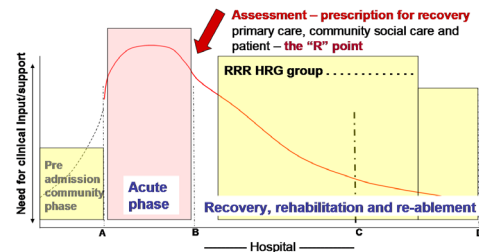
The simulation tests the discharge pathway and the impact of managing the inpatient episode in an acute (physician-led) phase and a rehabilitation (nurse or therapist-led) phase. Historic data is not available to model this approach and physicians have been engaged in the process to give their perspectives on clinical appropriateness of discharge to rehabilitation services so that administrators can plan the resource required to deliver.

Healthcare systems across the world are all adopting new models of care to support the person, rather than focusing solely on their disease. This is a very complex area, and the simulation embodies the learning of the early implementer sites as they work through the issues on the ground. We expect it to change and evolve as it is refreshed with real world insight.

The benefits of the approach

The benefits of a person centered approach to care are starting to emerge with examples from across the world demonstrating improved clinical outcomes, improved experience for both people with LTCs and practitioners, and improved value to both the person with LTCs and health and care systems:

- More activated patients have 8% lower costs in the base year and 21% lower costs in the following year than less activated patients

- Coaching and care co-ordination has shown to reduce emergency admissions by 24%

- Improved medication adherence is improving outcomes and yielding efficiencies

- Between 20% and 30% of hospital admissions are being prevented by proactive case finding, frailty assessment, care planning and use of services outside of hospital

For more information about the program, its tools and techniques and contacts, visit

www.SIMUL8Healthcare.com/long_term_conditions