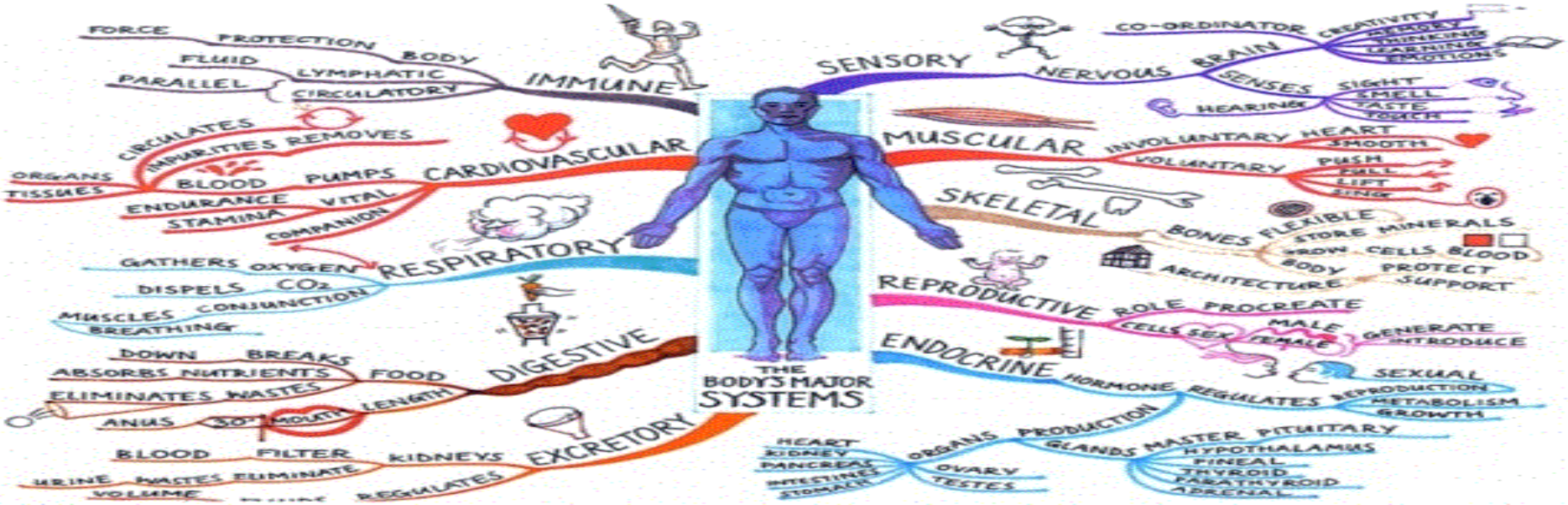
“Tests as part of a wider system”

Chris Hudson

Director of Healthcare Development - Roche Diagnostics Ltd



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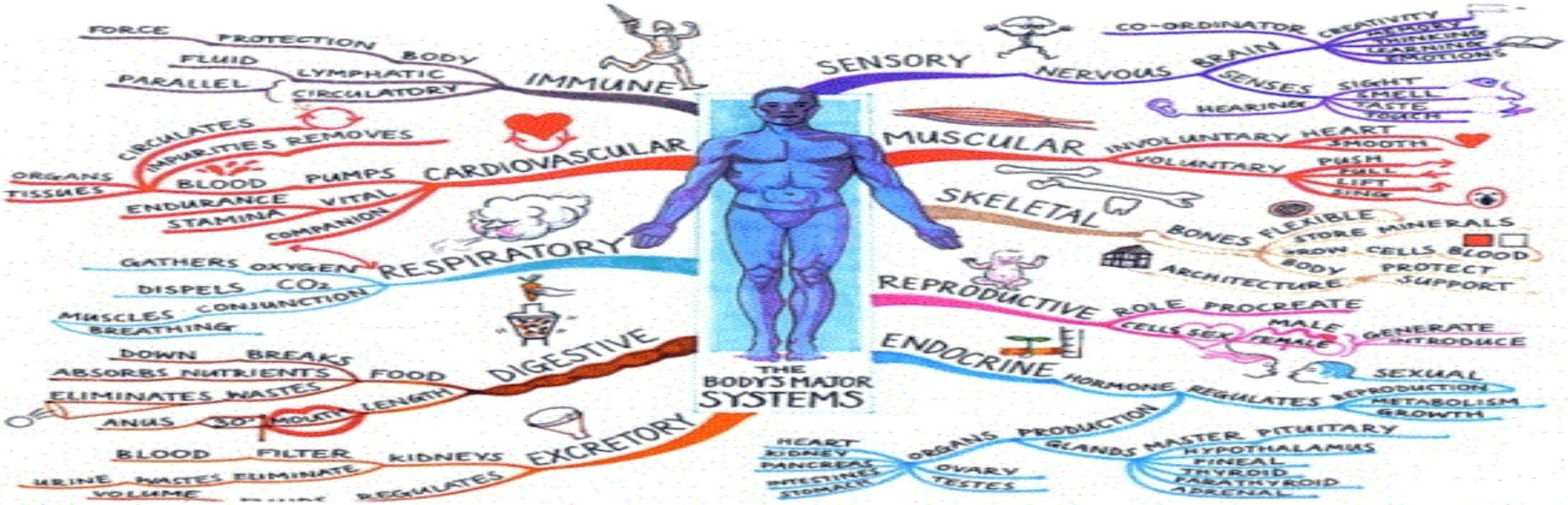
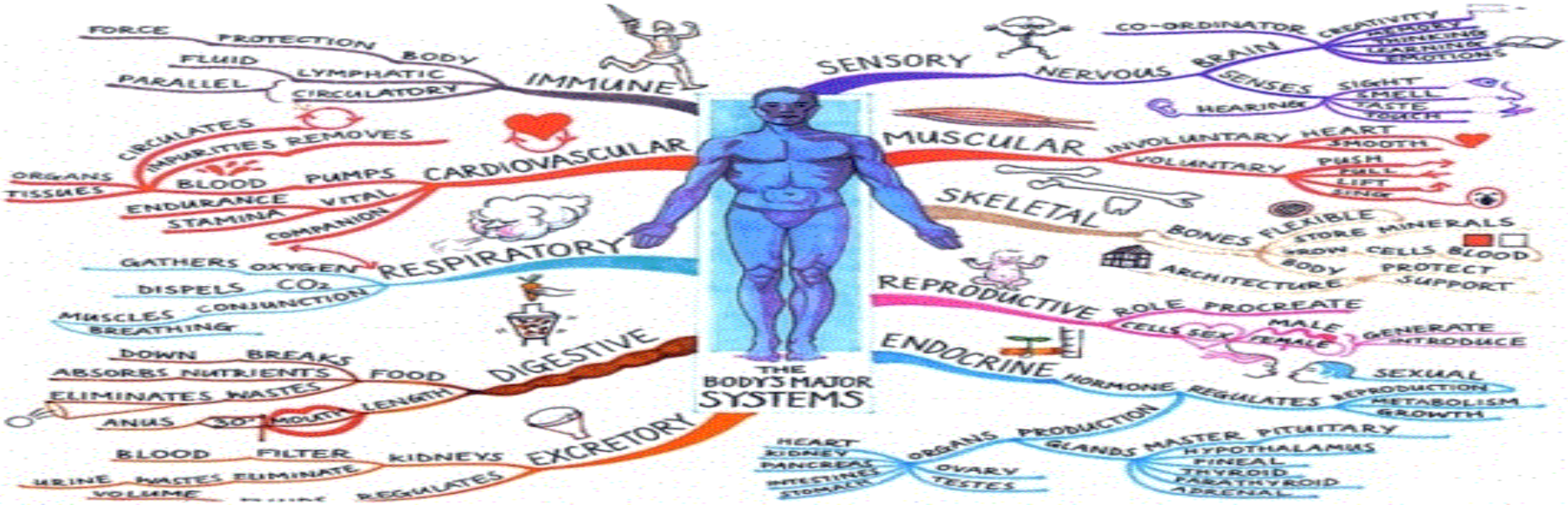


"*In Vitro Diagnostics Tests* as part of a wider system"

Chris Hudson

Director of Healthcare Development - Roche Diagnostics Ltd



Agenda for today

Challenges of the NHS…

History…the predictor of the future ?

Diesels V Bullets ?

Isolationism rules ?

Change of focus ?

Value for everyone ?

Real life in todays NHS…

A patients story….today's NHS

- **Jim aged 87 - ex NHS dentist**
- **Health history**
  - Diabetes T2 - 15 years *progressive* controlled with tablets
  - CHF - 5 years - Stented & diuretics
  - Renal issues - 25 years…
- **Recent health history (8 weeks)**
  - Taken off diuretics 8 weeks ago advice to GP from Nephrologist.
  - Admitted to hospital 3 weeks ago
  - CHF diagnosed & back on diuretics.

Is he one of the @3% of patients that use @45% of CCGs budgets ?

Real life in todays NHS…

Provider's and commissioner's what's the rough economics of the deal to them and then to the NHS overall ?

Commissioner (CCG)

Savings

- Eight weeks diuretics **£50**

Expenditure

- Payment to hospital to provider under contract **-£ ?**
- *No transparency -but less cost than the Acute trust*

Total (loss) to CCG **-£ ?**

Provider (Acute Trust)

Savings /income CCG

- **CCG payment** **£ ?**

Expenditure

- A & E admission **£(233)**
- AMU 5 x days **£(1,726)**
- CCU 16 x days **£(5,788)**
- Catheterisation 15 x days **£(1,838)**
- Other Costs - BgM, Oxygen

Total (Cost) to Acute Trust **£(10,604)**

Source: National Schedule of Reference Costs Year: 2014-15 - NHS trusts and NHS foundation tru

Total savings to NHS £50. Total Costs £10,604 - Overall cost to NHS £10,554

How Many "*Jims*" might there be in the £2.45bn NHS overspend in 2015-2016 ?

£2.45bn /£10,554 = 232,139 "*Jims*"

- *1,507 average per Acute Trust (154)*
  - *29 per week per trust*
- *1,110 average per CCG (209)*
  - *21 per week per CCG*

Thoughts

- Does this "silo" budgeting/patient management mentality really work ?
- "Penny wise and pound foolish"
- Joined up thinking needed - "common sense" too ?
- Money following the patient & IT systems to support the flow!

Is he one of the @3% of patients that use @45% of CCGs budgets ?

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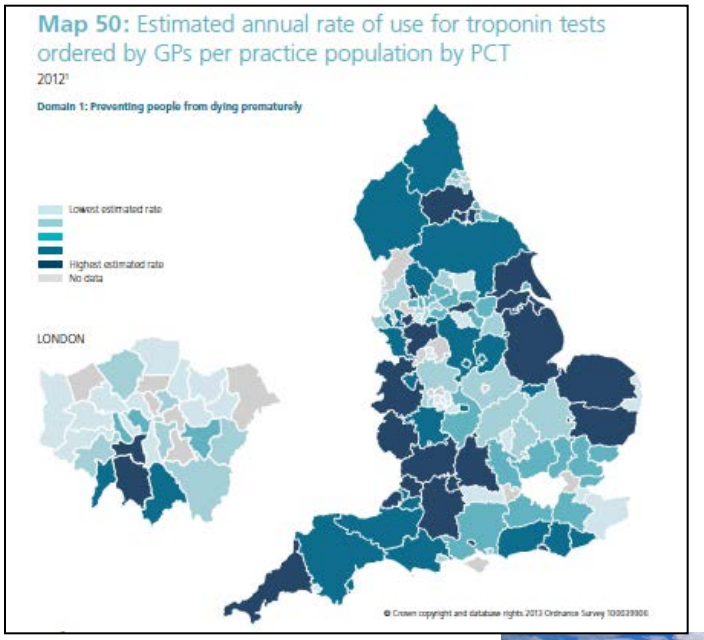
History … a “predictor of the future”

Is the NHS, the “Death Valley” for uptake of innovation ?

Troponin Testing

- 25 years for widespread adoption in UK
- Still large variations in usage
- “In the 19 years of clinical practice the only test that changed in the “routine” panel was CKMB for Troponin”

Sir John Savill CEO MRC Dec 2015



Thought to consider

In the UK we “Innovate” and “Evaluate” well but do we then ADOPT ?

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If you could get to your destination faster in a bullet train for the same ticket price on an old slow diesel train, would you really take the diesel train ?

High Sensitivty Troponin

- 25 years of Troponin testing “history”
- New Troponin test giving a result at **1 hour v’s 3 hours** - fantastic technological advance !
- Introduced 5 years ago - price same as “Old” Troponin.

Opportunity to:

- Improve clinical practice, patient treatment and patient outcome.
- Reduce strain on stretched A&E and specialist resources.
- Improve **value** for everyone.

So what has happened with HS Troponin ?

Patients and the system will have to wait for better care…

Outcome - 5 years later

- NICE positive endorsement 2014 but its only a "guideline" only for Diagnostics - **WHY ?**
- Only 20% sites are utilising the HS Troponin

Potential Conclusions ?

- New "tools" are available to significantly improve clinical practice, patient outcome &, use of scarce resources with **NO increase in cost - overall "Value" significantly increased**
- The NHS does not have the WILL nor CAPACITY to change ?
- Change Management is the "missing" piece ?
- "Empowered Champions" needed ?
- All of the above ?

Pre Eclampsia

A major opportunity to change clinical practice in maternal health

Pre-eclampsia test could prevent pain of losing your baby

By CHRISTINA EARLE

TINY Theo Crussell only lived for 44 hours but his mum still speaks to him every day – and it is often to say "sorry".

Grieving Kate, 35, wishes she had known about the pregnancy disorder pre-eclampsia and feels if she had been tested for it, her little boy might have lived.

She said: "He was the most perfect little thing I had ever seen. I felt so guilty that I hadn't protected him and that I had let him down.

"I talk to his ashes every day – but had I known, I had this condition, things would be very different."

Pre-eclampsia causes high blood pressure that cuts off the unborn baby's supply of oxygen-rich blood.

It kills seven mums and 1,000 babies in the UK each year.

But Kate and her husband Rob had no idea about it until they got the terrible news on August 6 last year, when Kate was 33 weeks pregnant.

Just a few days before she had complained of swollen feet and severe headaches, which are all symptoms of the condition.

She went to hospital where medics found protein in her urine – another major sign.

They then revealed the baby was in trouble and her blood pressure was also causing her own veins to collapse.

Motorsport welder Rob, 34, watched helplessly as his wife of one year was taken into theatre for an emergency C-section.

But he said: "I did not think at any point that my wife or our baby's lives were in danger.

"I had never heard of pre-eclampsia.

"I think that Theo could be with us now but it been picked up in the hardest thing.

"I miss seeing his smiling face when I get home from work and all the milestones we're missing out on are hard. No one should have to think about their child's funeral just after they are born." The couple, from North-umpton, are aiming to raise awareness of signs of pre-eclampsia, and of a new test for it.

Last week, the National Institute of Health and Care Excellence (NICE) recommended a new blood test by Roche Diagnostics that can rule out the condition. Until now, there have been no such specific tests.

Talks are under way about making the new test available in all NHS hospitals.

Kate, an accountant, said: "We only had 44 hours with Theo but I am so grateful for those hours.

"We got to hold, kiss, cuddle and bathe him. We also had the chance to take photos and make treasured memories.

"If this new test helps save lives, I'm all for it. But it's vital that mums-to-be are aware of the signs and symptoms so they can get tested in the first place."

Kim Kardashian, 35, also suffered from pre-eclampsia in the run-up to the birth of daughter North in June 2013.

But her condition, which can also cause blurred vision, vomiting and excessive weight gain, was picked up early before it became critical. North was delivered safely at 34 weeks.

Most commonly, the condition develops from 32 weeks onwards.

Kate said: "Theo was born weighing 4lb 11oz.

"At first I blamed myself. I wondered if I'd got to the hospital an hour earlier, things would have been different.

"But doctors assured me this was unlikely to be the case. They thought I had been affected by it for quite some time.

"I had noticed a change in the pattern of his movements, which prompted me to seek help.

"It's important that mums-to-be seek help if they notice a change in the number or frequency of kicks."

Rob said: "Kate held Theo in her arms in his final moments.

"His breathing slowly deteriorated. He'd turn blue, then gasp again. He died at nine o'clock the day after he was born.

"We had time to say goodbye to him but it didn't feel real at the time.

"No parent should have to walk away from a child knowing they'll never see them again."

Dr Tom Cowl Cooper said: "Every single pregnant woman should know about pre-eclampsia and she should be prepared to stand her ground to get expert medical help.

"Sometimes a woman goes to the A&E with her symptoms and they are not treated as urgently as they should be to get the best outcome."

● Kate and Rob are raising money for charity Action On Pre-Eclampsia at 4theo.co.uk.

HEARTACHE . . . Kate and Rob; *inset*, newborn Theo

Signs and symptoms

- High blood pressure (hypertension)
- Protein in urine (proteinuria)
- Severe headaches
- Vision problems, such as blurring or seeing flashing lights
- Severe heartburn
- Pain just below the ribs
- Nausea or vomiting
- Excessive weight gain caused by fluid retention
- Swelling face and hands
- Baby moving less

15-minute wonder test

A BREAKTHROUGH 15-minute test for pre-eclampsia was recommended for NHS use last week.

The National Institute for Health and Care Excellence, which provides clinical guidelines, wants the test rolled out in hospitals across the UK shortly.

There are around 60,000 women investigated for suspected pre-eclampsia in the UK every year.

But until now, these women have faced at least 24 to 36 hours of monitoring in hospital to check for the disorder, for which there has been no specific test.

But the new blood test invented by Roche Diagnostics can almost instantly rule out the life-threatening condition. This means mums-to-be found not to be suffering from it can be sent home quickly.

Numbers of women having to be hospitalised for further investigation would be cut by 50 per cent, it is estimated.

This would save the NHS around £1million a year.

But it is still essential for pregnant women to recognise the symptoms of the condition.

John Radcliffe Hospital in Oxford is currently the only NHS hospital offering the test.

It is are working out how best to use the test on a day-to-day basis.

Meanwhile, NICE hopes that further research will soon also allow the new test to specifically diagnose the disorder, rather than simply rule it out.

8.5 million women across the world are affected

Disorder causes 42% of maternal deaths

It affects 38,000 women in the UK per year

Situation

- Been available for nearly 3 years
- NICE guidance May 2016
- John Radcliffe Oxford only hospital in UK that has implemented ..so far
- Sites asking to do studies to validate for “local population” - **WHY ?**
- What will be the future for this innovation ?

Agenda for today

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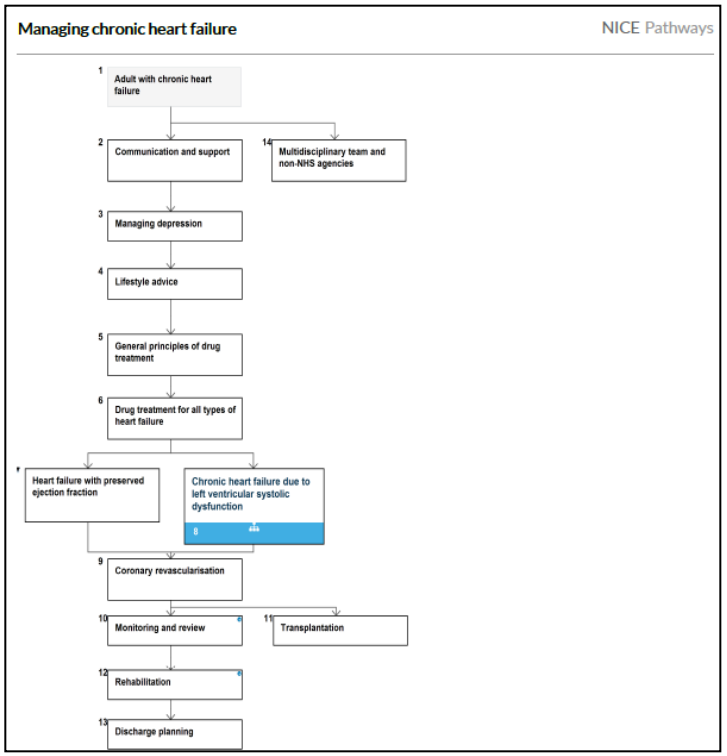
The “technology” seems to be THE focus on IVDs

The discussion should be on the VALUE to the whole system

Patients are treated in “care pathways”

NICE

- “Health *Technology* Assessment”
- The **Value** delivered to the whole system is not considered.
- Assessment is ***Guidance only*** not Mandatory like Medicines.
- No measurement of ***implementation*** : Innovation scorecards have **less than 10 IVDs,** whereas Medicines are **60+**.
- No ***funding*** to change clinical services
- No support for **IMPLEMENTATION**



Resolving the problems of the NHS requires thinking on a wider scale than just “technology” and “costs”

Doing *more of the same* is NOT the answer to a system challenged by cost

Map illustrative only

- **Example :**
  - Acute Trust at tender for Pathology : £20mn trust deficit
  - **Problem :** too many elderly patients (“Jims”) coming from local CCGs - “bed blocking”, using expensive resource

- **Potential Solutions**
  - Cut £1mn Pathology budget by 20% ….£200k **but** doesn’t reduce the underlying **REAL** problem of “Jims” coming from the CCG !
  - **Or** cut the number of “Jims” by using changing Patient pathway (outreach Dx clinics) testing closer to the patient changing the pathways to reduce admissions e.g. NT ProBNP

- **Health economics** needed to look at Budget Impact on the **change** the health and wellbeing **system** (patient pathway and test) NOT just “cost effectiveness”.

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Revaluing In Vitro Diagnostics

In vitro diagnostics testing has long been a silent champion of healthcare:

IVD accounts for

~2%

of worldwide healthcare spending

IVD influences

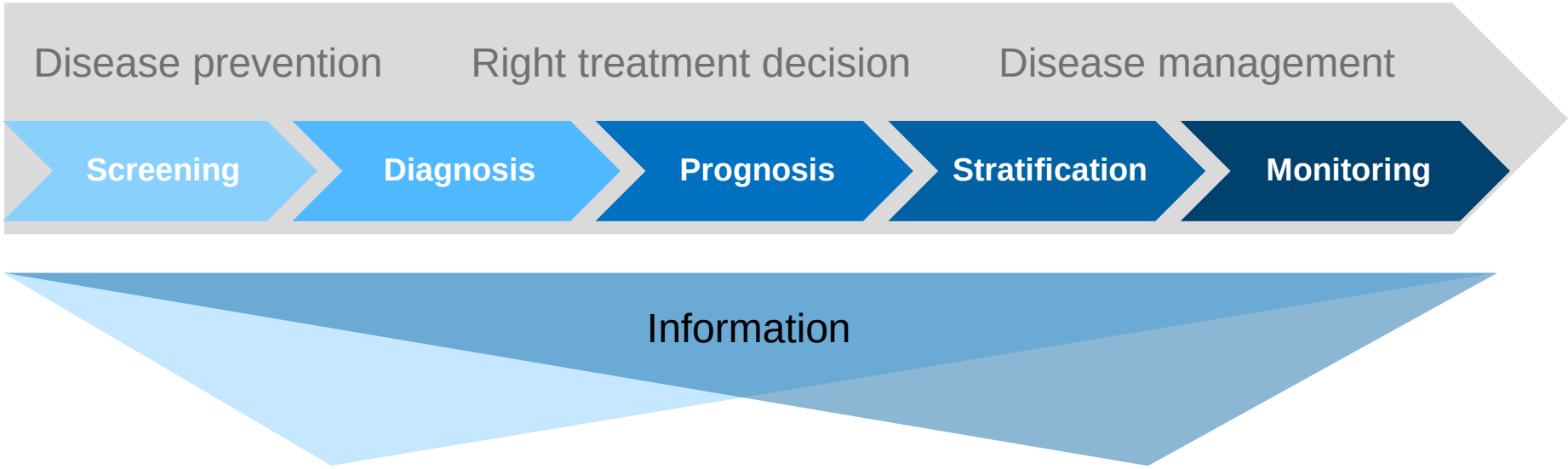
>60%

of clinical decision-making

Source: European Diagnostic Manufacturers Association (EDMA) 2009

The value of in vitro diagnostics

Improving health, influencing smart spending



- Keeping people healthy
- Getting the right treatment
- Stopping a patient from getting worse
- Chronic disease management

Improving people's health

- Increasing efficacy of treatment
- Eliminating trial and error
- Reducing hospitalization
- Avoiding work productivity loss

Influencing smart healthcare spending & saving healthcare costs

Diagnostics are about gathering medical data

To be transformed into actionable information

Data

Information

Action

Sample

Test

Result evaluation

Treatment decision

Critical Success Factor :
Need patient EHR systems that are complete & join it all up - GeL model ?

The NHS system needs a change of approach

Four core concepts for success…

Listen to and **involve** - the wider "stakeholder" groups e.g. Patients, Industry

Focus and prioritise -on what really matters FAST and **deliver VALUE**

Simplify - make process of NICE adoption **Mandatory, Measured, Funded**

Leverage expertise - internal & external e.g. Change Management & Best Practice Sharing

Agenda for today

Roche

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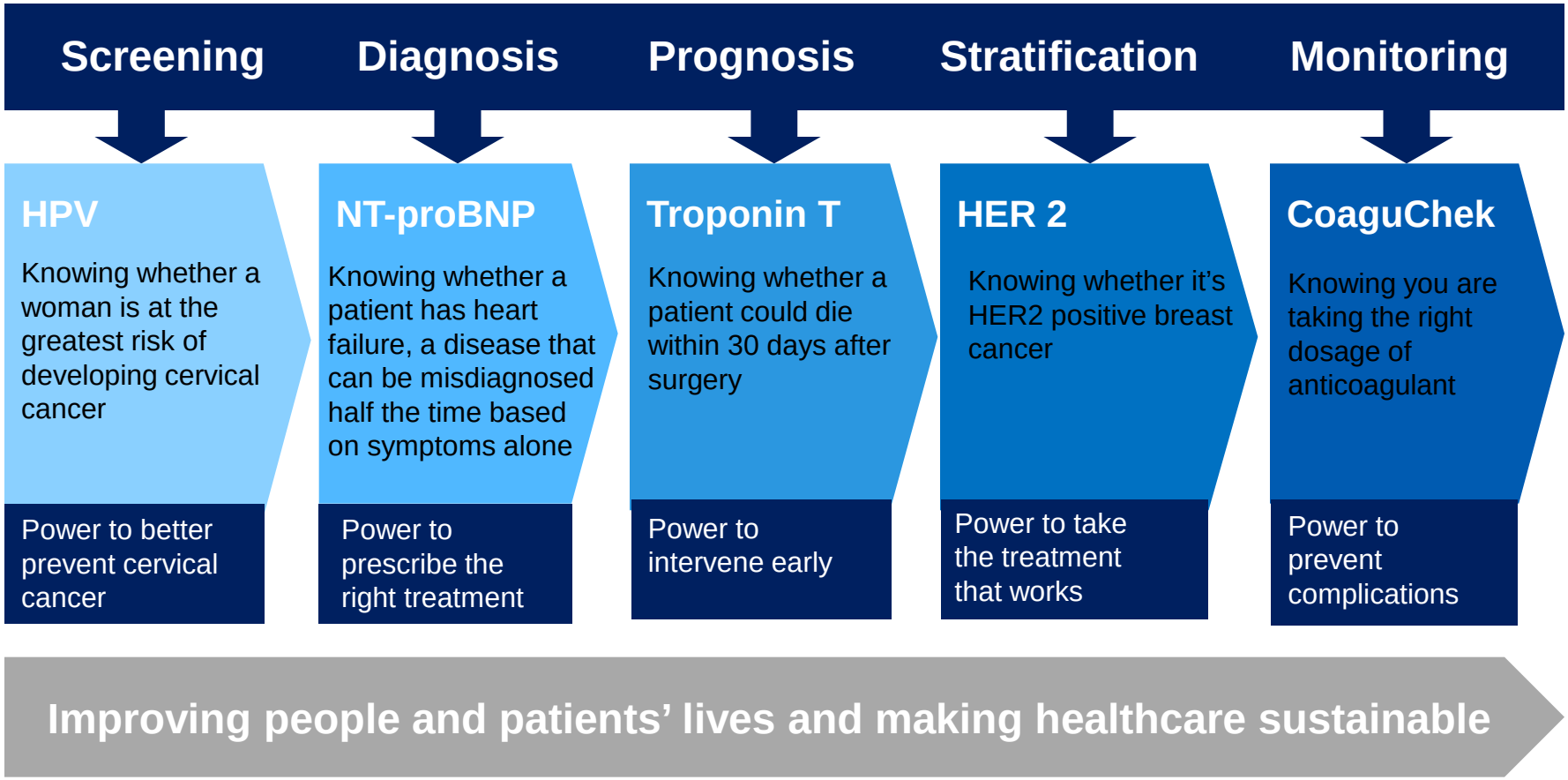
In Vitro Diagnostics - The Roche view

The power of knowing for better patient care



Roche what we believe

Working together, creating value for all…

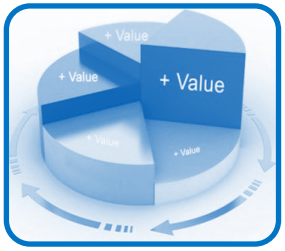
Within the next five years, Roche Diagnostics' unique pioneering approach will have fundamentally changed the way patients are managed by ensuring in vitro diagnostics are always at the heart of care pathways and at the forefront of clinicians' decisions – resulting in better patient outcomes

Roche Diagnostics - our view

Working together, creating value for all

We will try to :

Enable the NHS to achieve their objectives and targets more effectively.

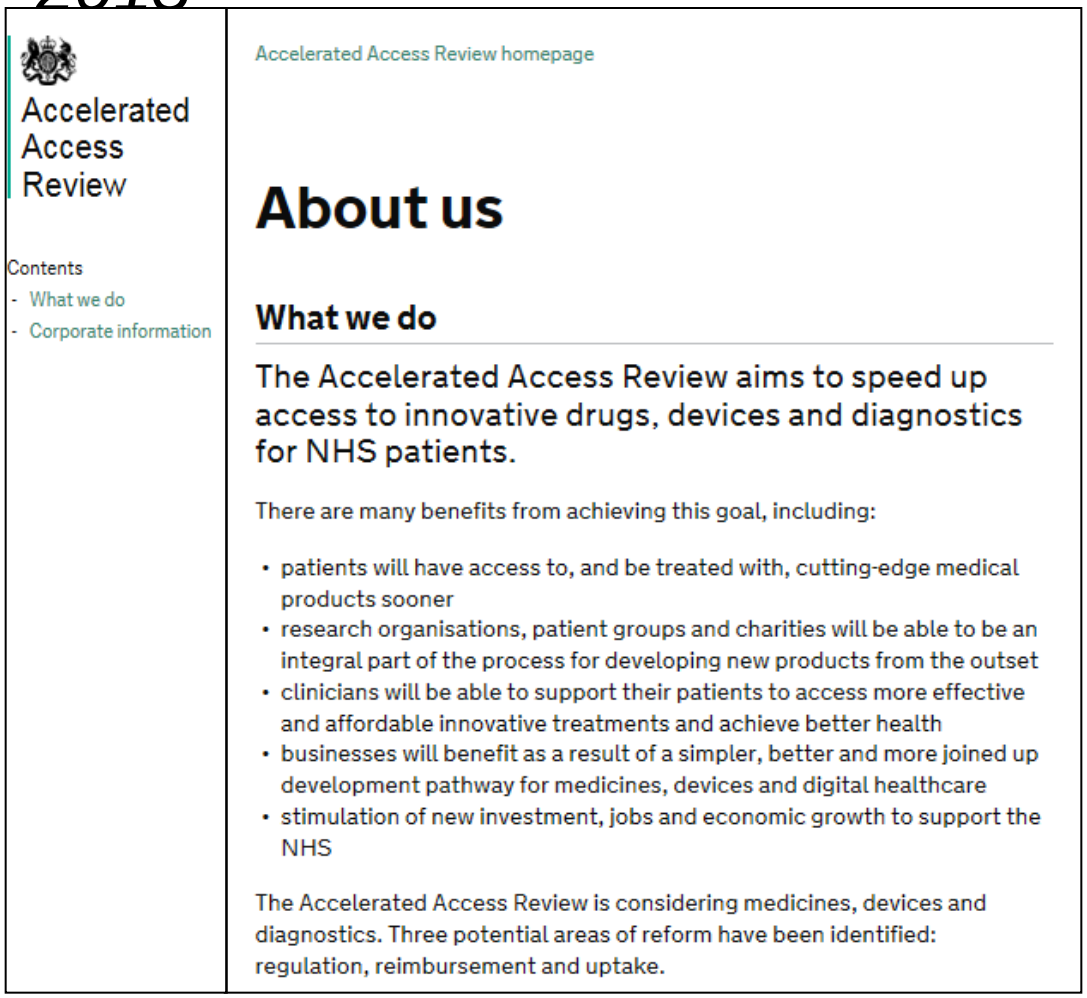


Create value for Clinicians, Trusts, CCGs, patients and the wider healthcare system.

Clearly differentiate to the NHS why they should choose Roche.

There is hope !

Accelerated Access Review (AAR) - launched March 2015



Accelerated Access Review

Contents
- What we do
- Corporate information

Accelerated Access Review homepage

About us

What we do

The Accelerated Access Review aims to speed up access to innovative drugs, devices and diagnostics for NHS patients.

There are many benefits from achieving this goal, including:

- patients will have access to, and be treated with, cutting-edge medical products sooner
- research organisations, patient groups and charities will be able to be an integral part of the process for developing new products from the outset
- clinicians will be able to support their patients to access more effective and affordable innovative treatments and achieve better health
- businesses will benefit as a result of a simpler, better and more joined up development pathway for medicines, devices and digital healthcare
- stimulation of new investment, jobs and economic growth to support the NHS

The Accelerated Access Review is considering medicines, devices and diagnostics. Three potential areas of reform have been identified: regulation, reimbursement and uptake.

- Interim Report Oct 2015
- Great deal of “hope” around this review.
  - “Innovation Partnerships”
  - “Innovation Pathways”
- “Galvanising the NHS to adopt innovation” - **May 2016**
  - **AHSNs** - fund to encourage system redesign
  - Clinical system leaders to champion change
  - Secondary Care - “Innovation champions”
- **Final report recommendations July 2016**

What is my ask of you ?

No one person or group can solve this on their own

- Industry can give the NHS lots of new “magic bullet” technology innovations..
- By working **together** we can help the NHS get the most **Value** out of new technology by looking at the wider system.

What I would like to ask you to do?

- **Challenge -** Status Quo
- **Ask -** “How do we implement quickly” ?
- **Keep asking -** “Why not”
- **Empower** and experiment

And here’s **WHY**

“Jim” & others like him, are relying on the NHS.

Doing now what patients need next