



Business Analytics Live 2012 - IBM

Gary Seaman
Head of Business Analytics





Speed date with Medway Youth Trust

Get to know Medway Youth Trust
in 60 seconds



SPEED DATE

WITH



Medway Youth Trust
Improving the life chances of Young People

We are a 4 year old non-profit charity dedicated to improving the life chances of young people

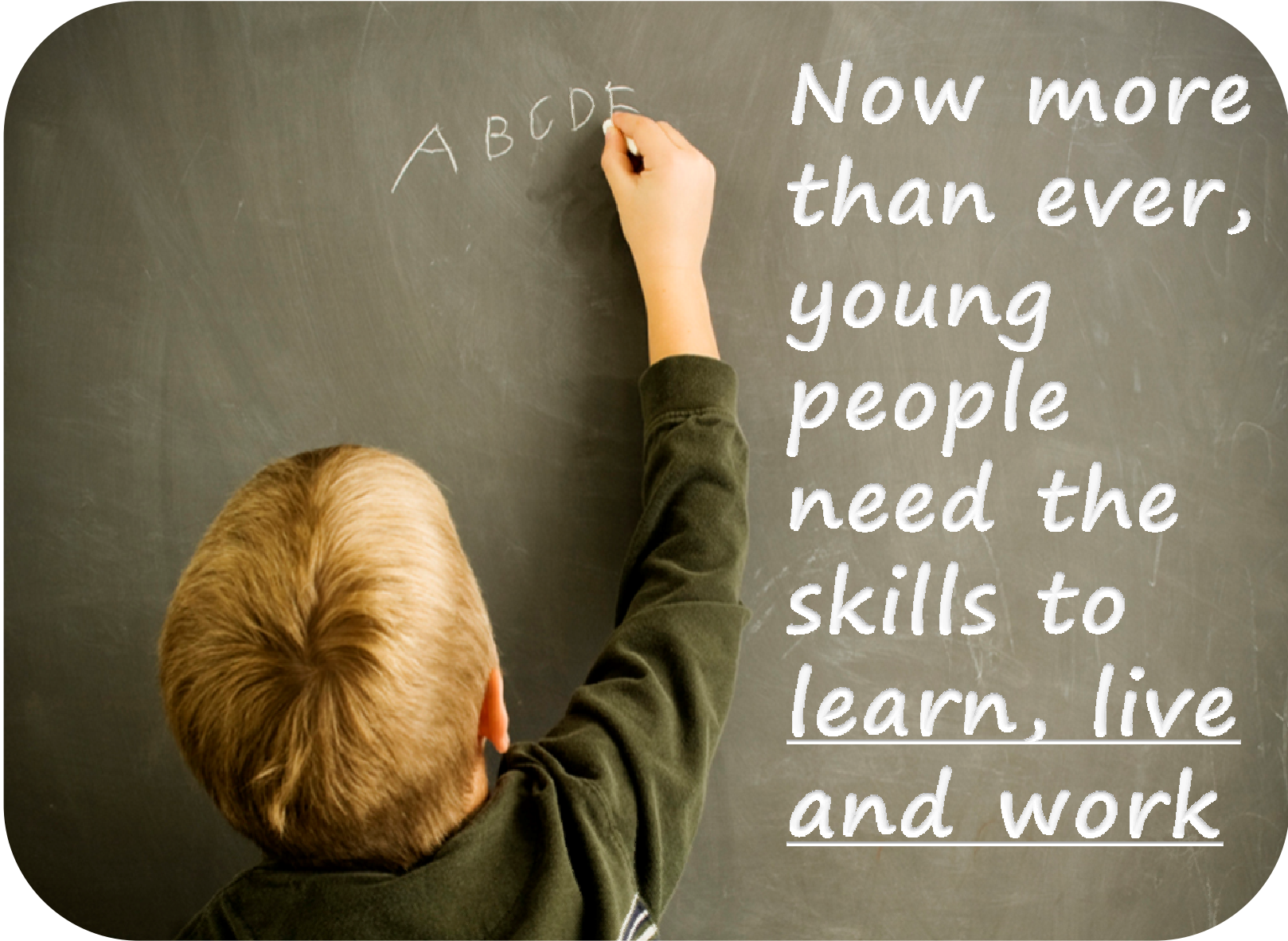


We work each year with

24,768 young people

in a **192 km²** area

30km south east of London



A B C D E

Now more
than ever,
young
people
need the
skills to
learn, live
and work



So we provide
information,
advice and
guidance

**through
personal 1:1
support &
group
programmes**

That build...

CONFIDENCE

ASPIRATION

SKILLS

KNOWLEDGE and

OPPORTUNITIES



Some young people have challenges in their lives

**So we help them face
up to their problems**



**Young people's voices are
loud, clear and HEARD**

25%

of our charity

Trustees are aged

16-18 years



partnership

can-do approach

our partners and funders

say we are **OUTSTANDING** at

communication

creativity

volunteers

**We have enjoyed our date, it's
been really nice to meet you.
We hope this is the start of
something exciting...**



www.medwayyouthtrust.org.uk





Small Project Team:



- Data Quality Manager
- CEO
- Business Manager

46 x Fte staff
£2.1m turnover

Project Resources:

- 22 days IBM Consultancy
- IBM SPSS Modeler
- 57 week Project
- €123,000 in total



BI excellence is possible with limited resources, a focus on social outcomes and in a small organisation !

947,000
Number of young
people aged 16-24 in
England unemployed?

depression

unemployment

poor health

**Impact in later life
for those who
spent time
unemployed when
young?**

reduced earnings

**The lifetime costs to
the UK taxpayer of the
£13 billion
2008 unemployed
youth cohort?**

Two front doors...One Question



Why, when so much in their lives is the same, does one young person become Unemployed whilst their next door neighbour has gone to College?

STRUCTURED DATA

Age
Gender
Ethnicity
Postcode
Support Levels
Vulnerable Groups

UNSTRUCTURED DATA

Attitudinal:
Opinions
Preferences
Needs
Desires

360° view



UNSTRUCTURED DATA

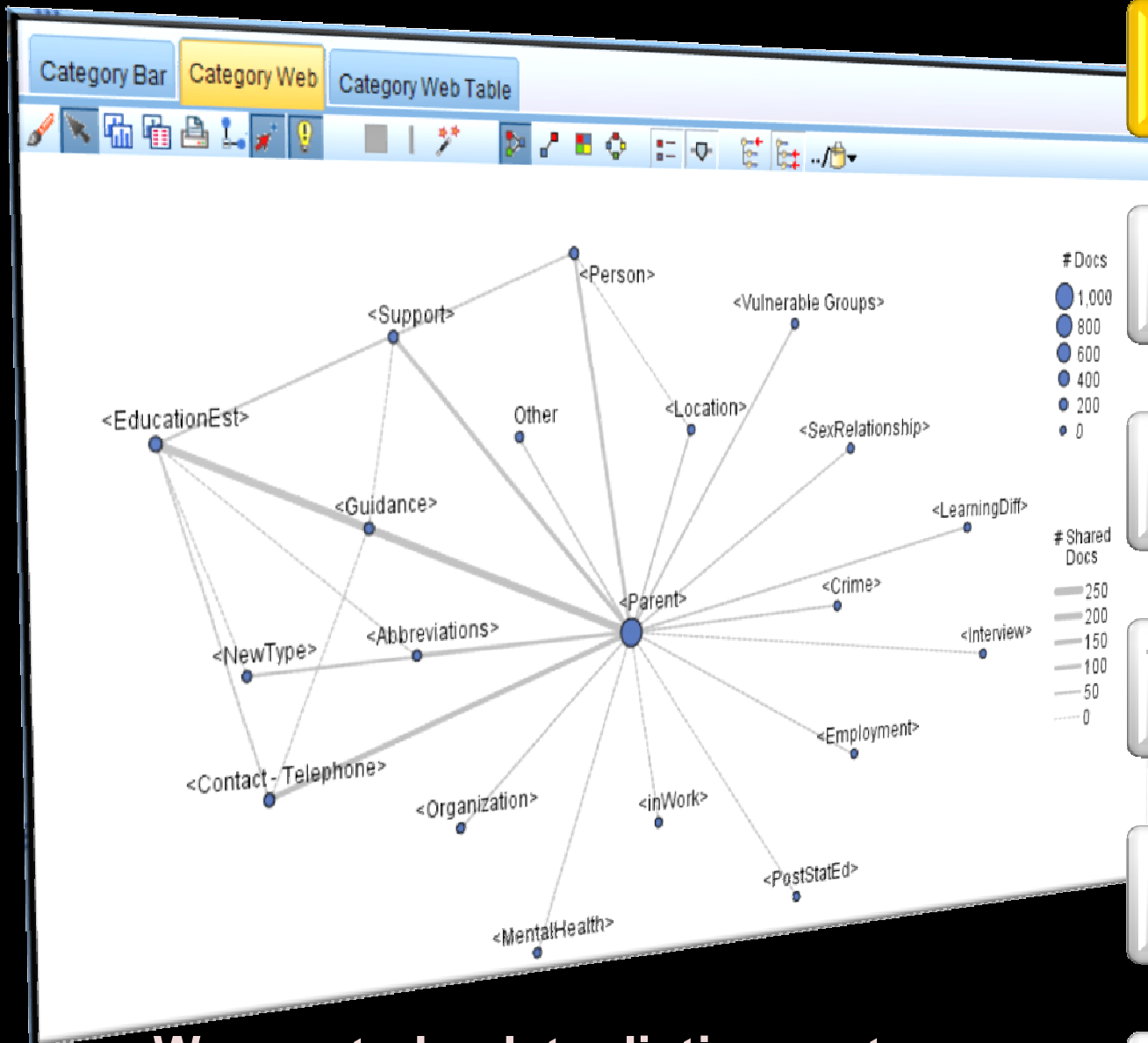
Interactions:
Intervention recording
Text Messages/Email
Action Plans
S139a Reviews

UNSTRUCTURED DATA:

Behavioural:
Attendance
Number of Interventions
Destination History
Exam History



Unstructured data – we had 175,000,000 words we were not using before this project



Created profiles of current NEET cohort

Built predictive model

Applied model to younger cohort

Targeted interventions with young people

Measured Impact

Integrated BI and people processes



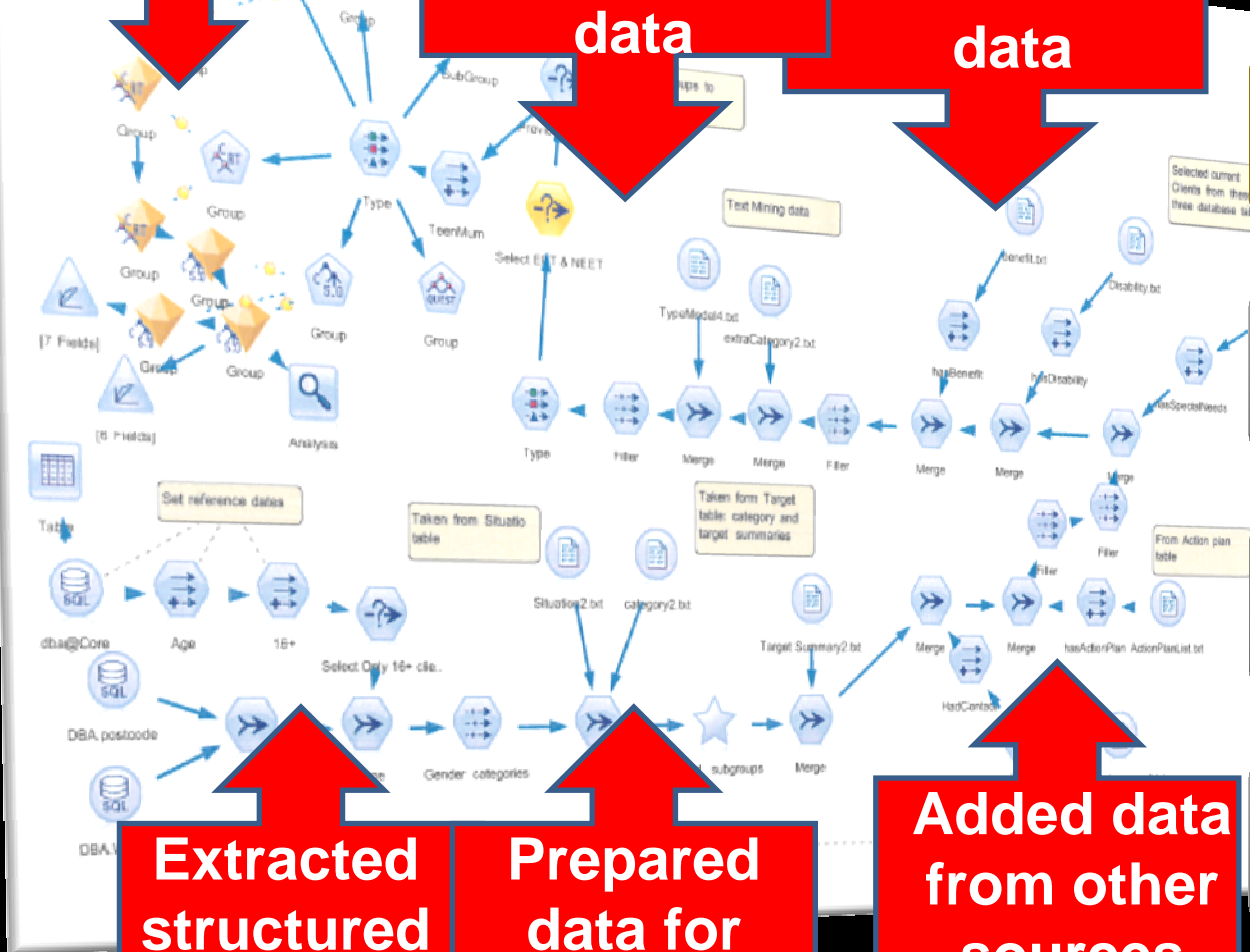
We created a data dictionary to extract key words/concepts from our unstructured data

The models

Combined unstructured & structured data

Added in unstructured data

Created profiles of current NEET cohort



Built predictive model

Applied model to younger cohort

Targeted interventions with young people

Measured Impact

Integrated BI and people processes

Extracted structured data

Prepared data for use

Added data from other sources



We used IBM SPSS Modeler

Created profiles of
current NEET cohort



Built predictive model



Applied model to
younger cohort



Targeted interventions
with young people



Measured Impact

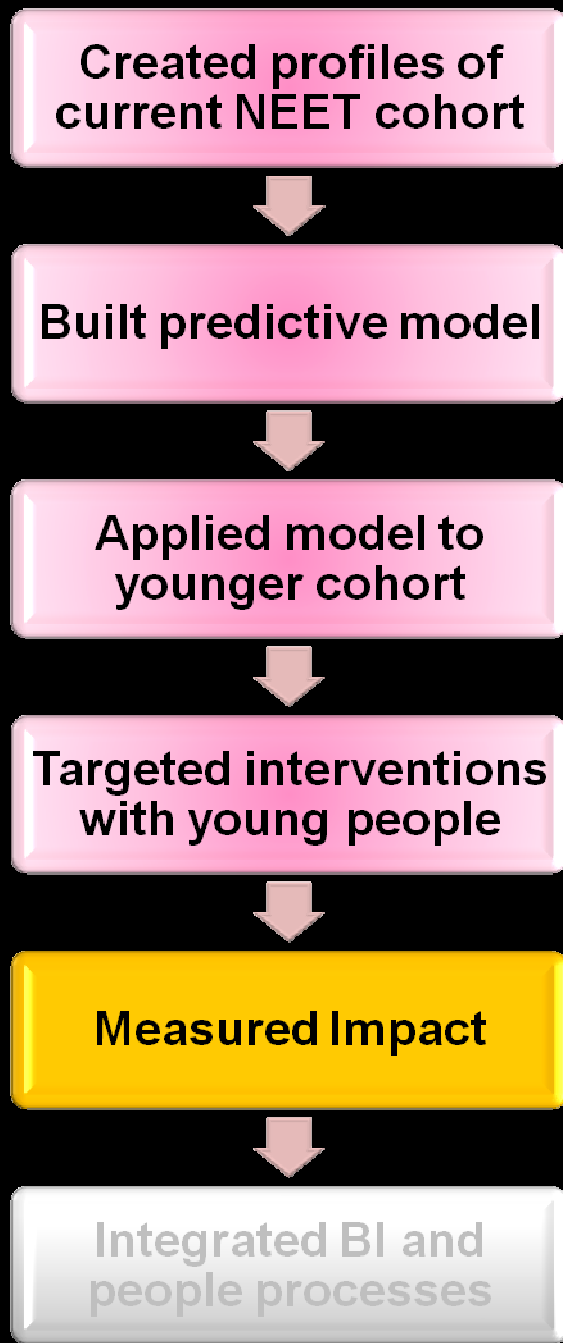
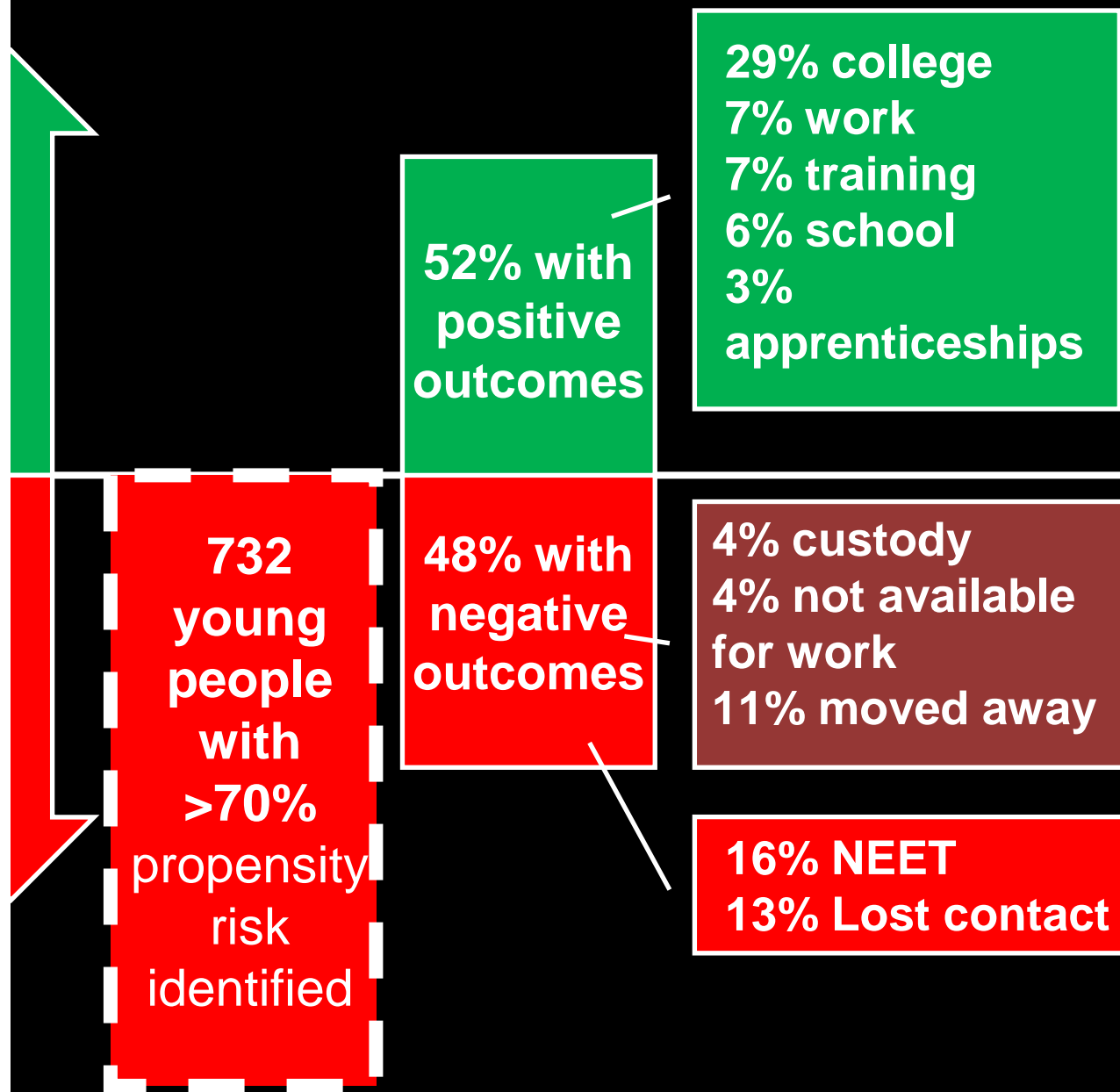


Integrated BI and
people processes



**Propensity models informed resource
planning and service priorities**

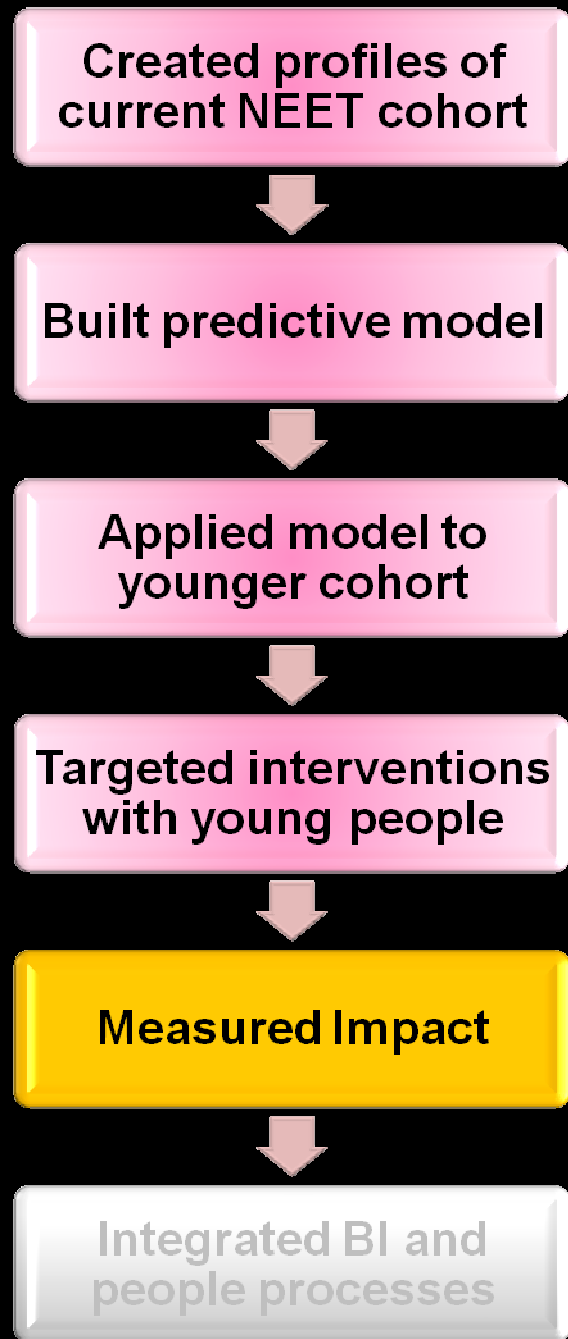
YEAR ONE IMPACT



Impact:

Process assessment by IBM:

- Model currently has 83.2% accuracy against historical data, suggesting high degree of validity for real-world predictions
- 77% improvement in accuracy of identification of young people at risk
- Reduces time for reviewing records and identification by 250%



MENU 8:02am, 16th Jan 2012 Young Person

Yp Ref: 4 Forename: Surname: Client

Date Of Birth: 21/11/1994 Age: 17 Current Activity: Job - Full Time (No Training) CCIS Caseload PA:

T2 S C D P A FUP Status: Excluded Expiry Date: 10/08/2012 FUP Verified On: 30/09/2011 FUP Verified By: Alouette Marsh Status: EET - Seeking Betterment

Last Contact Date: 01/12/2011

Basic Details Stat. School Medical Info/Disabilities

Flat No. House Name/No. 1a Road/Street: Somewhere Street District: Town: Rochester County: Kent Postcode: ME1 1LX Home Telephone: 01634 300358 Mobile Telephone: 07111 Email Address: Ward: Rochester West Resident LEA: MEDWAY

Gender: Male Ethnicity: White British Home Language: Religion: NI No: UPIN: ULN: Risk of NEET Indicator (RONI): Amber (50 to 74%) Area office: Rochester & Strood/Hoo Lead LEA: MEDWAY

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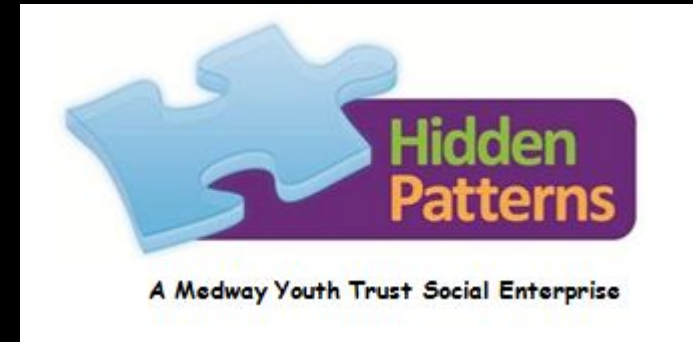


We exported the propensity data, and embedded it in a standard application

Other future dimensions:

Preventative approaches..

- Post 16, FE and HE drop-out
- Teenage Pregnancy
- Offending Behaviour
- Exclusion
- Troubled families prevention



Aspiration based approaches..

- Predicted grades & School Choices
- Destination progression

Professional challenge approaches..

- Soft outcomes measurement (link to PBR contracts)
- Austerity cuts management

Award Winning Concept:

**Winner of the Gartner EMEA
Business Intelligence Excellence
Award in 2012**

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