Prudent Health Care: the role of DCP’s

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Prudent Healthcare

• Health and well-being through co-production

• Make the most effective use of all skills

• Reduce variation by using evidence-based practice
Change in population distribution

- 50% of the population will be 50+ by 2050
- 25% of the population will be pensioners
Change in population distribution

1980 – 2015 – 2050: pyramid to bell to barrel
BUT it won’t all be healthy aging
Mobility and other co-morbidities will be key factors.
So some will be *in a home*

One third with dementia
But most will be *at* home

11% increase of 65+ in 15 years yet 0.3% increase in number entering care
And they’ll have teeth!
How do we care for older people?

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• The majority of dentate participants had active dental caries 73% (202 / 277)

• Majority of participants who required fillings had case complexity

• 65% of all those requiring fillings needed additional time or extra visits
How do we care for older people?

Making sure *in the future* “the right number of people with the right skills are in the right place at the right time to provide the right services to the right people”
Planning the future work-force

\[ L^r = \left[ \frac{N}{Q} \right] \times \left[ \frac{Q}{H} \right] \times \left[ \frac{H}{P} \right] \times P \]

- \( P = \) population size
- \( \frac{H}{P} = \) level of disease in population
- \( \frac{Q}{H} = \) amount of cure/care to manage disease
- \( \frac{N}{Q} = \) productivity = number of people to deliver cure/care

SO, what do older people want?
SO, what do older people want?

• …..the first point I put was raising awareness, so that we reduce the idea that disease is inevitable….. [Specialist]

• ….how we can get dentists or hygienists, I put assistants but I’m talking about the whole thing….. …..to visit….. …..to actually visit people in their own homes if they can’t get to a GP or a dentist….. [User]

• ….maybe you could have two systems then where you automatically get assessed when you’re 50. At 50 you get an invite to have this screening….. [User]
Move from cure to care & stratify the dental team

In the practice

Prevention by the team

In the community

Treatment by the dentist
Need to think of different models
Need to think of different models
Using the whole dental team

Would it be safe?
Predicted as diseased (positive)
Diseased – True Positive

Predicted as healthy (negative)
Truly healthy – True Negative
Predicted as diseased (positive)
Diseased – True Positive
Healthy – False Positive

Predicted as healthy (negative)
Truly healthy – True Negative
Diseased – False Negative

Sensitivity is how well the test identifies those in the population with the disease
\[ = \frac{5}{6} \]

Specificity is how well the test identifies those in the population who are healthy
\[ = \frac{7}{9} \]
How would you score this lesion?
How would you score this lesion?
How would you score this lesion?
How did everyone do?

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<th></th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Confidence</th>
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<tbody>
<tr>
<td>Specialists</td>
<td>0.82</td>
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<td>GDPs (n=96)</td>
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How did everyone do?

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<tr>
<td>DCPs (n=63)</td>
<td>0.77</td>
<td>0.68</td>
<td>5.90</td>
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How good are the dental team?

Number of frank malignancies missed

Proportion

0% 10% 20% 30% 40% 50% 60%
...and the impact of confidence?
What about the common oral disorders?
How good are you?

- Who thinks this has suspected decay worthy of a referral to a dentist?

- Who thinks this tooth is sound and doesn’t warrant referral?
How good are you?

- Who thinks this has suspected decay worthy of a referral to a dentist?
- Who thinks this tooth is sound and doesn’t warrant referral?
How good are you?

- Who thinks this has suspected decay worthy of a referral to a dentist?

- Who thinks this tooth is sound and doesn’t warrant referral?
How did dentists perform?

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...and the rest of the team?

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<tr>
<td>HT students</td>
<td>.85</td>
<td>.54</td>
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<tr>
<td>Dental Nurses</td>
<td>.88</td>
<td>.62</td>
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Dentists versus dental nurses

But, could the results be replicated....

....in practice?
What about efficacy in practice?
What about efficacy in practice?

Index Test
Dental Care Professionals (DCPs) will perform a screen for caries and periodontal disease

Reference Test
General Dental Practitioner (GDP) independently performs an identical screening process
Index test positive

- Any tooth with frank cavitated lesions or any tooth with shadowing or opacity consistent with underlying dentinal caries

• Probing depth of any site on any tooth causes the BPE probe to disappear so that the black band is only partially visible (BPE 3) or disappears (BPE 4)

• Not about BoP
Efficacy in NHS practice


Sensitivity of 0.80
Specificity of 0.88

Sensitivity of 0.90
Specificity of 0.79
Next step....

Testing effectiveness of care
Time

**BASELINE** (collect data)

**INTERVENTION**

**OUTCOME** (collect data)

**BASELINE** (collect data)

**OUTCOME** (collect data)
Implications?
Prevention for older people

- Large team
- 6,414 papers identified
- 30 papers to undergo data extraction and determination of bias
- Aim to publish by the end of the year (2017)
....a better use of resource

Diolch yn fawr iawn

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