Dols Dr. Julian Treadwell.
Salaried GP, Hindon Surgery, Wiltshire.

Vice-Chair RCGP Standing Group on Overdiagnosis.

NIHR In-Practice fellow. Dept PrimHCSci, Oxford.

Occasional GP Education work on OD.

GP Appraiser.

Editorial Board Member,
Drugs & Therapeutics Bulletin.

juliantreadwell@nhs.net  www.whopaysthisdoctor.org
Too much medicine campaign

The BMJ’s Too Much Medicine campaign aims to highlight the threat to human health posed by overdiagnosis and the waste of resources on unnecessary care.

There is growing evidence that many people are overdiagnosed and overtreated for a wide range of conditions, such as prostate and thyroid cancers, asthma, and chronic kidney disease.

#realEBM
Overdiagnosis occurs when people without symptoms are diagnosed with a disease that ultimately will not cause them to experience symptoms or early death.

More broadly defined, overdiagnosis refers to the related problems of overmedicalisation and subsequent overtreatment, diagnosis creep, shifting thresholds and disease mongering.
Drivers of Overdiagnosis.

Moynihan et al. BMJ 2012

Advancing technology and research.

Commercial and professional vested interests.

Conflicted expert panels tending to expand disease definitions and encourage overtreatment (Indication Creep).

Legal pressure: Underdiagnosis punished, overdiagnosis not (yet).

Cultural beliefs: More = better

Faith in early detection as a simple solution.

Patient pressure groups – genuine grass roots and “astroturf”.
Guidelines and targets, Healthcare systems / requirements.
More drivers of Overdiagnosis

Medical pseudo-solutions/wishful thinking/political bright ideas.

Over simplified and/or poor translation of evidence.

Extrapolations of benefit from severe end of clinical spectrum to mild.

Fast uptake of new interventions, slow to stop/do less.

Population goals trump person centred goals.

Specialist view trumps generalist view.
Increasing incidence, static mortality.

A risk factor or biomarker becomes a disease

Changing diagnostic or treatment thresholds.

A large proportion of the population gets a label or treatment.

(mine) If the explanation for a disease definition or an intervention is really difficult to understand!
How is Overdiagnosis Harmful?

Disease Labeling: Psychological burden
From CKD3 to Dementia to Cancer

Treatment Harms: “Mild” e.g. drug side effects
Severe or Fatal – drugs, surgery, chemo/DXT

Waste: NHS - Money, staff time, mental energy.
Public - Time, work, money, family and carers.

Diversion of Resources
What are we not doing instead? Opportunity cost.
Thyroid Cancer Screening in USA

"First of all, it doesn't run in my family. So, as they say, it's not in my cards. The only unfortunate thing that got passed down to me was my father's nose."

Jerry Cotton, 92, the day before he was diagnosed with thyroid cancer.

Confidence skills: Thyroid cancer doesn't care if you're genetically disposed to cancer or not. It can happen to anyone. Including you. That's why it's the saddest, scariest cancer in the US. Ask your doctor to check your neck. It could save your life.
Confidence kills. Thyroid cancer doesn’t care how old you are. It can happen to anyone, including you or your child. That’s why it’s the fastest increasing cancer in the U.S. Ask your doctor to check your neck. It could save your life.

Confidence kills. Thyroid cancer doesn’t care how healthy you are. It can happen to anyone, including you. That’s why it’s the fastest increasing cancer in the U.S. Ask your doctor to check your neck. It could save your life.
Thyroid Cancer Deaths and New Diagnoses 1975 - 2005
Figure 1: Prostate cancer incidence and mortality rates, England, 1971–2010

Source: Office for National Statistics
PSA screening
from USPSTF Review 2012

1,000 men screened.

Of these:

100-120 get false positive results that may cause anxiety and lead to biopsy.

(Probable side effects of biopsies include serious infections, pain, and bleeding)

110 get a prostate cancer diagnosis, and of these:

- 1 death from prostate cancer
- 11 men who do not get screened
- 5 deaths from prostate cancer

IOC-08

Deeper Dive on PSA Screening

Great You Tube video here
Search on You Tube: Doc Mike Evans

Infographic here
Screened 82,429 Men 50-69 years old.

2,664 Diagnosed with prostate cancer

1653 Randomised to Active Monitoring (545), Surgery (553), DXT (545)

In active monitoring group, more than half had interventions eventually

17 Prostate Cancer specific deaths OVERALL

No sig difference between groups: 8, 5, 4 respectively.
No difference in all cause mortality.

Metastatic disease 6.3/1000, 2.4/1000, 3.0/1000 respectively
Overdiagnosis: the detection of a “cancer” that was otherwise never going to appear.

1.3 million women
“The greater the harm through overdiagnosis and overtreatment from screening, the more people there are who believe they owe their health, or even their life, to the programme.”

Prof. Sir Muir Gray, Dr. Angela Raffle
Screening. Evidence and Practice 2007

Renda Soylemez Wiener et al. BMJ 2013;347:bmj.f3368
Changing Disease Definitions

Earlier detection = earlier treatment = better outcomes, right?

BUT: large portions of the population disease labelled and treated

>more harm and overtreatment

Population benefit vs individual benefit

Law of diminishing returns

Let’s look at population effect (from HG Welch et al from Dartmouth)
Reducing diabetes diagnostic threshold from 7.8 – 7.0 mmol/L (USA)

"Under the new guidelines, at least 1 million Americans (and possibly even more) with fasting plasma glucose levels of 126 to 140 mg/dL will now be informed that they harbor a disease."
Reducing TC threshold

6.2 – 5.18 mmol/L

42.6m

New “patients”
## Americans Considered Diseased

<table>
<thead>
<tr>
<th>Condition</th>
<th>Old Definition</th>
<th>New Definition</th>
<th>New Cases</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diabetes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fasting sugar 140 → 126</td>
<td>11,697,000</td>
<td>13,378,000</td>
<td>1,681,000</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Hypertension</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systolic BP 160 → 140</td>
<td>38,690,000</td>
<td>52,180,000</td>
<td>13,490,000</td>
<td>35%</td>
</tr>
<tr>
<td>Diastolic BP 100 → 90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hyperlipidemia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total cholesterol 240 → 200</td>
<td>49,480,000</td>
<td>92,127,000</td>
<td>42,647,000</td>
<td>86%</td>
</tr>
<tr>
<td><strong>Osteoporosis in women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T score −2.5 → −2.0</td>
<td>8,010,000</td>
<td>14,791,000</td>
<td>6,781,000</td>
<td>85%</td>
</tr>
</tbody>
</table>
Overdiagnosis and Overtreatment in CKD

Aimed to “tidy up” chaotic pre-existing definitions and address the problem of late presentation of ESRD.

The new definitions meant that (in the US)

1:8 adults >20 have CKD  =  26 million people \(^1\)
56% adults > 65

Whilst at the same time, only \(1\) in \(3-5000\) people per year have new ESRD \(^2\)

1) Coresh et al. JAMA. 2007. 298: 2038-2047  
2) Moynihan et al BMJ 2013;347:f4298
Strong language from enthusiasts:

“an eGFR < 60 mL/min/1.73 m² was significantly associated with incrementally increased risks of all-cause mortality, cardiovascular mortality, end-stage kidney disease, acute kidney injury and progression of CKD without consistent age interactions”

“While reduced GFR and albuminuria are not symptomatic, they are direct measures of kidney function and damage and their relationship to the risk of complications are incredibly strong (>1,000 fold for ESRD and >10 fold in combination for many complications).”

(BMJ Rapid response 2013)
## Classification of chronic kidney disease using GFR and ACR categories

<table>
<thead>
<tr>
<th>GFR and ACR categories and risk of adverse outcomes</th>
<th>ACR categories (mg/mmol), description and range</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;3 Normal to mildly increased</td>
<td>3–30 Moderately increased</td>
<td>&gt;30 Severely increased</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
<td></td>
</tr>
<tr>
<td>GFR categories (ml/min/1.73 m²), description and range</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥90 Normal and high</td>
<td>G1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60–89 Mild reduction related to normal range for a young adult</td>
<td>G2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45–59 Mild–moderate reduction</td>
<td>G3a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30–44 Moderate–severe reduction</td>
<td>G3b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15–29 Severe reduction</td>
<td>G4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;15 Kidney failure</td>
<td>G5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Consider using eGFRcystatinC for people with CKD G3aA1 (see recommendations 1.1.14 and 1.1.15)
All cause mortality vs eGFR
From Chronic Kidney Disease Prognosis Consortium
ESRD vs eGFR
From Chronic Kidney Disease Prognosis Consortium
All cause mortality vs ACR
From Chronic Kidney Disease Prognosis Consortium
ESRD vs eGFR
From Chronic Kidney Disease Prognosis Consortium
BP Target in standard CKD is **NOT lower**: \(\text{<}140/90\) (SBP range 120-139)

The range 120-139 refers to **WORSENING** outcomes with SBP < 120
Increase in mortality and Cardiovascular Events.  (HR 1.2) 

Does NOT mean aim for 120!
If CKD and significant proteinuria (ACR > 70) or CKD and Diabetes

Then: Target range is lower: <130/80 (SBP range 120-129)

Benefit is all about slowing progression to ESRD in those with marked albuminuria.

Not about benefit on Cardiovascular outcomes or mortality.
Relative risk for kidney disease progression based on current level of systolic blood pressure and current urine protein excretion. The relative risk for patients with a current urine protein excretion of 1.0 g/d or greater represents 9336 patients (223 events), and the relative risk for patients with a current urine protein excretion less than 1.0 g/d represents 13 274 visits (88 events). The reference group for each is defined at a systolic blood pressure of 110 to 119 mm Hg. Confidence intervals are truncated, as shown. Results are from a single multivariable model including two levels for urine protein excretion, six levels for systolic blood pressure, and the interaction of current systolic blood pressure and current urine protein excretion. Covariates include assignment to angiotensin-converting enzyme inhibitor versus control group, sex, age, baseline systolic blood pressure, baseline diastolic blood pressure, baseline urine protein excretion, baseline serum creatinine concentration (<2.0 or ≥ 2.0 mg/dL, <177 or ≥ 177 µmol/L), interaction of baseline serum creatinine and baseline urine protein excretion, interaction of baseline serum creatinine and current urine protein excretion, and study terms.
1.6.3 Offer a low-cost renin–angiotensin system antagonist to people with CKD and:

diabetes and an ACR of 3 mg/mmol or more (ACR category A2 or A3)
hypertension and an ACR of 30 mg/mmol or more (ACR category A3)
an ACR of 70 mg/mmol or more (irrespective of hypertension or cardiovascular disease)
RENAAL Trial: Type 2 diabetes, nephropathy.
Mean Creatinine 168umol/L, Mean ACR 1200mg/g

<table>
<thead>
<tr>
<th>Outcome at 3.5 yrs.</th>
<th>Placebo</th>
<th>Losartan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progression to ESRD</td>
<td>25.5%</td>
<td>19.6%</td>
</tr>
<tr>
<td>Doubling of creatinine</td>
<td>26%</td>
<td>21.6%</td>
</tr>
</tbody>
</table>

No clear evidence on diabetics without proteinuria (i.e. most of our T2DM patients).
1.3.18
Offer atorvastatin 20 mg for the primary prevention of CVD to people who have a 10% or greater 10-year risk of developing CVD. Estimate the level of risk using the QRISK2 assessment tool.

Q-risk Calculator multiplies CVD risk by approx. 1.4 for CKD Stage 4-5

People with CKD
1.3.27
Offer atorvastatin 20 mg for the primary or secondary prevention of CVD to people with CKD.
Final Thoughts

Focus on mass labelling and prescribing (driven by QOF) was wasteful and probably harmful for many.

Distracted from applying good “Kidney Care” for all...
- Avoid nephrotoxic drugs.
- Be aware of probable increase in CV risk ?statin threshold.
- Extra care in acute illness – hydration, stop ACEI, admission thresholds
- Potential to reduce risk AKI.
- Monitor for deteriorating kidney function.
- Focus care and attention on the most severe.

Potential improvements in clinician understanding and practice lost because of over-assertive implementation.
The majority of cases of a disease come from a population at low or moderate risk [because there are lots of them], and only a minority come from a population at high risk [there are fewer of them].

Geoffrey Rose, 1981
Mild Hypertension

- **Offer ABPM** (or HBPM if ABPM is declined or not tolerated) (see page 8)

- **Offer to assess cardiovascular risk and target organ damage** (see page 8)

  - **ABPM/HBPM < 135/85 mmHg**
    - *Normotensive*
    - If evidence of target organ damage
    - Consider alternative causes for target organ damage (see page 9)

  - **ABPM/HBPM ≥ 135/85 mmHg**
    - *Stage 1 hypertension*
    - If target organ damage present or 10-year cardiovascular risk > 20%
    - If younger than 40 years
    - Consider specialist referral (see page 10)

  - **ABPM/HBPM ≥ 150/95 mmHg**
    - *Stage 2 hypertension*
    - Offer antihypertensive drug treatment (see pages 11–14)

- **Offer lifestyle interventions** (see page 10)
The First Ever RCT for hypertension treatment
VA trial of treatment for severe hypertension 1967

DBP 115-129  approx. 70 in each arm of study, 18/12 follow up

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Control</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Stroke</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>MI</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Kidney failure</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Retinal haemorrhage</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Hospitalised for BP</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Rx complication</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>27</strong></td>
<td><strong>2</strong></td>
</tr>
</tbody>
</table>
Cochrane Review 2010. Mod/severe HTN in “elderly”. >60 yrs old, 4.5 yrs follow up

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Treatment Events</th>
<th>Treatment Total</th>
<th>Control Events</th>
<th>Control Total</th>
<th>Weight</th>
<th>Risk Ratio M-H, Fixed, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANBP 1981</td>
<td>31</td>
<td>293</td>
<td>40</td>
<td>289</td>
<td>2.3%</td>
<td>0.76 [0.49, 1.19]</td>
</tr>
<tr>
<td>HEP 1986</td>
<td>82</td>
<td>419</td>
<td>120</td>
<td>465</td>
<td>6.6%</td>
<td>0.76 [0.59, 0.97]</td>
</tr>
<tr>
<td>HTN Coop 1974</td>
<td>28</td>
<td>101</td>
<td>34</td>
<td>99</td>
<td>2.0%</td>
<td>0.81 [0.53, 1.22]</td>
</tr>
<tr>
<td>HYVET 2008</td>
<td>138</td>
<td>1933</td>
<td>193</td>
<td>1912</td>
<td>11.3%</td>
<td>0.71 [0.57, 0.87]</td>
</tr>
<tr>
<td>HYVET P 2003</td>
<td>50</td>
<td>857</td>
<td>26</td>
<td>426</td>
<td>2.0%</td>
<td>0.96 [0.60, 1.51]</td>
</tr>
<tr>
<td>Kuramoto 1981</td>
<td>4</td>
<td>44</td>
<td>9</td>
<td>47</td>
<td>0.5%</td>
<td>0.47 [0.16, 1.43]</td>
</tr>
<tr>
<td>MRCOA 1992</td>
<td>258</td>
<td>2183</td>
<td>309</td>
<td>2213</td>
<td>17.8%</td>
<td>0.85 [0.73, 0.99]</td>
</tr>
<tr>
<td>SHEP 1991</td>
<td>346</td>
<td>2365</td>
<td>519</td>
<td>2371</td>
<td>30.1%</td>
<td>0.67 [0.59, 0.76]</td>
</tr>
<tr>
<td>SHEP-PS 1986</td>
<td>33</td>
<td>443</td>
<td>14</td>
<td>108</td>
<td>1.3%</td>
<td>0.57 [0.32, 1.04]</td>
</tr>
<tr>
<td>Sprackling 1981</td>
<td>53</td>
<td>61</td>
<td>52</td>
<td>62</td>
<td>3.0%</td>
<td>1.04 [0.89, 1.20]</td>
</tr>
<tr>
<td>STOP 1991</td>
<td>84</td>
<td>812</td>
<td>152</td>
<td>815</td>
<td>8.8%</td>
<td>0.55 [0.43, 0.71]</td>
</tr>
<tr>
<td>Syst-Eur 1991</td>
<td>160</td>
<td>2398</td>
<td>216</td>
<td>2297</td>
<td>12.8%</td>
<td>0.71 [0.58, 0.86]</td>
</tr>
<tr>
<td>VA Coop 1970</td>
<td>9</td>
<td>38</td>
<td>25</td>
<td>43</td>
<td>1.4%</td>
<td>0.41 [0.22, 0.76]</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td><strong>11947</strong></td>
<td><strong>11147</strong></td>
<td><strong>100.0%</strong></td>
<td></td>
<td></td>
<td><strong>0.72 [0.68, 0.77]</strong></td>
</tr>
</tbody>
</table>

Total events: 1276, 1709
Heterogeneity: Chi² = 39.67, df = 12 (P < 0.00001); I² = 70%
Test for overall effect: Z = 9.60 (P < 0.000001)

Total (95% CI): 11947, 11147, 100.0%
Risk Ratio M-H, Fixed, 95% CI: 0.72 [0.68, 0.77]

link to review
Cochrane Review 2010. Mod/severe HTN in “elderly”.

**>60 yrs old, 4.5 yrs follow up**

<table>
<thead>
<tr>
<th>Condition</th>
<th>RR</th>
<th>Events</th>
<th>vs.</th>
<th>Events</th>
<th>ARR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality</td>
<td>0.9</td>
<td>104/1000</td>
<td>vs.</td>
<td>116/1000</td>
<td>1.2%</td>
</tr>
<tr>
<td>CV M+M</td>
<td>0.72</td>
<td>106/1000</td>
<td>vs.</td>
<td>149/1000</td>
<td>4.3%</td>
</tr>
</tbody>
</table>

**In very elderly (>80)**

<table>
<thead>
<tr>
<th>Condition</th>
<th>RR</th>
<th>Events</th>
<th>vs.</th>
<th>Events</th>
<th>ARR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke</td>
<td></td>
<td>3.3%</td>
<td>vs.</td>
<td>5.2%</td>
<td>1.9%</td>
</tr>
<tr>
<td>CHD</td>
<td></td>
<td>2.1%</td>
<td>vs.</td>
<td>2.4%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Total Mortality</td>
<td></td>
<td>12.7%</td>
<td>vs.</td>
<td>14.1%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

(ns) = not significant
Antihypertensive drugs used in the treatment of adults (primary prevention) with mild hypertension (systolic BP 140-159 mmHg and/or diastolic BP 90-99 mmHg) have not been shown to reduce mortality or morbidity in RCTs. Treatment caused 9% of patients to discontinue treatment due to adverse effects. More RCTs are needed in this prevalent population to know whether the benefits of treatment exceed the harms.
4 RCTs only of sufficient quality and without contamination by Moderate HTN

So only 8192 patients. Included diabetics and probably >20% riskers.

Older drugs. Thiazides 1st line, then BB, methyldopa, reserpine
So how did treating mild HTN ever get into guidelines?

1983 3rd WHO Symposium on Mild Hypertension
Sponsored by 3 international Pharma companies
Statement about conference conclusions *preceded* the conference
Julian Tudor-Hart's Description of events BMJ Rapid Response 2012

We knew that within the next few months we would have better evidence from the UK Medical Research Council trial of mild hypertension. Probably we should await that before reaching a conclusion. To which Doyle replied: "Fuck the MRC trial. Do we always have to wait for the fucking British?" Bill Miall, who led that trial, was sitting next to me. Like everyone else at that meeting, he had nothing to add, and advised me to sign the document like everyone else. Which I then did. I thought I had reached the limit of what a mere GP could do without becoming hopelessly isolated. In a letter to the Lancet, a few weeks later Bill withdrew his signature...
The Case FOR treating mild hypertension

CV risk rises steadily from SBP 110 ish. Treatment of Stage 2 and 3 hypertension is well evidenced.

These old trials used older drugs (Thiazides, BB) and there is some evidence of superiority (?) for newer drugs.

We treat overall CV risk now, not just raised blood pressure.

Large, long term studies would be needed to prove benefit of drug treatment; what we have is underpowered...

These are all classic surrogate end-point + extrapolation arguments (HbA1C? Aspirin in Primary Prevention?) Would it all pass muster if introduced today?
Population stats from NICE 10-20% risk

4,500,000 new people eligible for treatment, if all treated over 3 years:

- 8,000 deaths prevented
- 28,000 MIs prevented
- 16,000 CVAs prevented

4,448,000 No benefit...
“Should” everyone at > 10% CVD risk have a statin?

Debates about side effect rates

Debates about effect on mortality in primary prevention
Infographic using NICE figures

For Every 1000 Rx’d:

987 No Benefit
13 Benefit

=1.3% Helped

2 deaths 4 strokes 7 non-fatal heart attacks
NNTs at last from NICE

Table 60: NNT and statins for primary prevention.
Adapted from FC Taylor, M Huffman, S Ebrahim, Statin Therapy for Primary Prevention of Cardiovascular Disease. JAMA. 2013;310(22):2451-2452

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Number of RCTs</th>
<th>NNT 5 years</th>
<th>95%CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-cause mortality</td>
<td>13</td>
<td>138</td>
<td>92 to 321</td>
</tr>
<tr>
<td>Total CVD events</td>
<td>9</td>
<td>49</td>
<td>40 to 66</td>
</tr>
<tr>
<td>Total CHD events</td>
<td>14</td>
<td>88</td>
<td>72 to 119</td>
</tr>
<tr>
<td>Total stroke</td>
<td>10</td>
<td>155</td>
<td>106 to 309</td>
</tr>
<tr>
<td>Revascularisation</td>
<td>7</td>
<td>96</td>
<td>78 to 129</td>
</tr>
<tr>
<td>Type 2 diabetes</td>
<td>2</td>
<td>99&lt;sup&gt;(a)&lt;/sup&gt;</td>
<td>46 to 1778</td>
</tr>
</tbody>
</table>

<sup>(a)</sup> NNH
Solutions.


Improve guidelines and evidence presentation. Further evolution of original EBM aims.

Shared Decision Making

Address performance monitoring and systematic drivers.

Assertive Generalism.

Editorials

Overdiagnosis and overtreatment: generalists — it’s time for a grassroots revolution
Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or service users. The application of the recommendations in this guideline are not mandatory and the guideline does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Local commissioners and/or providers have a responsibility to enable the guideline to be applied when individual health professionals and their patients or service users wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with compliance with those duties.
“...increasingly the old ways of prescriptive, top-down medicine are dead, as our new guidelines recognise. Now we have to bury them.”
Shared decision making starts with the conversation between the person receiving care and the person delivering care.

Shared decision making puts people at the centre of decisions about their own treatment and care, by:

- exploring care or treatment options and their risks and benefits
- discussing choices available
- reaching a decision about care or treatment together with their health and social care professional.
Most arguments around overdiagnosis return to SDM as the answer.

“Shared decision making (SDM) is the conversation that happens between a patient and their health professional to reach a healthcare choice together. This conversation needs patients and professionals to understand what is important to the other person when choosing a treatment.” (NHS SDM website)

SDM Tools : Help but are only part of the solution
NICE Statin decision aid

Cardiovascular risk 10% over 10 years: taking atorvastatin

If all 100 people take atorvastatin for 10 years, over that time on average:

- 4 people will be saved from developing CHD or having a stroke (the yellow faces)
- 90 people will not develop CHD or have a stroke, but would not have done anyway (the green faces)
- 6 people will still develop CHD or have a stroke (the red faces).
NICE AF anti-coag decision aid

Anticoagulant: CHA$_2$DS$_2$-VASc score 3

If all 1000 people take an anticoagulant, over 1 year on average:

- 963 people will not have an AF-related stroke (the green faces), but would not have done anyway
- 25 people will be saved from having an AF-related stroke (the yellow faces)
- 12 people will still have an AF-related stroke (the red faces).
## Angina: treatment options

Use this grid to help you and your healthcare professional decide whether to have optimal medical treatment or angioplasty (stenting) to treat your angina (heart pain).

<table>
<thead>
<tr>
<th>Frequently Asked Questions</th>
<th>Medical management</th>
<th>Stenting (angioplasty)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What does the treatment involve?</strong></td>
<td>Taking medication regularly to control your angina.</td>
<td>A catheter (a thin tube) will be inserted into a blood vessel in your leg or wrist and moved to your heart. One or more stents (slotted tubes) will be placed in a heart blood vessel to reduce a narrowing. You will need to take medication daily for up to a year after the procedure and it might increase your risk of bleeding. You may still need to take medication to help control your angina, though usually, less than with medical treatment alone.</td>
</tr>
<tr>
<td><strong>What are the risks of the treatment?</strong></td>
<td>Occasionally, medications have side effects, which will vary depending on what you take.</td>
<td>About 1 in every 100 people (1%) who have stents have a serious complication, e.g., death, heart attack, stroke, emergency open heart surgery, or kidney failure. About 4 in every 100 (4%) have less serious complications, e.g., bleeding, blood vessel or kidney damage.</td>
</tr>
<tr>
<td><strong>How long will it take to recover?</strong></td>
<td>Does not apply</td>
<td>Most people are home within a day of having a stent put in.</td>
</tr>
<tr>
<td><strong>What are the chances of being angina free?</strong></td>
<td>52 in every 100 people (52%) are angina-free one year after medical management alone, slightly fewer than with angioplasty. Others have less angina or decide to have an angioplasty or heart surgery.</td>
<td>59 in every 100 people (59%) are angina-free one year after angioplasty. Others have less angina or decide to have a second angioplasty or heart surgery.</td>
</tr>
<tr>
<td><strong>Will the treatment lower my risk of having a heart attack?</strong></td>
<td>The use of aspirin or of any medications that lower your cholesterol (statins) or improve control of your blood pressure will lower your risk of a heart attack.</td>
<td>Angioplasty will not decrease your risk of heart attack. The use of aspirin or of any medications that lower your cholesterol (statins) or improve control of your blood pressure will lower your risk of a heart attack.</td>
</tr>
<tr>
<td><strong>How well will the treatment work?</strong></td>
<td>It may take a few weeks to find the right medicine to control your angina. If medication does not control your angina well enough, then it is possible to think about having a stent. About 16 in every 100 (16%) people will go on to have a stent or heart surgery within the first year of treatment.</td>
<td>Relief of angina (heart pain) is usually immediate. It is possible that you will need more than one angioplasty. About 11 in every 100 people (11%) will have a second angioplasty or heart surgery within a year of their first angioplasty.</td>
</tr>
</tbody>
</table>
Current Risk of having a fracture
Risk of 100 people like you who do not medicate for bone problems.

- Over 10 years
  - 88 will not break a bone
  - 12 will break a bone

Future Risk of having a fracture
Risk of 100 people like you who do take Bisphosphonates.

- Over 10 years
  - 88 will not break a bone
  - 5 will avoid breaking a bone
  - 7 will break a bone
Shared Decision Making

All of the available Decision Aids are listed below in alphabetical order

**AVAILABLE DECISION AIDS**

- ABDOMINAL AORTIC ANEURYSM (AAA) REPAIR
- ABDOMINAL AORTIC ANEURYSM (AAA) SCREENING
- ACNE
- BIRTH OPTIONS AFTER PREVIOUS CAESAREAN SECTION

**SEARCH BY KEYWORDS**

Search for a condition...
Polypharmacy work and deprescribing

Polypharmacy: Guidance for Prescribing in Frail Adults

STOPP START Toolkit
Supporting Medication Review

STOPP:
Screening Tool of Older People’s potentially inappropriate Prescriptions.

START:
Screening Tool to Alert doctors to Right i.e. appropriate, indicated Treatments.¹

Link here
70 community dwelling patients average age 82

311 medications in 64 patients suitable for discontinuation

88% of patients reported and improvement in global health

No adverse events attributable after mean 13 months of follow up.
Pharmacists and GPs across 20 care homes in Northumbria
17% Reduction in prescribing.
£78,000 saved (£184pp).
An hour a day of nursing time saved.
..and from a London GP:

We look after 20 nursing homes, 900 residents. Similar results. Regular reviews have seen huge reductions in numbers of prescribed medications, anecdotally most homes have thrown away several medication trolleys as no longer need them. Nurses come to us with "this new resident has too many medications" all the time now, very heartening indeed.
NEW: NHS Scotland polypharmacy “app”

PolyPharmacy Guidance

APPENDICES

APPENDIX A: PATIENT INFORMATION LEAFLET
A patient guide to dehydration and medication.

APPENDIX B: SICK DAY RULES
A guide to dehydration and medication for both patients and staff.

APPENDIX C: NNT AND THE METHODOLOGY FOR NNT USED
Information on how NNT data is generated and may be used.

http://www.polypharmacy.scot.nhs.uk/appendices/
It’s all about good EBM
5 “tests” to apply to RCGP policies, statements or guidelines:

Contains statistical information to help GPs with Shared Decision Making Absolutes risks, NNT, NNH etc.

Clarity about population applicability

Clarity and quality of Evidence including current uncertainty

If a screening programme, has it been verified or not by the UK National Screening Committee

 Declarations of Interest should be public.
When we rule the world...

At general medicine (GP) conference in Firenze. The last 20 yrs were the era of specialismo: next 20 years will be the era of generalismo.
The Patient Paradox

“That’s the paradox that I keep finding within the NHS: if you are ill, you may have to be persistent and determined to get help…Yet if you are well, you are at risk of being screened and checked into patienthood, given preventive medication for something you’ll never get, or treated for something you haven’t got.

Too much testing of well people and not enough care for the sick worsens health inequalities and drains professionalism, harming both those who need treatment and those who don’t.”

Margaret McCartney
Websites

http://www.lessismoremedicine.com

Evidently Cochrane Blog

BMJ Too Much Medicine Timeline  Easily accessible article collection
    Check out the rapid responses

USPSTF  Some good evidence summaries and patient decision aids

Preventing Overdiagnosis Home  Conference info
    and especially worth looking at the videos.
Books

The Patient Paradox: Why Sexed Up Medicine is Bad for Your Health [Paperback]  
Margaret McCartney (Author)

Glasgow GP and writer. BMJ, National papers, R4 Inside Health  
Lots of focus on screening and a good summary of the situation today in UKGP and how things might be different.

Overdiagnosed: Making People Sick in the Pursuit of Health [Paperback]  
H. Gilbert Welch (Author), Lisa Schwartz (Author), Steve Woloshin (Author)

American Team of primary care academics behind PO movement.  
More about treatments and risk modification as well as screening. US perspective different but really useful.
Fun

Motivational Deficiency Disorder

Ray Moynihan’s well known spoof on disease mongering.

..and the original BMJ article from 2006

Viva La Evidence

Refresh your memory about the principles of EBM with help from Coldplay (sort of).

From James McCormick (Prof Pharm Sci at UBC)

The Surrogate Battle

Hitler discovers the problems of surrogate end-points.
Shared Decision Making Tools

http://sdm.rightcare.nhs.uk
NHS Shared Decision making site: For people to use at home rather than in consult. Leads people through the decision process, though a little short on data/stats.

http://www.optiongrid.org
A Welsh/US (!) project. They’ve produced one sided “grids” to print off and aid decision making. Worth a look – I think perhaps best for secondary care “big decisions”

http://shareddecisions.mayoclinic.org/decision-aid-information/decision-aids-for-chronic-disease/
Mayo Clinic Shared Decision Aids. Really good – in consultation tools. Needs time to explore-watch videos on site to see.

NICE Statin decision aid. Good quality – long though…