Too much medicine
turning back the tide of medical excess

The International Forum on Quality and Safety in Healthcare
Melbourne, Australia
September 2018

Fiona Godlee
The BMJ
Why medicine adopts ineffective or harmful medical practices, only to abandon them—sometimes too late.

Or why 40% of what we do is wrong.
Life Expectancy vs Health Expenditure 1995 - 2014

Recent trends in life expectancy across high income countries: retrospective observational study

BMJ 2018; 362 doi: https://doi.org/10.1136/bmj.k2562 (Published 15 August 2018)
Cite this as: BMJ 2018;362:k2562

Source: ourworldindata.org
Prescription drugs in the UK

• 1.1 billion prescription items dispensed in 2016
• Increased by 47% in the past decade (2006-16)

• Nearly half (48%) of adults taking at least 1 prescription drug
• A quarter of adults taking at least 3 drugs
• Nearly half of over 75s taking at least 5 drugs

• Source: NHS survey of 8000 adults (published 2018)
Growth in Medicine Use Australia
72% increase in annual prescriptions (1995-2015)

Source: Dr Emily Karanges, Charles Perkins Centre, University of Sydney, Dr Ray Moynihan, Bond University, based on Australian Government PBS data.
The Doctor Who Gave Up Drugs

Two-part social experiment in which a GP takes over part of a GP surgery and prescription pills

On iPlayer
Episode 2

On TV
There are no upcoming broadcasts of this programme

Last on
Episode 2
Blood pressure pills are the most prevalent type of medication

Most commonly prescribed medicines, % of adults taking them

- Blood pressure pills: 15%
- Statins: 14%
- Indigestion remedies: 11%
- Painkillers: 11%
- Antidepressants: 10%

DATA: NHS DIGITAL
Research

Statins for primary prevention of cardiovascular events and mortality in old and very old adults with and without type 2 diabetes: retrospective cohort study

BMJ 2018;362 doi: https://doi.org/10.1136/bmj.k3359 (Published 05 September 2018)
Cite this as: BMJ 2018;362:k3359

• In participants older than 74 years without type 2 diabetes, statin treatment was not associated with a reduction in atherosclerotic CVD or in all cause mortality
Blood pressure pills are the most prevalent type of medication

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DATA: NHS DIGITAL

Pills for NAFLD
New ACC/AHA High Blood Pressure Guidelines: Lower Definition of Hypertension

Nov 13, 2017
ACC News Story

High blood pressure should be treated earlier with lifestyle changes and in some patients with medication – at 130/80 mm Hg rather than 140/90 – based on new ACC and American Heart Association (AHA) guidelines for the detection, prevention, management and treatment of high blood pressure.
Impact of 2017 ACC/AHA guidelines on prevalence of hypertension and eligibility for antihypertensive treatment in United States and China: nationally representative cross sectional study

*BMJ* 2018; 362 doi: [https://doi.org/10.1136/bmj.k2357](https://doi.org/10.1136/bmj.k2357) (Published 11 July 2018)

Cite this as: *BMJ* 2018;362:k2357

- The number of people labeled as having hypertension in the US and China would increase by 26.8% and 45.1%, respectively

- In the US and China, respectively, 7.5 million and 55.3 million people would be newly recommended for treatment, and 13.9 million and 30 million newly recommended for intensification
Scientists find new disease: motivational deficiency disorder

Ray Moynihan Sydney

Extreme laziness may have a medical basis, say a group of high profile Australian scientists, describing a new condition called motivational deficiency disorder (MoDeD).

The condition is claimed to affect up to one in five Australians and is characterised by overwhelming and debilitating apathy. Neuroscientists at the University of Newcastle in Australia say that in severe cases motivational deficiency disorder can be fatal, because the condition reduces the

Professor Argos is an adviser to a small Australian biotechnology company, Healthtec, which is currently concluding phase II trials of indolebant, a cannabinoid CB1 receptor antagonist. Although still unpublished, the preliminary results from the company’s phase II studies are promising, according to Professor Argos: “Indolebant is effective and well tolerated. One young man who could not leave his sofa is now working as an investment adviser in Sydney.”

...may bring some relief to those with a debilitating form of MoDeD...

which will launch its theme issue on disease mongering this week.

April 1, 2006
WHEN A TEST IS TOO GOOD

How CT pulmonary angiograms find pulmonary emboli that do not need to be found
Incidence, mortality, and case fatality of pulmonary embolism in United States, 1993-2006


Relationship between the introduction of screening mammography and incidence of invasive breast cancer

Screening detects cancer.

Size of cancer:
- Fast
- Slow
- Very Slow
- Non-progressive

Size at which cancer:
- Causes death
- Causes symptoms

This is when overdiagnosis occurs.

Source: Gilbert Welch, Dartmouth Institute
Prostate Cancer Early Detection
by PSA testing and palpation of the prostate gland
Numbers are for men aged 50 years and older, not participating vs. participating in early detection for 11 years

<table>
<thead>
<tr>
<th>1000 men without early detection:</th>
<th>1000 men with early detection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men who died from prostate cancer:</td>
<td>7</td>
</tr>
<tr>
<td>Men who died from any cause:</td>
<td>210</td>
</tr>
<tr>
<td>Men who learned after a biopsy that their diagnosis was a false-positive:</td>
<td>-</td>
</tr>
<tr>
<td>Men who were diagnosed and treated for prostate cancer unnecessarily:</td>
<td>-</td>
</tr>
<tr>
<td>Remaining men:</td>
<td>783</td>
</tr>
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</table>

Source:
Too much medicine...

Overdiagnosis

Overtreatment
What about too little medicine?
“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
Intolerance of error and culture of blame drive medical excess
“A toxic combination of vested interest and good intentions”

Iona Heath
BMJ 2013
Reporting bias in medical research - a narrative review

Natalie McGauran*, Beate Wieseler, Julia Kreis, Yvonne-Beatrice Schüler, Heike Kölsch and Thomas Kaiser
Publication bias in medical research

Positive studies are more likely to be:

- Published
- Published faster
- In higher impact journals
- Cited
- Published more than once

<table>
<thead>
<tr>
<th></th>
<th>Reboxetine (n/N)</th>
<th>Placebo or selective serotonin reuptake inhibitor (n/N)</th>
<th>Odds ratio (95% CI)</th>
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<tbody>
<tr>
<td><strong>Reboxetine v placebo</strong></td>
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<td>Remission</td>
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<td>395/938</td>
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<tr>
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<td>413/1058</td>
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<td><strong>Response</strong></td>
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<td><strong>Patients with adverse events</strong></td>
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<td><strong>Withdrawal owing to adverse events</strong></td>
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<td>Total (8)</td>
<td>137/1133</td>
<td>64/1115</td>
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</table>
Discrepancies in autologous bone marrow stem cell trials and enhancement of ejection fraction

Source: Alexandra N Nowbar et al. BMJ 2014;348:bmj.g2688
What can we do about overdiagnosis and overuse

Thanya Pathirana et al. BMJ 2017;358:bmj.j3879
What can we do to check medical excess?

- Educate patients and the public about evidence and their role in healthcare decisions
- Make time for shared decision making
- Encourage conversations about prescribing and end of life
- Focus on lifestyle change and healthy aging
- Campaign for more transparent and independent evidence for healthcare
- Call for more independent evaluation and rigorous regulation of drugs and devices
“The secret of change is to focus all your energy not on fighting the old but on building the new.”