



Address for correspondence:

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To: Paul Gray
Chief Executive Officer of NHS Scotland

6 November 2017

Dear Mr Gray,

We are writing to you from the Changing Markets Foundation, Health Action International (HAI), the European Public Health Alliance (EPHA), Health Care Without Harm Europe and the Alliance to Save Our Antibiotics, to follow up on our correspondence at the end of last year, in which we called for urgent action to tackle environmental pollution at pharmaceutical factories supplying the UK's National Health Service (NHS).

As you may recall, in October 2016 the Changing Markets Foundation published a report which outlined how antibiotics manufactured in conditions suspected to be fuelling drug resistance are being supplied to major purchasers in Europe and the United States, including NHS Trusts.¹

Following publication of the report, an article in The Ferret, a Scottish investigative journalism platform, quoted NHS National Services Scotland stating that it would "carefully consider" how to "promote best practice in environmental management in the manufacturing of antibiotics."²

In correspondence with Changing Markets in December 2016, the UK Secretary of State for Health, Jeremy Hunt, confirmed that: "the UK Government views the discharge of antimicrobial residue into the environment as a significant area for further action" and noted that action on a global scale is required in light of the global nature of the pharmaceutical industry.³

¹ http://changingmarket.wpengine.com/wp-content/uploads/2016/12/Superbugsinthesupplychain_CMreport_ENG.pdf

² <https://theferret.scot/nhs-scotland-review-drug-superbugs/>

³ Correspondence received by Changing Markets on 22.12.2016

However, one year on from this, we are concerned that the impacts of pharmaceutical pollution on the health of British citizens are not being addressed with sufficient speed or priority by the UK Government or the NHS, and that production facilities supplying global markets are continuing to pollute in impunity.

There is a substantial and growing body of scientific evidence demonstrating the link between the presence of antibiotics in the environment and the proliferation of drug-resistant bacteria.

A study published in March 2017 by scientists investigating companies supplying the German market showed that insufficient wastewater management by drug manufacturing facilities in India is leading to “unprecedented” contamination of water resources with antimicrobial pharmaceuticals.⁴ The researchers found concentrations of antibiotics and antifungal substances that were several hundred times, or even several thousand times, higher than the levels predicted to select for resistance. In addition, 95 per cent of all samples tested positively for multi drug-resistant bacteria.

This is just the most recent in a series of alarming studies pointing to a relationship between emissions from pharmaceutical manufacturing and the spread of AMR. The Changing Markets Foundation has carried out research and on-the-ground investigations which have revealed uncontrolled pollution at factories in India and found antibiotic-resistant bacteria around pharmaceutical manufacturing sites in four Indian cities.⁵ It has also investigated factories in China, where a substantial share of the world’s antibiotic Active Pharmaceutical Ingredients (APIs) are produced and where pollution is rife.

This is not a problem that only affects India and China: expanding global trade and tourism mean that AMR is able to travel easily around the world, affecting people everywhere. Supply chain research has shown that a large share of the drugs produced in polluting and substandard conditions are bought by major pharmaceutical companies and large government purchasers in Europe and North America, including NHS Trusts.⁶

This past year has seen the global threat of AMR continue to rise in all parts of the world; from the spread of ‘super malaria’ in Southeast Asia⁷ and drug-resistant pneumonia in China,⁸ to news that four in ten E.coli bloodstream infections are now resistant to the most commonly used antibiotic in the UK.⁹ In September, the World Health Organization (WHO) warned that the world is running out of antibiotics as a result of rising AMR and a lack of new antibiotics in the pipeline.¹⁰ The UK’s Chief Medical Officer, Professor Dame Sally Davies, warned in October of an impending “post-antibiotic apocalypse”.¹¹

These news stories further underline the urgent need for the UK Government and NHS to take swift action, both nationally and internationally, to curb AMR and protect the effectiveness of our existing antibiotics.

⁴ Study: <http://link.springer.com/article/10.1007%2Fs15010-017-1007-2>

⁵ <https://changingmarkets.org/portfolio/bad-medicine/>

⁶ <https://www.thebureauinvestigates.com/stories/2017-05-06/big-pharmas-pollution-is-creating-deadly-superbugs-while-the-world-looks-the-other-way>

⁷ <http://www.bbc.co.uk/news/health-41351160>

⁸ <http://www.cidrap.umn.edu/news-perspective/2017/08/hypervirulent-highly-resistant-klebsiella-identified-china>

⁹ <https://www.thetimes.co.uk/article/four-in-ten-e-coli-cases-now-resistant-to-drugs-0srk2h2ld>

¹⁰ <http://www.who.int/mediacentre/news/releases/2017/running-out-antibiotics/en/>

¹¹ <http://www.telegraph.co.uk/news/2017/10/13/britain-could-face-post-antibiotic-apocalypse-warns-top-doctor/>

The voluntary approach currently undertaken by the pharmaceutical sector will not solve this problem. Of the top 10 producers of generics worldwide, only one (Cipla Inc) has committed to the Davos Declaration and industry roadmap. This demonstrates that the 'main offenders' identified in the investigations undertaken by Changing Markets and the German media are not in any way committed to changing practices. A binding approach is urgently needed to ensure all pharmaceutical companies and suppliers worldwide are obliged to stop contaminating the local environment with pharmaceutical including antimicrobial waste.

We therefore call on you to take urgent action to address the threat posed by pollution at manufacturing sites supplying the NHS by:

- Bringing forward proposals to regulate pharmaceutical manufacturing including the incorporation of environmental criteria into Good Manufacturing Practices (GMP). This can be done either in cooperation with the EU in the framework of the upcoming strategic approach on pharmaceuticals in the environment or independently by the UK government, following Brexit;
- Demanding that the pharmaceutical industry clean up its supply chain and introduce full transparency on the origin of antibiotic drugs right back to the factory that produced the APIs;
- Introducing an obligation for NHS trusts to purchase drugs only from responsible providers that, amongst other things, implement proper pharmaceutical discharge management. On this point, Swedish regions already moved forward with this approach and NHS trusts should follow this example.

We would welcome an opportunity to meet with you to discuss these calls to action, and hear how you and your team at NHS Scotland intend to tackle this important issue. Please do not hesitate to get in touch should you have any questions or comments.

We look forward to hearing from you in due course.

Yours sincerely,



Nusa Urbancic
Campaigns Director at Changing Markets



Tim Reed
Executive Director of Health Action
International (HAI)



Nina Renshaw
Secretary-General of European Public
Health Alliance (EPHA)



Anja Leetz
Executive Director of Health Care Without
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A handwritten signature in blue ink, appearing to read 'S. Shingler'.

Suzi Shingler

Campaign Manager at the Alliance to Save Our Antibiotics