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1 **Getting to the bottom of toxocariasis prevention**

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21 In last month's issue of *Public Health*, Black and colleagues present evidence for a deepening

22 disparity in childhood obesity between the most and least deprived children in the United

23 Kingdom, and call for research into why this might be.¹ While the reasons are no doubt

24 complex and multifactorial, available spaces for outdoor play in more deprived areas, and

25 their attractiveness or otherwise, might be an important factor. Specifically, areas heavily

26 contaminated with dog faeces can dissuade people, including children and other vulnerable
27 individuals, from taking outdoor exercise.² A low level of physical activity is a major
28 contributor to childhood obesity and related adverse health outcomes, while outdoor play has
29 many health and social benefits.³

30

31 Pollution from dog faeces, of course, has health impacts beyond the consequences of
32 discouraging exercise. Recent months have seen a re-emergence of interest in toxocariasis as
33 a public health issue, with new information on the concealed impacts of infection, such as on
34 human cognitive ability.⁴ We agree with the emerging consensus that greater awareness
35 among clinicians, more thorough investigation of pulmonary and cognitive presentations, and
36 improved diagnosis are all needed to reveal the true health consequences of this disease, and
37 to build public understanding and support for counter-measures.⁵ Nevertheless, while the
38 crucial role of public area contamination with dog faeces in the epidemiology of toxocariasis
39 is well accepted, solutions for tackling it remain elusive and under-studied.

40

41 Dog fouling is recognised as undesirable and anti-social, and illegal in many jurisdictions, yet
42 it persists. The evidence base for its effective reduction was highlighted in this journal some
43 seven years ago as woefully limited.⁶ This deficit has not been rectified since. A new
44 approach that recognises the full spectrum of negative impacts associated with dog fouling,
45 and the underlying social and psychological issues enabling its persistence, is urgently
46 needed. Toxocariasis, like obesity, is more common in deprived communities, in the UK and
47 globally.⁵ Inaction against dog fouling is conflated with perception of poor neighbourhood
48 quality, and lack of empowerment for positive change. Yet social action increasingly arises
49 spontaneously, often co-ordinated through social media, and can be effective. A recent public
50 engagement project in Bristol, UK, invited school pupils to spray educational messages

51 around instances of dog fouling, with local authority support, and led to a 60% reduction in
52 the rate of dog fouling after a single day's activity (Figure). This showed that positive
53 community action can succeed where decades of legislation has failed. To sustain such
54 impact in the longer term, however, is more difficult, and requires deeper interdisciplinary
55 understanding. Currently, durable behaviour change among dog owners has stalled, as
56 evidenced by persistent fouling in spite of high levels of public irritation and concern around
57 this issue, and regulatory support for anti-fouling measures. Solid evidence on which to base
58 new, bottom-up, strategies to achieve lasting reductions in fouling is simply not available.

59

60 The persistence of dog fouling and increasing knowledge of its pervasive clinical and sub-
61 clinical effects, should therefore open a wider discourse that includes perspectives on the
62 history of dog fouling, cultural influences on disgust, education and motivation for change,
63 social responsibility, and urban design. Public health professionals have a crucial role to play,
64 not least by taking this disease seriously despite the limitations of current diagnostic
65 modalities and the lack of formal disease surveillance, and by lending their respected voices
66 to efforts taken against dog fouling for the improvement of public health. Understanding the
67 wider socio-psychological context of dog fouling is essential to the success of efforts to
68 reduce public area contamination with dog faeces, and its effects on infection risk and
69 obesity.

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71 We declare no competing interests.

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75 primary schools in a northern English town. *Public Health* 2018; **158**: 9-14. DOI:
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88 evidence. *Public Health* 2011; **125**: 90–92.

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91 **Figure:** Estimated rate of new depositions of dog faeces per week, in the vicinity of six
92 schools in Bristol, UK, before and 1-4 weeks after intervention. Schoolchildren drew
93 attention to the problem by spray-painting simple messages adjacent to instances of dog
94 fouling, encouraging dog owners to take responsibility for their dogs' faeces
95 (www.teampoopatrol.com; funding from the University of Bristol's Brigstow Institute and
96 Bristol City Council).

97

Dog fouling rate around six schools before and after intervention

