



Love
where
YOU
Live

Keeping an eye on it

A social experiment to combat dog fouling

October 2014

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Glossary of terms

- **Target sites:** sites considered dog fouling ‘hotspots’ and varied in land use and size where the intervention occurred (i.e. posters were displayed to prevent dog fouling).
- **Displacement sites:** a site nearby the target sites where incidents of dog fouling might be displaced following the implementation of the intervention. For example, this could be an alleyway or patch of grass where a dog walker might logically move on to from the target sites.

1. Executive Summary

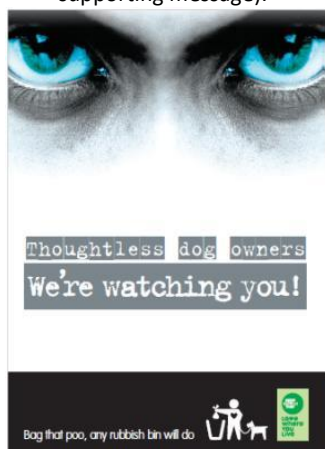
1.1. Background

In 2013 Keep Britain Tidy conducted a series of workshops and an online survey with local authorities and other land manager organisations as part of its Defra-funded *Social Innovation to Prevent Littering* programme. These identified that dog fouling was a priority litter issue for local authorities and other land managers, often due to the volume of complaints from residents. The feedback we received was that incidents of dog fouling tended to be worse at night time or in areas that are not overlooked, such as alleyways. There was a feeling that this could be because some dog owners act irresponsibly when they think they aren't being watched.

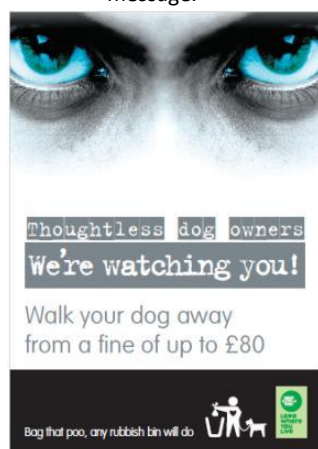
Interventions based on the theory that people behave better when they think they are being watched have been successful in encouraging socially desirable behaviours in other contexts, such as encouraging people to pay into an honesty box and preventing bicycle theft. However, prior to this experiment the approach had not been tested for the prevention of dog fouling. Between December 2013 and March 2014, Keep Britain Tidy and 17 local land manager partners developed and delivered an experiment to test the use of posters displaying a 'watching eyes' image at dog fouling 'hotspots' for this purpose. The A3-size posters used a luminescent film that 'charged up' during the day and glowed in darkened areas to increase their visibility at night.

Four versions of the 'watching eyes' poster were tested in the experiment:

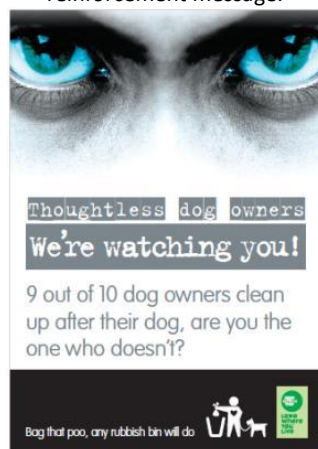
Poster 1: eyes only – testing the 'watching eyes' in its most basic state (i.e. without an additional supporting message).



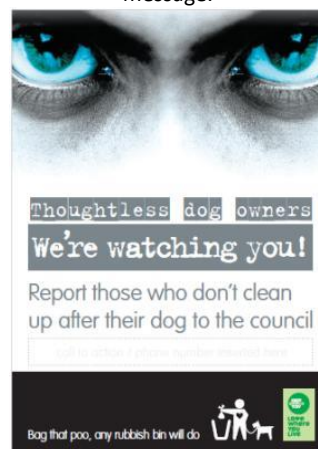
Poster 2: enforcement – testing the 'watching eyes' with a supporting enforcement message.



Poster 3: positive reinforcement – testing the 'watching eyes' with a supporting positive (norming) reinforcement message.



Poster 4: peer influence – testing the 'watching eyes' with a supporting peer influence message.



1.2. Aim

The aim of the experiment was to test the effectiveness of using images of ‘watching eyes’ and particular accompanying messages in reducing dog-fouling incidents in hotspots across England.

Evaluation objectives

1. To identify the impacts of the different posters on dog fouling
2. To identify if there was a displacement effect from target areas to nearby sites
3. To identify what would improve the impact, effectiveness, appropriateness and efficiency of the approach

1.3. Methodology

The experiment methodology is detailed at Section 0 of this report and summarised below.

The posters were tested at eight target sites per partner, with only one version of the poster displayed throughout each site so that the poster message could be tested in isolation. The partners monitored incidents of dog fouling at their eight target sites as well as eight ‘displacement’ sites, or 240¹ sites in total. This involved counting the number of dog poos at the sites for a minimum of three weeks before and three weeks during the display of the posters.

Target sites were dog fouling ‘hotspots’ identified by the partners where the posters were displayed. Displacement sites were sites adjacent to or less than 100 metres from the target sites, where no posters were displayed. For example, this could be an alleyway or patch of grass where a dog walker might logically move on to from the target sites. The displacement sites were monitored to identify any increases in dog fouling following the implementation of the intervention that may indicate that the posters had simply displaced the problem elsewhere.

The size of the target sites were determined by the partners based on the visibility of the posters (i.e. points at which the posters could be seen and read were included in the site

¹ Two partners are not included in the main analysis: one partner tested all four version of the poster per site and the results from this approach are analysed separately in the report, while one partner did not complete the experiment.

area). The size of the displacement sites were also determined by the partners, either to match the size of the target sites or as defined by natural boundaries (roads and fences, for example).

Partners tested the posters in a range of land use types, including housing, recreation, public footpath, alleyway, main road and main retail/commercial areas (see Table 2 on page 14).

The experiment compared the average rates of dog fouling at each site before to after the installation of the posters, taken over a minimum of three weeks either side. It is possible that other variables may have influenced rates of dog fouling at the sites over the same period. Keep Britain Tidy has sought to minimise any impacts of this to the analysis by including a large number (240) of test sites. However, incorporating control site monitoring into future iterations of the approach would assist in discounting such variables. These control sites would need to be in locations that are comparable to the test sites but unlikely to be visited by dog walkers who encounter the posters elsewhere.

1.4. Results

Objective 1: To identify the impacts of the different posters on dog fouling

Overall, the 'watching eyes' posters approach appears to have been highly effective in reducing dog fouling at both the target and potential displacement sites. The average change in incidents of dog fouling (taking both increases and decreases into account) was a 46% decrease per site. 75% of target sites and 56% of displacement sites experienced a decrease in dog fouling incidents following implementation of the posters.

Of the four versions of poster, it appears that the positive reinforcement message (Poster 3) was the most effective in decreasing incidents of dog fouling across the target and displacement sites (49% reduction overall), however the differences in reductions across the four versions (ranging from 43% to 49%) did not reach statistical significance.

Dog fouling decreased at all land use types following the installation of the posters, however this was significantly less so at social housing and public footpath sites. The use of posters at social housing and public footpath areas may therefore need to be supported by other behavioural interventions, such as social marketing, education and enforcement.

There is strong evidence that tailoring the version of poster to be displayed to specific land use types increases the effectiveness of the posters. The version of poster that was most effective at each land use type tested is summarised below.

Land use type	Most effective version of poster	Average % change in dog fouling
Housing area	<ul style="list-style-type: none"> Private housing – Poster 3: positive reinforcement Social housing – Poster 4: peer influence Mixed social/private housing - Poster 4: peer influence 	-56% -21% -77%
Recreation area	<ul style="list-style-type: none"> Poster 2: enforcement 	-44%
Public Footpath	<ul style="list-style-type: none"> Poster 3: positive reinforcement, however this finding should be treated with caution due to a smaller number of partners testing the posters at this land use type 	-21%
Alleyway	<ul style="list-style-type: none"> Poster 1: eyes only 	-58%
Main road	<ul style="list-style-type: none"> Poster 3: positive reinforcement, however this finding should be treated with caution as only two versions of poster were tested at this land use type 	-62%
Main retail and commercial area	<ul style="list-style-type: none"> Poster 4: peer influence, however this finding should be treated with caution due to a smaller number of partners testing the posters at this land use type 	-60%

Objective 2: To identify if there was a displacement effect from target areas to nearby sites

The displacement effect can be observed when a target site experiences a decrease in dog fouling incidents, while the adjacent displacement site experiences an increase. Of the 120 target sites monitored, 92 experienced a decrease in dog fouling. At the corresponding 92 displacement sites an average decline in fouling of 49% was observed. Displacement may occur at local level (26 of our displacement sites did experience an increase in dog fouling), although overall results are positive.

This indicates that the posters have been effective in achieving reductions in dog fouling incidents at the target sites without simply displacing the problem to an area nearby. This could be because the initiative continued to influence people’s behaviour once they left the target sites, however more research (e.g. control site monitoring and public perceptions research) is required.

Objective 3: To identify what would improve the impact, effectiveness, appropriateness and efficiency of the approach

Overall, the partners were satisfied with the experiment and 13 partners planned to continue using the posters in their areas in some way. Partners felt that the posters were visually striking and different to other anti-dog fouling posters, owing to the large eyes and glow-in-the-dark aspect of the design. It was also felt that the posters were generally easy to put up and made of a robust material that was able to withstand heavy rain and wind.

Suggestions for improving the design of the posters included changing the text on the posters to black font with a white background and applying the luminescent paint to the eyes only, rather than the whole poster, to increase its visual impact. Additionally, several partners would like to see the posters made available in a range of sizes to increase their versatility.

Partners generally felt that the experiment methodology was rigorous, efficient and appropriate in terms of the length of the monitoring period and the number of sites involved. The partner briefing workshop was also highly appreciated and there is evidence that this improved partners understanding of the experiment and their role in it. Partners at the workshop also provided input on poster design and monitoring process, which greatly improved the experiment.

The monitoring aspect of the experiment also presented many challenges for partners and it was suggested that Keep Britain Tidy provide more guidance around the size of target and displacement sites and the number of posters to be displayed per site. Partners would also like to see qualitative public perceptions research incorporated into the next iteration of the approach, along with longer term monitoring to test desensitisation to the posters.

1.5. Recommendations

Based on the findings of the experiment, Keep Britain Tidy believes that the approach could be replicated successfully by other land managers and scaled into a nation-wide campaign.

A scaled-up rollout of the approach could take the form of a complete package for land managers, including posters, guidelines and templates for delivering the approach and monitoring its impacts. Partners would manage and conduct their own delivery activities and monitoring. Keep Britain Tidy could work with a number of these partners to monitor and assess the impacts of the approach over the longer term, providing feedback to the broader group of delivery partners to improve the effectiveness and efficiency of the approach.

Based on the findings of the research, Keep Britain Tidy has the following recommendations for any future iteration of this work or any similar projects:

1. Scale the approach and roll out nationally to local land managers.
2. Improve the design, effectiveness and durability of the poster.
3. Ensure local partners are offered training and support for future joint campaigns.
4. Conduct additional monitoring of the use of dog fouling posters, alongside control site monitoring, to support the continued testing and development of the project.
5. Use the posters as part of a wider set of measures to reduce dog fouling.
6. Local partners should continue to evaluate locally to improve their efforts to reduce dog fouling.
7. Work in partnership with other stakeholders to identify hotspots and build local support for the campaign.

2. Introduction

2.1. Background

In 2013 Keep Britain Tidy conducted an online survey and a series of workshops² with local authorities and other land manager organisations as part of its Defra-funded *Social Innovation to Prevent Littering* programme. These aimed to assist Keep Britain Tidy in better understanding land managers' needs and priorities towards litter prevention, as well as what is already happening across the country to prevent litter locally.

The results identified that dog fouling was a priority litter issue for local authorities and other land managers, often due to the volume of complaints from residents. The feedback we received from workshop participants was that some dog owners act irresponsibly when they think they aren't being watched. For example there are increased incidences of dog fouling under the cover of darkness/in winter or in areas that are not overlooked, such as alleys.

Interventions based on the theory that people behave better when they think they are being watched have been successful in encouraging socially desirable behaviours in other contexts³, including bicycle theft prevention at a university campus (see boxed text below). However, prior to this experiment the approach had not been tested for the discouragement of dog fouling. Between December 2013 and March 2014, Keep Britain Tidy and 17 local land manager partners developed and delivered an experiment to test the use of posters displaying a 'watching eyes' image at dog fouling 'hotspots' for this purpose.

'Cycle Thieves, We Are Watching You': Using the eyes watching approach to prevent bicycle thefts at a Newcastle University campus

In May 2011-2012, researchers at Newcastle University sought to test the impact of the 'watching eyes' approach on bicycle thefts at the University's city centre campus. Previous experiments conducted by two of the researchers had found that displaying 'watching eyes' images could be an effective tool for encouraging socially desirable behaviour in certain settings (by paying into an honesty box, for example), however the effectiveness of the approach in preventing certain crimes was not understood.

Using a bicycle theft database, the researchers selected three bicycle rack locations across the campus where thefts were most prevalent, and installed the intervention signs (three signs at the largest

² Online survey conducted in July 2013 (19 respondents); three workshops held in Wigan, London and Birmingham (33 attendees in total).

³ The 'watching eyes' approach has also been used in experiments to encourage donations to charities in supermarkets, putting money in an honesty box and responsible litter disposal in a cafeteria (Nettle, Nott & Bateson, "*Cycle Thieves, We Are Watching You*": *Impact of a Simple Signage Intervention against Bicycle Theft*, 2012).

'Cycle Thieves, We Are Watching You': Using the eyes watching approach to prevent bicycle thefts at a Newcastle University campus

location and one sign each at two locations). These displayed a 'watching eyes' image and were accompanied by the message 'Cycle Thieves, We Are Watching You' and the sub-messages 'Newcastle University Security Service in partnership with Northumbria Police' and 'Operation Crackdown'. The remaining 30 bicycle racks across the campus (ranging from 100m to 1000m from the intervention sites) acted as control locations in the experiment. Reported bicycle thefts were monitored at the intervention and control locations for 12 months prior to the intervention and 12 months during.



Left: The signage used in the experiment

Right: The sign in action at an intervention location

The research found that bicycle thefts decreased by 62% at the intervention locations following the implementation of the signs (from 39 thefts to 15), but increased by 65% across the control locations (from 31 at 16 locations to 51 thefts at 30 locations). To the researchers, this displacement suggested that as the 'watching eyes' signage suggested surveillance of that specific location, it 'may have led to the perception that moving out of sight of the signs was a sufficient response' (Nettle *et al.* 2012, p.3). The authors concluded that the approach provided a highly effective and cheap place-based crime intervention that perhaps that could potentially be applied across all bicycle racks at the University to achieve an overall reduction in thefts.

Nettle, D, Nott, K & Bateson, M 2012, "'Cycle Thieves, We Are Watching You': Impact of a Simple Signage Intervention against Bicycle Theft', *PLOS One*, vol. 7, issue 12, pp. 1-5.

2.2. Aim and objectives of the project

The aim of the experiment was to test the effectiveness of using images of 'watching eyes' and particular accompanying messages reduced dog-fouling incidents in hotspots across England.

The experiment evaluation objectives were to identify:

1. the impacts of the different posters to dog fouling in the target areas
2. if posters displaced dog fouling incidents to other nearby locations
3. what would improve the impact, effectiveness, appropriateness and efficiency of the approach

2.3. Methodology

Partner selection

Workshops were held with local land managers⁴ to gain their input into the experiment and enhance its design. Firstly, two workshops were held at the Keep Britain Tidy Annual Conference to gauge interest in the proposed experiment and gain feedback on its design. Secondly, a briefing workshop was held in Birmingham with representatives from 15 land manager organisations who had indicated their interest in partnering in the experiment to fine-tune the experiment to maximise take-up and training partners to deliver the project in their area.

Following these workshops a total of 17 organisations partnered in the experiment that represented a range of geographical locations:

Table 1: The partner organisations

Dog fouling posters experiment partner organisations	
<ul style="list-style-type: none">• Amey (Sheffield)• Birmingham City Council• Borough Council of Wellingborough• Cambridge City Council• Doncaster Metropolitan Borough Council• Hinckley & Bosworth Borough Council• London Borough of Tower Hamlets• North West Leicestershire District Council• Portsmouth City Council	<ul style="list-style-type: none">• Reading Borough Council• Rochford District Council• Sandwell Council• South Gloucestershire Council• Stafford Borough Council• Staffordshire Moorlands District Council• Telford and Wrekin Council• Wirral Metropolitan Borough Council

Poster design

The posters used in the experiment are included at

Poster messages

All four versions of poster displayed the message 'Thoughtless dog owners, we're watching you!'. This message was developed in collaboration with the experiment partners and Keep Britain Tidy's Campaigns & Communications team at the briefing workshop in Birmingham. The message sought to isolate and target those dog owners who don't pick up, rather than all

⁴ These were invited to attend via the Keep Britain Tidy Network and other contacts.

dog walkers, most of whom appear to behave responsibly. The 'we're watching you' component took inspiration from the Newcastle University bicycle thefts experiment (see boxed text on page 7). All four versions of poster also included the text 'Bag that poo, any rubbish bin will do'. The purpose of this was to provide dog walkers with a 'call to action', while informing them that bagged dog poo can be placed in any rubbish bin, rather than only allocated dog fouling bins, as the partners had anecdotal evidence that this is common misconception amongst residents.

Three of the posters displayed an additional supporting message to test whether these influenced their effectiveness in reducing dog fouling. The messages were developed by Keep Britain Tidy and refined during the Birmingham briefing workshop following input from the partners. The four versions of poster were:

- Poster 1 ('eyes only'), which used no supporting message to allow the 'watching eyes' concept in its most basic state to be tested;
- Poster 2 ('enforcement'), which included the accompanying message 'Walk your dog away from a fine of up to £80'. While enforcement policies varied across the partner organisations, all used fines (or Fixed Penalty Notices) to some extent to discourage dog fouling, with amounts range from £50 to £80. This poster sought to test the combined 'watching eyes' and enforcement message in changing behaviour.
- Poster 3 ('positive reinforcement'), which included the message '9 out of 10 dog owners clean up after their dog, are you the one who doesn't?'. This message sought to influence and leverage social norms, or perceptions of how other people behave. Research has found that social norms messages can have a strong influence on people's behaviours (noting that it is important to construct messages that do not unintentionally encouraged undesired outcomes). Social norms messages should ideally use accurate research findings as feedback, however Keep Britain Tidy is not aware of data regarding the proportion of people who pick up after their dogs. The purpose of including the '9 out of 10' message was to test the effectiveness of a positive social norm statement (i.e. that most people do the right thing).
- Poster 4 ('peer influence'), which included the message 'Report those who don't clean up after their dog to the council', along with space for the partner organisation to add their dog fouling reporting hotline on the poster. This poster sought to leverage peer pressure to regulate behaviour by highlighting to irresponsible dog walkers that others within their community could report them if they don't pick up and by providing those seeking to report others with the means to do so.

Figure 1 below. These were printed on a thick corrugated Correx plastic in A3 size. The posters were covered in a luminescent film that 'charged up' during the day and glowed in darkened areas at night to increase their visibility. Cable ties were provided to the partners for installing the posters if required, however holes were not punched into the posters prior to distribution. This was at the request of attendees at the briefing workshop, who explained that allowing the partners to punch the holes themselves as per their individual requirements would increase the versatility of the posters without damaging the imagery. Instructions for punching/drilling holes into the posters for fixings were included with the posters instead and a white 15mm border around the edge of the imagery was included on the posters for this purpose.

Poster messages

All four versions of poster displayed the message 'Thoughtless dog owners, we're watching you!'. This message was developed in collaboration with the experiment partners and Keep Britain Tidy's Campaigns & Communications team at the briefing workshop in Birmingham. The message sought to isolate and target those dog owners who don't pick up, rather than all dog walkers, most of whom appear to behave responsibly. The 'we're watching you' component took inspiration from the Newcastle University bicycle thefts experiment (see boxed text on page 7). All four versions of poster also included the text 'Bag that poo, any rubbish bin will do'. The purpose of this was to provide dog walkers with a 'call to action', while informing them that bagged dog poo can be placed in any rubbish bin, rather than only allocated dog fouling bins, as the partners had anecdotal evidence that this is common misconception amongst residents.

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- Poster 3 ('positive reinforcement'), which included the message '9 out of 10 dog owners clean up after their dog, are you the one who doesn't?'. This message sought

to influence and leverage social norms, or perceptions of how other people behave. Research has found that social norms messages can have a strong influence on people's behaviours⁵ (noting that it is important to construct messages that do not unintentionally encouraged undesired outcomes⁶). Social norms messages should ideally use accurate research findings as feedback, however Keep Britain Tidy is not aware of data regarding the proportion of people who pick up after their dogs. The purpose of including the '9 out of 10' message was to test the effectiveness of a positive social norm statement (i.e. that most people do the right thing).

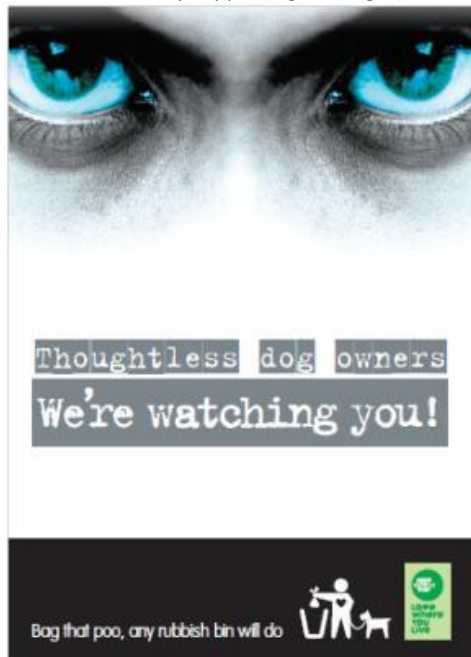
- Poster 4 ('peer influence'), which included the message 'Report those who don't clean up after their dog to the council', along with space for the partner organisation to add their dog fouling reporting hotline on the poster. This poster sought to leverage peer pressure to regulate behaviour by highlighting to irresponsible dog walkers that others within their community could report them if they don't pick up and by providing those seeking to report others with the means to do so.

⁵ *Social Norms Guidebook: A guide to implementing the social norms approach in the UK*, John McAlaney, Bridgette M Bewick and Jennifer Bauerle, June 2010; *The Social Norms Approach: Theory, Research, and Annotated Bibliography*, Alan D. Berkowitz, 2004; *A Room with a Viewpoint: Using Social Norms to Motivate Environmental Conservation in Hotels*, Noah Goldstein, Robert Cialdini & Vlaslas Griskevicius, 2008; *Crafting Normative Messages to Protect the Environment*, Robert Cialdini, 2003.

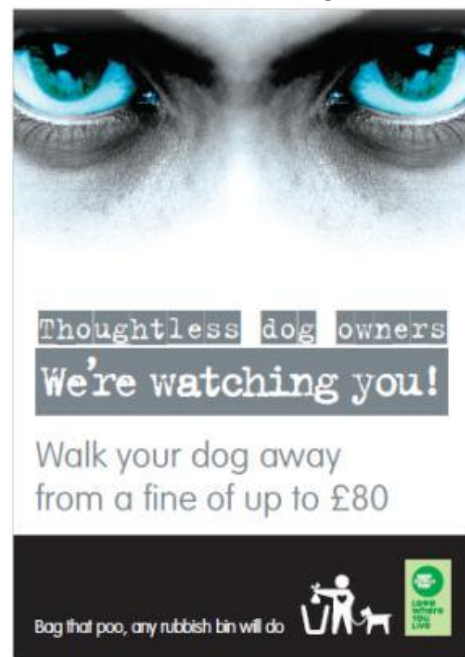
⁶ For example, a 2007 study provided feedback to households on their energy consumption in relation to that of their neighbours. This had the intended impact of reducing energy use amongst those whose consumption was above average. However, a 'boomerang' effect was also observed, in which households well below the average rate increased their energy consumption towards the accepted norm. The study found that this effect could be reversed, however, by adding a message of approval specifically aimed at those below the average rate of consumption (*The constructive, destructive, and reconstructive power of social norms*, Schultz et al., 2007).

Figure 1: The four 'watching eyes' posters used in the experiment

Poster 1: eyes only – testing the 'watching eyes' concept to reduce dog fouling on the ground in its most basic state (i.e. without any supporting messages).



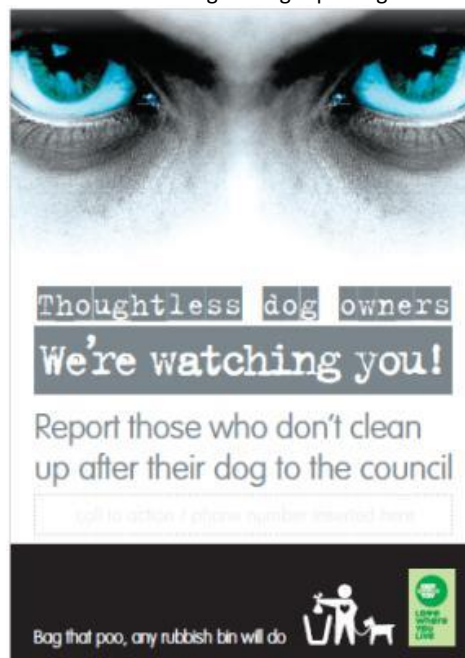
Poster 2: enforcement – testing the 'watching eyes' concept to reduce dog fouling on the ground with a supporting enforcement message.



Poster 3: positive reinforcement – testing the 'watching eyes' concept to reduce dog fouling on the ground with a supporting positive (norming) reinforcement message.



Poster 4: peer influence – testing the 'watching eyes' concept to reduce dog fouling on the ground with a supporting peer influence message. Space was provided to write in the local dog fouling reporting hotline.



Target and displacement sites

Partners selected eight target sites across their areas for displaying the posters and one nearby displacement site for each target site (16 sites in total). The target sites were dog fouling hotspots known to the partners through their litter prevention work, with some partners using reports from residents or information provided by local dog fouling wardens, street cleansing staff and other frontline staff to identify these problem areas. The size of the target sites were determined by the partners based on the visibility of the posters (i.e. points at which the posters could be seen and read were included in the site area).

The eight displacement sites were locations adjacent to or less than 100m away from the target sites that could potentially record an increase in dog fouling as a result of the poster experiment displacing the problem away from the target site. These included grassed areas, alleyways, residential streets and other land use types near the target sites.

The target sites selected by the partners encompassed a range of land use types, as summarised in Table 2.

Table 2: Number of target sites by land use type and version of poster displayed

Land use type	Poster 1: eyes only	Poster 2: enforcement	Poster 3: positive reinforcement	Poster 4: peer influence	Total - target sites
Housing area	13	10	19	11	53
Recreation area	4	5	5	5	19
Public footpath	5	2	1	3	11
Alleyway	5	5	6	9	25
Main road	0	3	3	0	6
Main retail and commercial area	0	1	1	1	3
Rural road	0	0	0	0	0
Other*	0	0	0	3	3
Total	27	26	35	32	120

**Other sites include 'housing and commercial', a school lane and secondary retail.*

Display of posters at target sites

The experiment was conducted between January and March (including baseline monitoring), with the posters on display for at least three weeks from late February to mid-March 2014 across the partner areas (though the majority of partners chose to continue displaying the posters when the experiment finished – see Section 3.4). Winter months were deliberately chosen for the experiment due to the longer nights, however there was a slight delay in beginning the experiment due to difficulties in sourcing the luminescent film for the posters.

The original design of the experiment was that each partner would test one version of poster per site at two different target sites in their area, meaning that each version of poster was to be tested at 34 sites in total⁷. However, a number of partners chose to test some versions of the poster at more than two sites and some at less (for example, one partner tested Poster 1 at no sites, Poster 2 at one site, Poster 3 at two sites and Poster 4 at five sites), as shown in Table 3 below.

Additionally, one partner chose to test a mixed-poster approach, displaying all four versions of the poster at each target site. This data has not been included in the main impact analysis due to a relatively small sample size, though the results provide an interesting perspective on the potential for this approach and are discussed separately in the boxed text on page 21. Therefore, a total of 15 partners and 120 target sites are included in the main analysis presented herein, as outlined in Table 3 below.

Table 3: Number of partners and target sites included in the experiment analysis

Version of poster	Number of target sites	Number of partners
Poster 1: eyes only (no supporting message)	27	14
Poster 2: enforcement	26	14
Poster 3: positive reinforcement	35	15
Poster 4: peer influence	32	15
Totals	120	15

An additional partner used a mixed-posters approach across its eight target sites – see boxed text on page 21.

To maximise visibility, each partner was provided with enough posters to display up to five copies of a version of the poster per target site. The partners were asked to choose target sites that were geographically spread across their areas to minimise the chance that residents would see more than one version of poster. Each partner displayed the posters in their areas for a minimum of four weeks during the experiment (a number of partners chose to continue displaying the posters after the experiment – see Section 3.4 for details).

Monitoring and evaluation

The monitoring of dog fouling incidents at the target and displacement sites was integral to the experiment as a measurement of the impact of the posters. Partners counted the number of dog poo incidents at each site on at least a weekly basis for a minimum of three weeks prior to the implementation of the posters (baseline monitoring period) and for three weeks during.

⁷ One version of poster x two target sites per partner x 17 partners = 34

The frequency at which the partners conducted the monitoring counts each week depended on their usual dog fouling cleansing routine at the site. For example, if a partner’s usual routine was to cleanse a site of dog fouling three times per week, they would continue with that cleansing frequency during the experiment period, conducting a dog poo count before each cleanse. At sites where there was not an existing dog poo cleansing routine (or where dog fouling was cleansed only in response to complaints from residents, etc.), partners were asked to cleanse the sites of dog fouling once at the commencement of the baseline monitoring period and again immediately before the implementation of the posters. The partner then conducted a dog poo count at the site at least once per week throughout the monitoring period. The majority of partners (12 of 16 included in the analysis) conducted their counts on the same days of each week throughout the monitoring period, while four partners conducted theirs on varying days of each week. Each count represented the number of dog fouling incidents that accumulated at the site since the partner’s last visit, meaning that in principle, all incidents of dog fouling during the monitoring period were able to be captured regardless of the partners’ frequency or days of monitoring. Two research limitations were identified with regard to this approach and are discussed below.

The evaluation of the experiment is also informed by dog fouling reports from the public in each of the partner areas and by partner interviews, as summarised in the evaluation methodology table below.

Table 4: Evaluation methodology

Data collection method	Methodology
Site monitoring – dog fouling counts (Jan – Mar 2014)	<p>Aim</p> <ul style="list-style-type: none"> • To identify the impact of the posters to the number of dog fouling incidents at target and displacement sites. • To understand the effectiveness of the different poster messages when used at different land use types. • To understand the extent to which the number of posters and the number of bins at the sites influenced the effectiveness of the posters. <p>Data collection</p> <ul style="list-style-type: none"> • Counting of dog fouling incidents at eight target sites and eight displacement sites per partner before (control monitoring) and after (impact monitoring) the implementation of the posters. • Conducted by the partner organisations. <p>Data population</p> <ul style="list-style-type: none"> • 120 sites in the main impact analysis (8 target sites + 8 displacement sites x 15 partners) • 8 sites in one partner area using a mixed-posters approach (this data is not included in the main analysis - see boxed text on page 20) <p>Analysis</p> <p>Quantitative data analysis using Microsoft Excel. The findings of the analysis were cross-checked with the partners’ interpretation of the monitoring results (as identified during the partner interviews) and reviewed through internal workshops. Where appropriate, findings</p>

Data collection method	Methodology
	<p>from the quantitative data were tested for statistical significance using a 95% probability. Statistical significance tests are used to determine the likelihood that the same results would be found if the survey was repeated using a different or larger data sample, rather than being due to chance. All results presented in this report are statistically significant, unless otherwise specified.</p>
<p>Dog fouling reports from public (Jan – Mar 2014)</p>	<p>Aim</p> <ul style="list-style-type: none"> To gain further insight into the effectiveness of the posters by identifying dog fouling reports from the public made in response to the posters. <p>Data collection</p> <ul style="list-style-type: none"> Monitoring and recording of dog fouling complaints and reports made to the partner organisations by the public (e.g. via a hotline or online form), including details of whether these were in response to a particular version of the poster. Conducted by the partners and submitted to Keep Britain Tidy on the site monitoring recording form. <p>Data population</p> <ul style="list-style-type: none"> Reports from 17 partner organisations. <p>Analysis</p> <p>The data was reviewed by Keep Britain Tidy to identify and count the number of reports that related directly to a version of the poster (i.e. the complainant specifically mentioned that poster), indicating that the poster had triggered the complainant’s action.</p>
<p>Partner interviews (Apr – May 2014)</p>	<p>Aim</p> <p>To identify:</p> <ul style="list-style-type: none"> learnings to improve the impact, effectiveness, appropriateness and efficiency of the approach the scalability of the approach and potential for replication by other land managers. <p>Data collection</p> <ul style="list-style-type: none"> A short semi-structured telephone interview with all partners, conducted by Keep Britain Tidy at the end of the experiment. Partners were asked to provide input into what worked well in the experiment, what could be improved and their interpretations of its impacts. The questionnaire used for the interviews is included at Appendix A. <p>Data population</p> <ul style="list-style-type: none"> 17 partners. <p>Analysis</p> <p>Qualitative data analysis using NVivo software. The findings of the analysis were reviewed through internal workshops.</p>

Public relations and media coverage

In order to ensure that the results of the experiment were accurate and unbiased, Keep Britain Tidy and partners deliberately did not undertake any promotional activity that would alert people to the purpose of the posters and experiment before or during its delivery.

Limitations of the research

Four limitations of research have been identified.

Firstly, all partners were required to cleanse their sites of dog fouling at the commencement of the baseline monitoring period and again immediately before the implementation of the posters to ensure that the counts only captured incidents that occurred during each monitoring phase. This may have had some influence on rates of dog fouling at the sites, as previous research by Keep Britain Tidy⁸ has found that people are less likely to litter where no litter is present. However, as the site cleansing occurred at the beginning of both the baseline and impact monitoring periods, any impacts of this phenomenon to the quality of the data are likely to have been minimised (i.e. it would have influenced both the 'before' and 'during' sets of data).

Secondly, each count conducted by the partners was intended to capture all incidents of dog fouling that had occurred at the site since the partners' last visit, based on what had accumulated there. This required partners who did not conduct a site cleanse after each count to differentiate between new dog fouling incidents and those that had been there at the last count to avoid double-counting. It is possible that some incidents were incorrectly counted as a result, however partners took measures to minimise the risk of this occurring (by noting the location and appearance of the incident, for example) and felt confident that they were able to avoid this. Additionally, this approach relied on incidents of dog fouling not disappearing between counts (e.g. due to it being repeatedly walked through or grass cutting). The research sought to overcome this by using average, rather than total, counts of dog fouling taken over each three week monitoring period so that such anomalies could be accounted for in the analysis.

Thirdly, severe wet weather experienced in some partner areas over one week during the baseline monitoring period washed away dog fouling incidents at some monitoring sites. However these partners were able to extend their monitoring period by a week, allowing them to gather additional data for the analysis.

Finally, the experiment compared the average rates of dog fouling at each site before to after the installation of the posters, taken over a minimum of three weeks either side. It is possible that other variables may have influenced rates of dog fouling at the sites over the same

⁸ *People who litter*, Dr Fiona Campbell, 2007.

period. Keep Britain Tidy has sought to minimise any impacts of this to the analysis by including a large number (240) of test sites. Despite this, it is recommended that future iterations of the approach use control site monitoring to allow other variables that may influence rates of dog fouling at the sites to be discounted. These control sites would need to be in locations that are comparable to the test sites but unlikely to be visited by dog walkers who encounter the posters elsewhere.

3. Results and findings

3.1. Objective 1: To identify the impacts of the different posters on dog fouling

This section discusses the impacts of the posters on dog fouling at the sites. The results presented show the average percentage change in the number of dog fouling incidents per site from before to during the implementation of the posters, unless otherwise indicated. This average takes increases into account as well as decreases, and is useful for understanding the extent to which the posters had an impact.

All calculations are based on the average⁹ counts of dog fouling incidents per site during the control (before) and impact (during posters implementation) monitoring periods¹⁰.

Overall impact

The overall average change in incidents of dog fouling per site was a 46% decrease, as shown in Table 5.

Table 5: Overall impact of posters on dog fouling

	Total counts		Average count per site		Average % change in dog fouling incidents per site
	Before installation	After installation	Before installation	After installation	
Target sites	2,159	1,208	18.0	10.1	-44%
Displacement sites	861	434	7.2	3.6	-50%
Overall	3,020	1,642	12.6	6.8	-46%

Base: 120 targets sites and 120 displacement sites = 240 sites overall.

⁹ As opposed to sum counts.

¹⁰ For example, at a site that had 16 counts in week 1, 10 counts in week 2 and 12 counts in week 3, the average counts for that site would be 12.7 during the control period.

These results indicate that overall, the ‘watching eyes’ posters approach has been highly effective in reducing dog fouling at both the target and potential displacement sites.

When looking at sites in turn results were more variable. Positively, 75% of target sites and 56% of displacement sites experienced a decrease in dog fouling incidents following the implementation of the posters, while 17% of target sites and 27% of displacement sites experienced an increase. 8% of target sites and 18% of displacement sites showed no change. The majority of sites that experienced an increase or no change in dog fouling incidents following the implementation posters were public footpaths or social housing sites, indicating that the posters were least effective when used at these area types (see *Impact by version of poster per land use type* below for further discussion).

Impact by version of poster

Of the four versions of poster, it appears that the positive reinforcement message was the most effective in decreasing incidents of dog fouling across the target and displacement sites (49% reduction in incidents overall), however the differences in results across the four versions of poster did not reach statistical significance (see Table 6).

Table 6: Impact on dog fouling by version of poster

Average % change in dog fouling incidents per site				
Site type	Poster 1: eyes only	Poster 2: enforcement	Poster 3: positive reinforcement	Poster 4: peer influence
Target sites	-42%	-41%	-47%	-46%
Displacement sites	-54%	-47%	-53%	-44%
Overall	-45%	-43%	-49%	-45%

Base: 120 targets sites and 120 displacement sites = 240 sites overall.

The Mixed Posters Approach: The impacts of displaying all four versions of the poster per site

One partner in the experiment chose to display all four versions of the poster at each of their eight target sites. Due to the small sample size, the monitoring results for this approach were not included in the main analysis. However, this case study does indicate that the approach was highly effective at reducing dog fouling in the local partner area, as outlined below.

The mixed posters approach reduced dog fouling incidents at all (100%) eight target sites in the partner area. Dog fouling increased at three (38%) displacement sites, but decreased at four displacement sites and stayed the same at one (63% of displacement sites in total).

On average, dog fouling decreased by 71% at target sites, 44% at displacement sites and by 64% overall.

Of the four land use types where tested, the mixed posters approach appears to have been most effective at alleyway and public footpath sites. However, due to the small sample size these results should be treated with caution.

Average % change in dog fouling incidents per land use type				
Land use type	Target sites	Displacement sites	Overall	No. of sites
Mixed social/private housing area	-68%	-41%	-56%	4
Recreation area	-57%	n/a	-57%	1
Public Footpath	-100%	n/a	-100%	2
Alleyway	-100%	-100%	-100%	1

n/a = no dog fouling present during the monitoring period

Impact by land use type

The average percentage change in rates of dog fouling at the different land use types following the installation of the posters is summarised in Table 7 below.

Table 7: Impact on dog fouling by land use type

Average % change in dog fouling incidents per site				No. of sites
Land use type	Target sites	Displacement sites	Overall	
Housing area	-43%	-46%	-44%	119
<i>Social housing</i>	-14%	-37%	-21%	29
<i>Private housing</i>	-59%	-50%	-56%	83
<i>Mixed social/private housing</i>	-79%	-61%	-77%	7
Recreation area	-43%	-49%	-44%	37
Public Footpath	-28%	+200%	-21%	33
Alleyway	-57%	-63%	-58%	22
Main road	-61%	-63%	-62%	17
Main retail and commercial area	-44%	-81%	-60%	7
Rural road	0%	-29%	-29%	1
Other	-56%	+13%	-44%	4

Notes: 'Other' land use types includes a housing and commercial site, a school lane and a secondary retail area.

Base: 120 targets sites and 120 displacement sites = 240 sites overall.

As shown, the posters appear to have had a positive impact on rates of dog fouling at all target site land use types. However, they appear to be least effective when used at social housing and public footpath sites. The latter experienced a significant increase in incidents at displacements sites following the initiative, from an average of nine incidents before to 27 incidents after the implementation of the posters (a 200% increase).

These findings indicate that the use of the posters at social housing and public footpath sites may need to be supported by other measures that specifically target those sites, such as enforcement and/or social marketing.

Impact by version of poster per land use type

The average percentage change in rates of dog fouling at each land use type per version of poster displayed is shown in Table 8.

Table 8: Impact on dog fouling by poster message at each land use type

Average % change in dog fouling incidents per target site				
Site land use type	Poster 1: eyes only	Poster 2: enforcement	Poster 3: positive reinforcement	Poster 4: peer influence
Housing area	-39%	-30%	-51%	-46%
<i>Social housing</i>	+6%	-11%	0%	-23%
<i>Private housing</i>	-59%	-45%	-68%	-59%
<i>Mixed social/private</i>	-0%	+33%	0%	-82%
Recreation area	-28%	-57%	-15%	-47%
Public Footpath	-13%	+333%	-60%	+55%
Alleyway	-77%	-56%	-38%	-46%
Main road	n/a	-53%	-71%	n/a
Main retail and commercial area	n/a	-60%	-11%	-86%
Rural road	n/a	n/a	n/a	n/a
Other	n/a	n/a	n/a	-56%

Notes: n/a = version of poster not tested at land use type; differences for all results presented over 10% are statistically significant at a 90% confidence level; 'other' land use types includes a housing and commercial site, a school lane and a secondary retail area; Base = 120 target sites; Red figures = are where largest positive change occurs and are discussed below.

The implications of these results can be summarised as follows:

- Housing areas – the peer influence message (Poster 4) was the most effective of the four versions of posters when used in social housing and mixed social/private housing areas, while the positive reinforcement message (Poster 3) was the most effective of the four when used in private housing areas.
- Recreation areas – the enforcement message (Poster 2) was the most effective of the four versions of poster when used at this land use type.

- Public footpaths – the positive reinforcement message (Poster 3) appears to have been the most effective of the four versions of poster, however this finding should be treated with caution as only one partner tested this poster at a public footpath target site.
- Alleyways – the ‘eyes only’ poster (Poster 1) was the most effective of the four when used at this land use type.
- Main roads – the positive reinforcement poster (Poster 3) was the most effective of the four versions, however only two versions of the poster were tested at this land use type (Poster 2 and Poster 3).
- Main retail and commercial area – the peer influence message (Poster 4) was the most effective of the four versions of poster when used in main retail and commercial areas, however this finding should again be treated with caution as only three partners tested any of the posters at this land use type.
- Rural road – no partners selected a rural road as a target site, therefore no posters were tested at this land use type.

Number of bins per site

While the size of the target and displacement sites across the different partner areas varied (and Keep Britain Tidy did not collect this data), an analysis was conducted to determine whether the presence of a litter or dog fouling bin at a site influenced changes to dog walkers’ behaviour. This found that sites with at least one bin were significantly more likely to experience a decrease in dog fouling incidents (74% of sites with at least one bin experienced a decrease compared to 49% of sites without), with a higher average rate of decrease per site than those where no bins are present (see Table 9). The results therefore indicate that the posters may be more effective when used in conjunction with at least one bin at the site, however more research is required to determine the influence of the size of the site on this effect (i.e. is the effect apparent at both small and large sites).

Table 9: Influence of the number of bins at site

Average change in dog fouling incidents per site			
Number of bins per site	Target sites	Displacement sites	Overall
No bins at the site	-33%	-25%	-30%
1+ bins per site	-47%	-63%	-48%

*Notes: All percentage differences are statistically significant at a 95% confidence level.
Base: 120 targets sites and 120 displacement sites = 240 sites overall.*

3.2. Objective 2: To identify if there was a displacement effect from target areas to nearby sites

A displacement effect may be observed when a target site experiences a decrease in dog fouling incidents, while the adjacent displacement site experiences an increase. This section of the results only looks at sites where dog fouling declined in the target areas.

The Newcastle University bicycle thefts experiment, upon which this experiment is based, witnessed an increase in thefts at control sites, which was presumed to be a result of thieves switching to areas where they felt they were not being watched. While failing to clean up dog fouling is an inherently different behaviour to bicycle theft, it is interesting to note that in this experiment, a displacement effect appears far less likely. Overall, where target sites experienced a decline in dog fouling, the associated displacement sites also experienced a decline.

Of the 120 target sites monitored, 92 experienced a decrease in dog fouling. At the corresponding 92 displacement sites an average decline in fouling of 49% was observed. Some displacement may occur (26 of these displacement sites did experience an increase in dog fouling), although overall, results are positive. Occurrences of displacement in future iterations of the approach are likely to be relatively easy to manage, for example by moving the posters between target and displacement sites periodically or by introducing targeted enforcement at affected sites.

It is not known whether the relatively low level of displacement observed in the dog fouling experiment is due to the nature of the offence, the relatively short distance (less than 100m) of the monitored displacement sites from the target sites or some other influence. The results indicate that the posters have been effective in achieving reductions in dog fouling incidents at the target sites without simply displacing the problem to an area nearby. However it is recommended that future iterations of the approach include public perceptions and/or observations research to better understand dog walkers' behaviours and how they respond to the posters (particularly in relation to displacement effects). In addition, it is recommended that control site monitoring be incorporated to discount other variables that may be simultaneously influencing rates of dog fouling at the sites.

3.3. Additional partner findings

Official public reports

Throughout the experiment, the partners monitored dog fouling reports made to their organisation by residents, either to report someone else for failing to clean up after their dog or to request dog fouling to be cleaned up. Partners were asked to note whether the resident making the report had seen any of the experiment posters. The purpose of this was to gain some insight into whether the posters had triggered the action of the resident in reporting dog fouling to the council.

In total, 128¹¹ reports from residents were recorded by the partners, eight of which could be directly linked to the resident seeing one of the posters:

- two residents from two sites in one partner area said that they had noticed a “vast” improvement in dog fouling at the sites (both Poster 4: peer influence);
- two residents in one partner area called to report large amounts of dog fouling in streets near to, but not part of, two of the partner’s target/displacement sites (Poster 3: positive reinforcement and Poster 4: peer influence);
- one resident of one partner area called to report that two posters at a site (Poster 2: enforcement) had been vandalised or damaged, and the partner subsequently replaced these;
- one resident of one partner area called to report incidents of dog fouling at a displacement site (Poster 2: enforcement); and
- one resident of one partner area called to ask if a poster on a lamppost outside her property could be moved, as it had frightened one of her younger children at night time. The partner subsequently moved the poster to another lamppost (Poster 3: positive reinforcement).

Additional public feedback

Ten partners received positive feedback regarding the posters from the public, including regular complainants, as well as from councillors, dog wardens and other council staff. Partners felt that these had the added benefit of demonstrating to residents that the Council was doing something proactive to prevent dog fouling. Just one instance of negative feedback

¹¹ It should be noted that six partners recorded all reports made by residents on their monitoring form, while three partners recorded only those that related specifically to the posters and seven partners recorded no reports. Therefore this figure should not be interpreted as an accurate reflection of the total number of dog fouling reports received by all 16 partners during the monitoring period.

was reported by the partners (a resident who reported that her child had been frightened by one of the posters through their Report It hotline – see above).

“Some real positives came out of this experiment – residents in four of the areas targeted asked for the posters to stay. People were very aware of the posters, they really noticed a difference.”

“One of the things was that people have requested them [the posters] to be used elsewhere – people want them and want them tried somewhere else.”

“All the officers are saying that they work and they were asking if they can leave the posters up.”

“Everyone I’ve spoken to, Council employees and members of the public, have all been very positive about the posters.”

“[The posters are] appreciated by complainants as they could see that the Council was making an effort.”

(Partner interviews)

In some cases, the experiment allowed the partners to gain a greater understanding of the issue of dog fouling in their areas, such as how frequently it was occurring, whether it was being cleansed and the public perception of dog fouling versus the reality.

“Generally I’m stuck in the office, but just been at the coalface of it was really useful... For example, I was told that the back alleys were cleaned of dog fouling fortnightly, but that clearly wasn’t the case.”

(Partner interview)

“[It] has allowed us to collect data from outside our normal working hours that we otherwise wouldn’t have. This way, we were able to gain more information and get a better idea of what was going on outside our normal hours and it’s allowed me to look at how we approach our various projects, where some issues might be more appropriately addressed outside normal working hours.”

(Partner interview)

For some partners, participation in the experiment enhanced their understanding of designing social innovation experiments, including monitoring.

Unintended impacts

Two partners found that the posters appeared to encourage irresponsible behaviour in some people:

“Going out and actually cleaning up after the poo meant that certain people felt that they could carry on doing it... They knew I was coming at a certain time. There are certain people who just don’t care unfortunately and it made them think ‘Oh I can do this and he’ll come and pick it up with a shovel.’”

“I think some people do take this as a bit of a challenge, literally the day after I put the poster up, directly underneath there was a big pile, so to me people do see this as a challenge, so that’s why you need to back it up with action.”

(Partner interviews)

Partner interpretation of results

Twelve partners felt that the monitoring results were an accurate or strongly indicative reflection of the impact of the posters in their areas. The remaining four partners felt that the results weren’t fully conclusive due to the impact of other variables in their areas (such as severe wet weather, though these partners extended their monitoring period to overcome this, and grass cutting) or due to low dog fouling counts at the sites to begin with, despite these sites initially being perceived to be problematic hotspot areas. Keep Britain Tidy’s own research has found that the public consider dog fouling to be the most unacceptable and dirtiest type of litter, and a priority in terms of the extent to which they see it as a problem and the importance they place on tackling it¹². The reality is that incidents of dog fouling on the ground are rarer than generally perceived¹³. Therefore, public perceptions of dog fouling problem areas and the reality won’t always match up. It is our recommendation that a range

¹² *The Little Book of Litter: an essential guide*, Keep Britain Tidy, 2012; *The View From The Street*, Keep Britain Tidy, 2012.

¹³ *How Clean is England? The Local Environmental Quality Survey of England 2012/13*, Keep Britain Tidy, 2013.

of stakeholders (e.g. local dog fouling officers/dog wardens and street cleansing staff) be engage to identify dog fouling hotspots in future iterations of the approach (see *Recommendation 8* in Section 4).

Four partners perceived that, particularly at sites with relatively low rates of dog fouling, one dog walker (or very few dog walkers) tended to have a disproportionate impact on the results:

“It was a small area and only one dog causing the problem. That was the worst area I’ve ever seen in my life. The posters weren’t as effective there as I had hoped and I think that comes down to it being one dog owner doing it, so then you have to start to move enforcement.”

“I think it [the experiment] definitely highlights that it’s just a few dog walkers. So if you prick the conscious of two dog foulers then you dramatically reduce the impact of these dog walkers in the areas. I think it’s a few who cause the bulk of problem. But if you’ve got five dog walkers causing the problem and you change the behaviour of two or three, you get a dramatic reduction.”

(Partner interviews)

3.4. Objective 3: To identify what would improve the impact, effectiveness, appropriateness and efficiency of the approach

This section discusses what the partners thought worked well in the experiment, what could be improved and other learnings to improve the design and delivery of the approach.

Satisfaction with the project

Overall, the partners were satisfied with the experiment and 13 partners¹⁴ planned to continue using the posters in their areas in some way. Most planned to scale up their use of the posters in terms of distribution of sites and the number of posters per site, however two partners indicated that they would use them as ‘hotspot’ interventions, targeting specific, localised problem areas as required. Two partners said that they would use the posters on a rotational basis (for example, moving them to new sites each month). Two partners said that they would increase the size of the posters (e.g. to A2 or A1 size) to maximise visual impact,

¹⁴ 13 of the 16 partners planned to continue using the posters in their areas, two partners were unsure and one partner did not plan to continue using the posters.

including one partner who planned to develop triangular versions of the poster that would wrap around lampposts/street furniture.

Based on their experience in delivering anti-litter campaigns in their areas, a number of partners felt it was important that the poster messages be reinforced by other measures to prevent dog fouling, such as pavement stencils, window stickers, community engagement and enforcement. Community engagement was seen to be useful for reinforcing the message that dog fouling is unacceptable to the local community (i.e. 'we as a community are watching you'), while enforcement was seen as an important tool for demonstrating that irresponsible dog walkers are indeed being watched by Council, for example:

"...if you caught somebody and you take them to court, there's press and people link that to the posters. We wouldn't have to do it everywhere, but even if there's just a few [cases] with publicity, people start to make that link and the posters would become a deterrent in their own right."

(Partner interview)

Challenges for partners

The main challenges for partners in delivering the experiment were:

- a delay in receiving the posters following printing delays. This disrupted partners' planning for the experiment, requiring some to extend their monitoring period by two weeks, and meant that the posters were implemented at a time of year when the days were beginning to get longer, rather than during winter as originally planned;
- resourcing the partner activities in the experiment, particularly the site monitoring and cleansing. Some partners felt it would be useful hearing from the other partners how they managed this.

"Current resources meant that employees had to incorporate the requirements of the experiment – counting, poster affixing, cleansing – within their day-to-day tasks."

"It would be interesting to know to know how the other partners did the street cleansing and the monitoring if possible. You know, they may have done it in a particular way that worked really well."

(Partner interviews)

- the theft and vandalism of posters in several locations;
- limited options for putting the posters up at some sites. In many cases (e.g. on residential streets), the only places available for displaying the posters were on lampposts, which was perceived to diminish the glow-in-the-dark effect;
- identifying displacement sites at locations where there were several areas to which dog fouling might be displaced (e.g. in a large recreational area);
- differentiating between old and new dog fouling incidents, which was sometimes a challenge for partners who didn't cleanse the monitoring sites each week; and
- bad weather periods, which impacted monitoring at some sites by washing dog fouling incidents away, requiring them to extend their monitoring period.

Poster design



Most partners (12 of 16) believed that the poster design and material worked well. Partners felt that they were visually striking and different to other anti-dog fouling posters, owing to the large eyes and glow-in-the-dark aspects of the design. The partners also felt that the posters were generally easy to put up and made of a robust material that was able to withstand heavy rain and wind.

“Certainly in terms of design they were the right size, designed well and very visual, which I think is the most important thing in my opinion – I think they were spot on.”

“We all thought here that the posters were very well designed, we were very pleased, they had an impact visually, the eyes were menacing and imposing and we also had feedback from the public along the same lines.”

“In terms of putting them up, I don’t think it could be any easier. I could find places to put them up using the cable ties, but if I hadn’t, I could have easily stapled these to a fence using an industrial staple gun, or could have used No Nails or grit fill on a brick wall.”

(Partner interviews)

Two partners felt that the grey text used for the messages on the posters did not stand out enough, particularly from further away. These partners suggested a black font and white background would increase the visibility and impact of the posters.

“It was hard to read in the grey section. It needed to be more prominent, more black and white contrast with the eyes and then the message would probably have worked very well.”

(Partner interview)

Two partners said that they would have preferred the luminescent paint to be applied to the eyes only, rather than the whole sign, to make the eyes stand out more. One partner felt that the luminescent paint made it harder to read the grey text on the posters during the daytime.

Two partners felt that the posters could be much larger in size or be made available in a range of sizes targeted to different location types to increase their versatility.

“The size of the posters would need to be designed depending on where they go up. I think going on lampposts I’d want them bigger.”

(Partner interview)

Two partners would seek a more robust poster material in future to prevent vandalism and theft. This would allow them to display the posters closer to eye level (rather than out of reach of potential vandals) to increase their visibility.

“Going forward if we did roll them out, we’d produce them from a different material - something strong to stop them from being ripped down, so for example something metallic with metallic fixtures. Even if they’d be more expensive, I’d definitely be inclined to use stronger material.”

(Partner interview)

Two partners felt that a greater range of fixture options would increase the utility of the posters, firstly by allowing the posters to be displayed at locations where there are no poles or walls to fix the posters to and secondly, to allow anti-theft materials to be used so that the posters can be displayed closer to eye level (e.g. a more permanent frame with Perspex casing).

One partner was not able to use the enforcement message poster (Poster 2), as the fines for dog fouling in their area are currently £50 and they felt that the poster message of the fine being “up to £80” might cause confusion. A simple sticker could be designed for these posters so that the appropriate fine amount can be displayed in areas where the fine is not £80.

One partner felt that the eyes could have been more menacing.

Testing and monitoring the posters

Partners generally felt that the monitoring methodology worked well. For these partners, the monitoring was rigorous, efficient and appropriate in terms of the length of the monitoring period and the number of sites involved. It was also felt that the monitoring forms captured all of the relevant information required to assist in interpreting the results, such as the version of poster used, whether the location was on a school route, weather conditions at the time of monitoring and number of bins at each site.

“The eight locations gave us a reasonable spread across our area. We were able to target different types of locations, such as alleyways, open spaces, main roads, side roads, social housing.”

(Partner interview)

Despite this positive feedback, the monitoring aspect of the experiment presented the most challenges for partners and generated the most suggestion for improvement during the interviews.

The biggest opportunity for improvement related to the provision of more guidance from Keep Britain Tidy around the size of the target and displacement sites.

“The only thing I would have changed – the one thing I found difficult – the areas we selected in terms of target areas and displacement areas, [it was difficult] working out whether the [site size] could have been more or less.”

“There wasn’t a lot of guidance about how far apart the posters should be placed or how large the areas should be. Everyone would have different ways of approaching it across all the partners and this may have impacted the results, in terms of how many posters they used and how large the sites were.”

(Partner interviews)

Two partners felt that there should have been more than five posters per site:

“I did think that it would have been more beneficial to target fewer areas, but put up considerably more posters within each targeted area – really blitz it.”

(Partner interview)

Two partners would like to see some qualitative public perceptions research incorporated into the next iteration of the approach, while one partner would like to see longer term site monitoring included to address the question of whether people become desensitised to the posters over the longer term.

Other suggestions for improving the monitoring aspect of the experiment were:

- Increase the length of monitoring time after the implementation of the posters from three to six weeks to gain a better indication of impact and to minimise the influence of variables such as weather that may affect the results. Conversely, there was a suggestion from an equal number of partners to reduce the overall monitoring time (e.g. to two weeks before and two weeks after posters implementation), particularly in areas that already have robust baseline data. It was felt that this would allow more land managers to implement the approach across a greater range of locations, as less resourcing would be required.
- Include control sites that are monitored at the same as target and displacement sites while the posters are being displayed (this experiment monitored the target and displacement sites prior to the implementation of the posters for the control monitoring). This would allow the analysis to capture unexpected variables that occur during the posters implementation period.
- Add a section to the monitoring form to record approximate dawn and dusk times, as rates of dog fouling tend to increase with increased hours of darkness (i.e. when the clocks return to Greenwich Mean Time after summer) and this could be taken into account when analysing the results.
- Deliver the approach during winter months, when dog fouling is worse (due to delays in receiving the posters, the experiment did not begin until late winter/early spring).

Experiment process

Partners who attended the experiment briefing workshop in Birmingham found it useful for understanding the approach, sharing ideas and providing input to improve the design of the experiment, for example:

“I thought it was a great idea to have that workshop beforehand because that probably addressed a lot of that ambiguity and ironed out a few things. And it gave a bit of ownership as well, that was important in making the participants feel part of it and have input into it.”

(Partner interview)

“The Birmingham workshop was very useful where we got together with other authorities, just to hear other people’s experiences. It certainly got me thinking about what’s the best way of doing this. The sharing of ideas and information is really powerful.”

“[I was] very happy to see that you as a group took on board the comments of the local authorities to influence the design.”

(Partner interviews)

Indeed, even those partners who were unable to attend the briefing workshop identified it as a valuable activity in which they would seek to participate in future:

“It would have been nice to have been able to attend the workshop and have some input, but we came quite late. The guidance notes were helpful, but when you’re sharing ideas at the workshop with the other partners and having input... we would have had a better understanding of what was expected of us. So next time we’d do that.”

(Partner interview)

Most partners also felt that the experiment process was easy to follow, with clear guidance notes regarding key dates, site monitoring and recording results. A number of partners also commented that the process was easy to deliver and not too onerous in terms of resourcing.

“I thought the whole thing was very well organised and very prescriptive. There wasn’t that much ambiguity about it I wasn’t left thinking what am I meant to be doing next.”

“The table was easy to use in terms of the spreadsheet, you had clear columns to use, clear sites on the spreadsheet and links across all the weeks of the experiment. It showed what sites you were talking about, so it was easy for me to put into the tables. And it calculated the increase and decrease for you, so that was easy... it was clear and concise and anyone could use it should they wish to roll it out themselves across other areas.”

(Partner interviews)

A number of partners had some tips to share regarding what they thought worked well in delivering the approach:

- Having one person conduct counts at the same sites throughout the monitoring period worked well, particularly for those who weren’t cleansing the sites each week and therefore needed to be able to distinguish between old and new dog fouling incidents.
- Tailoring the version of poster to be displayed at a site to its land use type.
- Use the local knowledge of dog wardens, street cleansing staff and other local officers to identify dog fouling ‘hotspots’, rather than relying solely on reports from the public, which may provide biased information. However, one partner found that the information provided by their dog wardens was inaccurate and that their street cleansing staff would have been more appropriate, therefore in some cases it may be worth gaining this information from a number of different sources.

A number of partners provided feedback to Keep Britain Tidy around the usability of the monitoring spreadsheet, the guidance notes and initial timings of the experiment. Keep Britain Tidy has noted this valuable feedback and will incorporate it into future projects, including the next iteration of the experiment.

A number of partners also commented that they would like to see the findings of the experiment released to other land managers dealing with littering issues to allow the ideas and learnings from the experiment to be shared, and to give people an understanding of what partnering in these types of experiments involves. This will be a core component of the next iteration of the experiment.

Involving the community in the 'watching eyes' posters approach

A number of partners commented that they would be looking to involve their local communities more in delivering any future rollout of the 'watching eyes' approach to increase its impact and create a sense of social responsibility for the issue of dog fouling.

Ideas for community engagement included:

- Involve community groups such as Neighbourhood Watch in the delivery of the approach, for example by putting posters up, monitoring impacts and/or site cleansing
- Involve local businesses in promoting the approach, such as local veterinary clinics
- Obtain sponsorship for the posters from businesses, e.g. pet food companies
- Distribute leaflets and window stickers to residents and businesses to get them involved. For example, one partner planned to leaflet all residents and businesses in streets where the posters are displayed to explain that they are temporary and to ask for their support for the campaign, including reporting dog foulers. Another idea was using stickers to reinforce the positive reinforcement message:

"Perhaps even producing a sticker that says something like 'I'm a dog owner and I pick up'. Because it is about normalising the right behaviour and [other] people might automatically assume it's their dog, so by putting that sign up it could be similar to the '9 out of 10' message."

(Partner interview)

4. Recommendations

Recommendation 1: Scale the approach and roll out nationally to local land managers

Based on the findings of this experiment, we recommend that the 'watching eyes' approach has the potential to be scaled up successfully, involving a greater number of partners and areas across England to have a significant impact on dog fouling. Indeed, a scaled up version of the experiment is something that several of the partners said they would like to see take place, both in their own areas when they roll out the approach and through take up by other partners.

A scaled-up rollout of the approach could take the form of a complete package for land managers, including posters, guidelines and templates for delivering the approach and monitoring its impacts. Partners would manage and conduct their own delivery activities and monitoring. Keep Britain Tidy could work with a number of these partners to monitor and assess the impacts of the approach over the longer term, providing feedback to the broader group of delivery partners to improve the effectiveness and efficiency of the approach.

Recommendation 2: Improve the design, effectiveness and durability of the poster

We recommend using a black font (as opposed to grey) to allow the text and eyes stand out more from further away, especially during the night. Partners requested a range of poster sizes (A3 to A1) available to increase their versatility and impact, which could be provided or alternatively templates could be used so that partner could develop their own posters. Furthermore we recommend investing in metal posters to ensure their durability and long lasting, especially those that can be removed to put up in other sites, rotating around local hotspots.

Recommendation 3: Ensure local partners are offered training and support for future joint campaigns.

We recommend developing detailed guidelines for future partners and running a briefing workshop for organisations wishing to partner in any scaled up version of the ‘watching eyes’ approach. Partners should also be provided with a communications plan to promote the approach without adversely affecting its ‘watching eyes’ aspect. This should include a press release template and communications guidelines for inclusion in any partnership packages to ensure that communications are consistent across all partners.

Recommendation 4: Conduct additional monitoring of the use of dog fouling posters, alongside control site monitoring, to support the continued testing and development of the project.

We recommend ensuring that a scaled-up rollout of the approach incorporates longer term site monitoring, even if this is only with a handful of “monitoring partners”. This should include testing of the mixed-posters approach (displaying all versions of the poster per site – see page 21), as more data is required to determine whether this is a more effective approach to displaying the posters individually, along with simultaneous control site monitoring to allow other variables that may have an influence on dog fouling to be discounted. Secondly we recommend developing a short questionnaire for future partners who wish to conduct qualitative public perceptions research in their areas to gather feedback on the posters. This should be included in any partnership packages developed for scaling the approach and will help to ensure the consistency and utility of data collected across the partner areas. Finally, longer term site monitoring and public perceptions research should be used to test desensitisation to the ‘watching eyes’ posters approach.

Recommendation 5: Use the posters as part of a wider set of measures to reduce dog fouling.

We recommend partners should not rely solely on the posters to make a long-term difference but to use them as part of a wider strategy and set of actions to reduce dog fouling. For example social marketing, community engagement and enforcement, especially in areas where we found the posters to be less effective. There is evidence to suggest that the posters are more effective when used in conjunction with at least one litter or dog fouling bin at the site, though further research is required to verify this.

Recommendation 7: Local partners should continue to evaluate locally to improve their efforts to reduce dog fouling.

We recommend local partners should always conduct site monitoring where possible using the template and guidelines provided by Keep Britain Tidy. This will assist partners in understanding the impacts of the posters in their areas and will allow the findings to be used in communications, public relations and reporting. Any data collected should also be submitted to Keep Britain Tidy to allow it to develop a more complete understanding of the impacts of the posters across England.

Recommendation 8: Work in partnership with other stakeholders to identify hotspots and build local support for the campaign.

We recommend consulting local dog fouling officers/dog wardens, street cleansing staff and other relevant personnel to identify dog fouling 'hotspots' for displaying the posters, as the partners in this experiment found these to be valuable sources of information. These stakeholders alongside the local community and businesses should be consulted to build support for the campaign and local action to address dog fouling together.

5. Conclusion

Overall, the 'watching eyes' posters experiment appears to have been highly effective in reducing dog fouling across the 16 partner areas and it is strongly recommended that a scaled-up version of the approach be rolled-out in partnership with land manager organisations across England to reach a wider range of areas and audiences.

All four posters were equally effective in the extent to which they reduced average rates of dog fouling per site. However, there is strong evidence that tailoring specific poster messages

to land use areas increases their effectiveness and Keep Britain Tidy has made recommendations for this.

Additional outcomes of the 'watching eyes' experiment have been positive feedback from residents, local councillors and other personnel at the partner organisations, and for some partners an increased understanding of the issue of dog fouling in their areas. Unfortunately, in some cases the approach has also had the unintended impact of encouraging irresponsible behaviour and several incidents of poster vandalism and theft were reported.

The majority of partners indicated that they wish to continue using the posters in some way to reduce dog fouling in their areas. However there is scope for improving the poster design, partnership agreements and delivery approach if it is to be rolled-out nationally following the recommendations made within this report.

The 'watching eyes' posters approach is currently being used to deter a range of anti-social behaviours. For example, we are aware of the approach being used at bicycle racks in the London boroughs of Waltham Forest and Westminster¹⁵ to prevent bicycle thefts, and in a national advertising campaign by HM Revenue & Customs¹⁶. There is therefore a question as to whether 'overuse' of the approach becomes detrimental to its effectiveness. This should be taken into account when considering long term use of the posters in campaigns to prevent dog fouling. It is recommended that ongoing monitoring be conducted to test desensitisation to the posters, while practitioners should also consider moving the posters around their areas on a rolling basis to minimise this effect.

¹⁵ Observed *in situ* in February and September 2014, respectively.

¹⁶ *HMRC's publicity campaign against tax evasion*, UK Government, October 2014, <<https://www.gov.uk/government/policies/reducing-tax-evasion-and-avoidance/supporting-pages/hmrc-s-new-publicity-campaign-against-tax-evasion>>.

Appendix A – Partner interviews questionnaire

Thank you for your participation in the dog fouling posters experiment. As you are aware, we are currently evaluating the experiment and as a partner, we would like your input on what worked well, what could be improved and your interpretations of its impacts. I would like to ask you some questions in a telephone interview that should last no more than 15 minutes. You will not be personally identified in our reports. Is now still a good time?

Interviewee details: (Partner organisation, name, job title)

Interview

1. What worked well about the following components of the posters experiment?
 - a. The design of the experiment
Prompt: e.g. thinking about the design of the posters, the way these were tested and the monitoring of the impacts
 - b. The outcomes of the experiment
Prompt: for example, benefits, unexpected impacts etc.
 - c. The process for the experiment
Prompt: e.g. thinking about the partnership, delivery, timelines, briefing etc.
2. What could be improved about the following components of the posters experiment?
Prompt: what would you do/what should Keep Britain Tidy do differently next time?
 - a. The design of the experiment
Prompt: e.g. thinking about the design of the posters, the way these were tested and the monitoring of the impacts
 - b. The outcomes of the experiment
Prompt: for example, benefits, unexpected impacts etc.
 - c. The process for the experiment
Prompt: e.g. thinking about the partnership, delivery, timelines, briefing etc.
3. What is your interpretation of the findings?
Prompts: do you think that your data is an accurate reflection of the posters' impacts? Did anything occur locally that may have positively or negatively influenced the effectiveness of the posters?
4. Do you plan to continue using the posters? If so, how?
5. Do you have any final comments about the dog fouling poster experiment that you would like to share as part of the evaluation?



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