

1 A review of UK Media coverage of physical activity associated with the  
2 publication of special issues in a high impact medical journal

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15

16 **Abstract**

17

18 **Objectives:** The media is a substantial vehicle for conveying public health messages to the  
19 public. This study examined the extent to which the publication of special issues in a high  
20 impact medical journal in 2012 and 2016 generated media interest in physical activity and  
21 health in the UK and explored the main issues that were reported.

22 **Study Design:** Systematic narrative review of print media.

23 **Methods:** Relevant print news articles were identified by searching Factiva and Google  
24 News. The timeframe of each search was two weeks, using the publication date of each  
25 special issue as the anchor point. Overall, 20 articles were included in the analysis for 2012  
26 and 37 articles for 2016.

27 **Results:** The news media coverage was encouraging for the profile of physical activity and  
28 health. In 2012 and 2016, common themes included the benefits of physical activity and the  
29 risks of being inactive, comparisons between mortality rates from physical inactivity and  
30 smoking, and the recommended volume of physical activity to benefit health.

31 **Conclusions:** The profile given to an issue through prestigious scientific publication is one of  
32 the levers for community attention and policy change. Efforts are needed to further utilise  
33 the media for improving policy, practice and public awareness, which are antecedents to  
34 population health change.

35

36 **Keywords:** media, content analysis, physical activity

37

## 38 Introduction

39

40 The history of epidemiological evidence into the health benefits of physical activity dates  
41 back to the 1950s <sup>1,2</sup>. Based on this cumulative evidence, 150 weekly minutes of moderate  
42 intensity physical activity are recommended for health <sup>3,4</sup>. Data suggest that many adults in  
43 the UK do not achieve recommended physical activity levels <sup>5</sup>, and also that awareness of  
44 the current physical activity recommendations is relatively low <sup>6</sup>.

45

46 The production and distribution of health information, for example through leaflets,  
47 newspaper articles, and radio and television adverts, are aimed at three key outcomes:  
48 increasing knowledge of accurate health information; changing health related attitudes; and  
49 influencing health behaviours <sup>7</sup>. Whilst the media environment is ill-defined, several facets  
50 are useful to consider: delivery platforms and channels; the amount of media consumed;  
51 the content of the media consumed; and the commercial purpose of media content <sup>7</sup>.

52

53 Whilst many people now prefer to 'read on screen', newspapers – including print and online  
54 – are still consumed by a large proportion of the UK adult population on a regular basis <sup>8,9</sup>.

55 Whilst it is not well understood how effective print media can be in changing knowledge,  
56 attitudes, and behaviour towards physical activity (in contrast to mass communication  
57 campaigns, for example), it is important to ensure that media coverage is based on sound  
58 evidence, is presented in a balanced and fair way, is represented in the way the authors of  
59 the evidence intended, and that the exposure of an issue is proportional to its importance.

60

61 In 2012, the medical journal, the Lancet, published a special issue on the topic of physical  
62 activity, thematically aligned to coincide with the London 2012 Summer Olympic Games  
63 (<http://www.thelancet.com/series/physical-activity>). The Lancet strives to make science  
64 widely available and at a global scale, and achieves this through publishing globally relevant  
65 papers and ensuring that the research receives appropriate exposure and mobilization to  
66 influence policy and practice <sup>10</sup>. As one of the most prestigious medical journals, the  
67 publication of a Lancet special issue denoted a landmark development for the field of  
68 physical activity and health, and provided an important opportunity to raise awareness of  
69 the issue.

70  
71 The special issue was launched on 18 July 2012, less than two weeks prior to the start of the  
72 London 2012 Olympics. The focus of this Lancet series was to identify physical inactivity as a  
73 global health issue relevant to non-communicable disease prevention. In addition, the  
74 coincident timing with the London Olympics was intentional, with the aim of increasing  
75 appreciation of the societal and health benefits of physical activity for everyone, alongside  
76 the (Olympic) investment in elite sport and “mega-events” <sup>11</sup>. The 2012 Lancet physical  
77 activity series comprised five papers covering the topics of: the global burden of physical  
78 inactivity; levels and trends in physical activity worldwide; correlates of physical activity;  
79 evidence-based strategies for effective physical activity programs; and how a multi-sector  
80 and systems-wide policy approach is essential for increasing population-levels of physical  
81 activity.

82  
83 A second special issue on physical activity was published in the Lancet in 2016, published to  
84 coincide with the Rio de Janeiro Olympic Games

85 (<http://www.thelancet.com/series/physical-activity-2016>). The 2016 special issue updated  
86 the evidence on physical activity and health, surveillance, interventions and policy. It  
87 featured the first global estimate of the economic burden of physical inactivity and the  
88 largest harmonized meta-analysis on the joint health effects of physical activity and  
89 sedentary (sitting) behavior.

90

91 This paper aimed to examine the newspaper coverage generated by the 2012 and 2016  
92 Lancet special issues in the UK. The specific research questions were:

- 93 1) How much newspaper coverage was generated in the UK following the publication of  
94 the Lancet 2012 and 2016 special issues on physical activity?
- 95 2) What types of issues related to physical activity featured in the media coverage?
- 96 3) How was the issue of physical activity framed within the media?
- 97 4) How did media coverage of the 2012 and 2016 special issues differ?

98

99 The study was restricted to the UK media for several reasons. The culture of media varies by  
100 country and thus taking a more global view of media coverage may mask the differences in  
101 the way the media operates nationally. The launch events for both series of the Lancet were  
102 held in the UK, which may have led to greater interest from the media to that observed in  
103 other countries. Furthermore, focusing on the UK (as opposed to global coverage) provided  
104 a clear denominator of media coverage for analysis.

105

106

## 107 **Methods**

108

109 Relevant media articles were identified by searching Factiva ([www.factiva.com](http://www.factiva.com)) and Google  
110 News (<http://news.google.com>). Google News covers over 50,000 news sources worldwide.  
111 Factiva covers only 10,000 international news sources but covers all UK national and many  
112 local newspapers. By including both of these major databases the search can be presumed  
113 to be comprehensive. The search was conducted on 27 October 2016 using the search terms  
114 'physical activity' AND 'Lancet'. The timeframe of each search was two weeks, using the  
115 publication date of each Lancet series as the anchor point. Thus the analysis covered the  
116 timeframes of 18 July to 1 August 2012 and 27 July to 10 August 2016; beyond these dates  
117 the news feeds were overwhelmed with reporting the respective Olympics. The Factiva  
118 search was limited to 'Newspapers: UK' (print and online) and the Google News search was  
119 filtered by 'UK region', excluding blogs. All articles were considered relevant if they focused  
120 on physical activity and made reference to the Lancet special issues.

121

122 The data were analysed using a combination of quantitative and qualitative techniques. A  
123 data extraction sheet was developed to structure the qualitative content analysis. This  
124 included a series of *a priori* codes which were developed by the research team based on the  
125 anticipated content of the media coverage. Each article was read by two members of the  
126 research team [KM and BM]. One researcher [KM] extracted each line of content from each  
127 article and attempted to assign it to a code using the data extraction sheet. Additional codes  
128 were created for relevant data which did not fit any of the pre-existing codes. The second  
129 researcher [BM] followed the same coding procedure. Three members of the research team

130 [KM, BM, JC] reviewed the two sets of analysis and discussed any discrepancies between the  
131 assigned codes. These discrepancies were resolved through discussion until consensus was  
132 reached on the most appropriate code for each sentence of text. Frequencies were  
133 calculated to determine the total volume of media coverage related to each code in both  
134 2012 and 2016. Qualitative content analysis was used to explore the ways in which the  
135 media coverage reported on the ten most common themes in each year. This involved a  
136 review of the similarities and differences in the reported content as well as a critique of the  
137 ways in which physical activity was framed in the media.

138

## 139 **Results**

140

141 A total of 27 articles were identified for 2012 and 46 for 2016. After removing duplicates  
142 and articles that were irrelevant, 20 articles were included in the analysis for 2012 and 37  
143 articles for 2016 (see Fig 1). For 2012, one study was duplicated and 6 articles were deemed  
144 irrelevant; three of these were quizzes containing a question on physical activity prevalence,  
145 one was about malaria, one was about unfit Indians, and the other focused on obesity and  
146 the fast food industry. For 2016, two articles were duplicated and seven were deemed  
147 irrelevant. The focus of each of the excluded papers was: obesity and brain function,  
148 depression, acupuncture and dementia, the importance of children playing outdoors,  
149 standing desks, swimming and arthritis, and whether transgender should be diagnosed as a  
150 mental disorder.

151

152 Fig 1: Flow chart for the identification of relevant media articles

153

154 The full list of included articles can be found in Appendix 1. Table 1 shows the number and  
155 percentage of media articles published on the launch day and on each day during the  
156 succeeding two week period in both 2012 and 2016. In 2012, 60% of media coverage was  
157 published on the launch day of the Lancet special issue. 25% was published during days 1 to  
158 7 post launch and 15% was published between days 8 and 14. In 2016, just 5% of media  
159 coverage appeared on the launch day, with the majority of media articles (65%) being  
160 published the following day. Consequently in 2016, almost 90% of articles were published  
161 during days 1 to 7 post launch, and the remaining 5% were published between days 8 and  
162 14. The 2016 articles were, on average, longer than the articles published in 2012, by  
163 approximately 200 words.

164

165 Table 1. Number of articles published on the launch day of each special issue and during the  
166 succeeding two week period.

167

168 All text was assigned to a theme which summarised the broad content or intent of each  
169 sentence. The leading themes in each year are shown in Table 2.

170

171 Table 2. Frequency of the ten most commonly reported themes from each Lancet series, in  
172 descending order

173

174 The Lancet special issue in 2012 generated 20 media articles, with most reporting on the  
175 health benefits of physical activity. This was generally framed as being something that was  
176 previously unknown (e.g. *“researchers have said the consequences of a layabout lifestyle*



177 *may be more serious than previously thought*"<sup>12</sup>). Ten of these articles reported on the  
178 similarities in global mortality attributable to physical activity and smoking – a novel  
179 conclusion from the Lancet paper which re-analysed the global burden of disease and life  
180 expectancy related to physical inactivity<sup>13</sup>. This was characterised by statements such as  
181 *"Research suggests that as many as one in every 10 deaths worldwide are the result of lazy,*  
182 *inactive lifestyles - almost as many as are caused by smoking"*<sup>14</sup>.

183

184 In relation to the 2012 special issue, the media focused strongly on the international  
185 comparisons of prevalence as reported in the surveillance paper<sup>15</sup>. Thirteen articles (65%)  
186 referred to international comparisons. Ten of these papers referred to Britain being more  
187 inactive than the US with statements such as *"Bone idle Britain's are among the laziest*  
188 *people in the world and even lag behind America in the activity stakes"*<sup>16</sup>. Seven made  
189 comparisons with 'neighbouring' France and nine highlighted Britain as being the third most  
190 inactive country in Europe. Ten of these articles referred to 63% of the UK population being  
191 insufficiently active. Whilst seven articles correctly reported that this 63% of the population  
192 were failing to meet recommended physical activity levels, three articles mis-interpreted  
193 not meeting physical activity guidelines as doing almost no activity at all (e.g. *"sixty three*  
194 *percent of people in Britain take no exercise"*<sup>17</sup>). Fewer articles focused on the overall global  
195 prevalence of inactivity (n=9) and the number of deaths from inactivity globally (n=9).

196

197 Sixty percent of articles (n=12) highlighted the recommended amount of physical activity for  
198 health, of which half correctly referenced the current activity guidelines. The others referred  
199 to: old recommendations (n=3); inaccurate recommendations (n=2); or included judgements  
200 on the physical activity recommendations without quantifying the recommended amount of

201 activity (n=1) (e.g. *"For me the Government recommendations of activity per week isn't*  
202 *enough"* <sup>18</sup>).

203

204 Nine articles included a 'call to action'. These differed considerably across articles. One  
205 called for doctors to screen patients on their physical activity habits, whilst another  
206 suggested that doctors should have a *"bigger role in policy making, if only to harangue*  
207 *authorities about bicycle paths"*<sup>19</sup>. One article focused on closing the streets to cars on  
208 Sunday mornings, and another concentrated on refocusing schools away from creating  
209 prize-winning athletes towards priming all pupils to pursue physical activities. Several  
210 articles emphasised the need for governments to take greater responsibility for physical  
211 activity as a public health issue, and one specifically encouraged governments to *"make*  
212 *exercise more affordable"* <sup>20</sup>. Only one article identified a broad range of sectors and  
213 settings with a role in physical activity promotion, including government, schools, and  
214 workplaces, as well as the role of individuals in making sensible lifestyle choices <sup>21</sup>. The  
215 tenth most common theme in the 2012 media, identified in 7 articles, was an emphasis on  
216 incorporating physical activity into everyday life. The majority of these articles (n=5)  
217 emphasised walking as an ideal form of activity, particularly as 'a great way to start'. The  
218 two remaining articles mentioned commuting to work (by walking or cycling), and using the  
219 stairs, bike riding and gardening.

220

221 The 2016 Lancet series resulted in nearly twice as many media articles in the UK as the initial  
222 2012 series. The amount of physical activity needed to offset the health risks of sedentary  
223 behaviour was the most commonly cited theme in the 2016 media coverage, with all but  
224 one article highlighting this key finding. The phrasing was commonly aimed at allaying fears

225 among office workers about the detrimental impact of sitting on their health, stating that  
226 the dangers of sitting could be 'offset' or 'undone' by an hour per day of physical activity.  
227 Almost as commonly cited, was that this hour of activity can be achieved through  
228 unstructured lifestyle activities such as walking (e.g. *"Workers who spend the day sitting at a*  
229 *desk should walk for an hour a day to offset the health risks of their sedentary jobs, a*  
230 *comprehensive analysis has shown"* <sup>22</sup>).

231

232 Over 85% of articles mentioned either the benefits of being active or the risks of being  
233 inactive (n=32 articles in total). All of these identified the risks of premature mortality from  
234 leading an inactive lifestyle, with some taking a more specialised focus. Five articles alluded  
235 to the mechanisms underlying the health outcomes of an inactive lifestyle, for example by  
236 explaining that *"Experts believe that failing to do enough exercise gradually reduces our*  
237 *body's ability to carry out essential tasks. This includes a reduction in lung capacity, issues*  
238 *with digestion and the breakdown of sugar - eventually exposing us to numerous health*  
239 *problems"* <sup>23</sup>. Seven articles referred to the mechanisms underlying the risks of sedentary  
240 behaviour, with statements such as *"The studies could not pinpoint why long periods of*  
241 *sitting were specifically risky. But the scientists involved said movement appeared to assist*  
242 *the body's metabolism, while sedentary periods could influence hormones such as leptin,*  
243 *which regulate energy balance"* <sup>24</sup>. Only one article explicitly emphasised that working in an  
244 office and 'sitting' is not the primary concern, but rather a lack of physical activity. This  
245 article stated: *"It has nothing to do with working in an office. It's not even really about*  
246 *sitting but about lack of movement. As several reports have also found, standing for long*  
247 *periods doesn't do you much good either.... Among those subjects of the research who sat*  
248 *for at least eight hours daily and managed less than five minutes activity (more people than*

249 *you might think) mortality rates were 9.9 per cent. But for those who spent just as long*  
250 *seated, but managed at least an hour's exercise, death rates drop to 6.2 per cent"* <sup>25</sup>.

251

252 An explanation of the methods used to generate the results was included in 24 articles  
253 (60%). Several articles also highlighted the limitations of the research, for example: "*Like all*  
254 *population studies, findings in the paper are based on estimates, as it would be impossible to*  
255 *quantify the exact contribution of a sedentary lifestyle to each case of disease. The study*  
256 *used the World Health Organization (WHO) guidelines for physical activity – a modest 150*  
257 *minutes per week – and relied on individuals' self-reported data, which is not the most*  
258 *reliable"* <sup>26</sup>. Such scrutiny of the research methods did not feature in the media coverage of  
259 the 2012 Lancet series.

260

261 Twenty-two out of 37 articles included a 'call to action'. Over half of these articles urged  
262 office employers to be understanding about staff taking short breaks from their desks.

263 Several articles identified a range of ways in which employers might encourage more  
264 physical activity among their workforce including the provision of gyms and showers, tax  
265 breaks and the use of activity trackers. One article recommended that workplaces consider  
266 introducing policies such as not sending emails to colleagues who are situated in the same  
267 building and the installation of sit-stand desks. Of the 21 articles which referred to the  
268 causes of inactivity and high levels of sedentary behaviour, all made reference to the  
269 workplace as a major contributor. As such, it is unsurprising that employers were identified  
270 as having a key role to play in addressing the high volume of sedentary behaviour in modern  
271 society. Compared to 2012, less focus was placed on the need for individuals to take  
272 responsibility for their own lifestyle choices, which was only mentioned in six articles. In

273 addition, six articles emphasised the role of government policies in changing lifestyle  
274 behaviour and making environments more supportive of physical activity. Several papers  
275 directly quoted the suggested actions made by the study authors which included placing bus  
276 stops further apart, closing streets to cars on weekends, and opening free gyms in parks.  
277 One article expressed a negative perspective on the authors' recommendations for making  
278 environmental changes, as quoted here: *"It is comforting to be told that working less in an  
279 office is good for you, but the experts go too far as usual by urging measures of compulsion.  
280 They ask that bus stops be placed further apart, and that streets be closed to traffic during  
281 weekends, to enforce more walking. This might improve the health of the office worker, but  
282 what about the old? Don't they care about them?"*<sup>27</sup>.

283

284 The physical activity recommendations were mentioned in more than half of the articles in  
285 2016 (n=20). Three articles referred to the difficulty for most people to achieve the current  
286 physical activity recommendations with statements such as: *"For many of us with sedentary  
287 jobs, meeting the World Health Organization's target of 150 minutes of exercise per week  
288 can be difficult"*<sup>28</sup>. Given the finding in the Ekelund paper<sup>29</sup>, that one hour of exercise per  
289 day may be necessary to counteract the negative health effects of prolonged sitting, many  
290 articles noted that the current UK and World Health Organization (WHO) guidelines on  
291 physical activity may be insufficient. For example, statements such as that quoted here  
292 appeared in 13 articles: *"These findings suggest that in order to eliminate this additional risk  
293 of premature death, a greater level of physical activity is required than that which is  
294 recommended by current physical activity guidelines"*<sup>30</sup>. Of the 20 articles that 'quoted' the  
295 UK and/or the WHO physical activity recommendations, less than half conveyed exactly  
296 accurate information. Eleven papers claimed or inferred that the recommendation is to

297 achieve 30 minutes of physical activity per day and suggested that this should now be  
298 doubled, in light of the new finding that 60 minutes of physical activity per day is needed  
299 (specifically) to offset the risks of sedentary behaviour <sup>29</sup>.

300

301 Whilst the amount of activity needed to offset the detrimental effects of sedentary  
302 behaviour was cited in 36 articles, the economic costs of inactivity – an analysis which was  
303 also the first of its kind and an anticipated big news story – was cited by only 19 articles.  
304 Nineteen articles also reported on the global burden of mortality from physical inactivity in  
305 comparison to smoking, which was an issue carried forward from the 2012 series.

306

307 The tenth most commonly cited issue in the 2016 Lancet series (mentioned in 18 articles)  
308 was that the recommended one hour of activity could be accumulated throughout the day,  
309 and that any amount of activity – even if the full hour is not achieved – is better than  
310 nothing. For example: *“You can split it up over the day but you need to do at least one hour”*  
311 <sup>31</sup> and *“An hour of physical activity per day is the ideal, but if this is unmanageable, then at*  
312 *least doing some exercise each day can help reduce the risk”* <sup>23</sup>.

313

## 314 **Discussion**

315

316 Overall the media coverage of physical activity following the launch of the Lancet special  
317 issues was encouraging for the profile of physical activity and health. The Lancet series  
318 presented an opportunity to target community and policymakers awareness of physical  
319 activity as an issue, whereas previously it had been considered the relatively ignored

320 “Cinderella” risk factor <sup>32</sup>. Twenty articles appeared in the UK media in 2012, covering many  
321 major newspapers, and this coverage almost doubled in 2016. As well as a greater number  
322 of articles being published in 2016, these articles were, on average, longer than the articles  
323 published in 2012. The increase in coverage between 2012 and 2016 could reflect increasing  
324 interest from the media in public health issues including physical activity, the high levels of  
325 interest from the media in the topic of sitting and health, and increased efforts by  
326 researchers to gain media exposure of scientific advancements in knowledge. The increase  
327 in coverage of physical activity in the media over time is consistent with what has been  
328 observed in other countries <sup>33</sup>. Interestingly, whereas the majority of media articles  
329 appeared on the same day as the launch in 2012, the majority were published on the day  
330 after the launch in 2016, suggesting less groundwork may have been undertaken in 2016 to  
331 brief the major media outlets in advance.

332

333 Media coverage in both 2012 and 2016 covered several common themes including the  
334 benefits of physical activity and the risks of being inactive, comparisons between mortality  
335 rates from physical inactivity and smoking, and the recommended volume of physical  
336 activity to benefit health. Over half the media articles in both Lancet series’ made reference  
337 to the physical activity recommendations, relevant to increasing community awareness of  
338 recommended behaviours. Across the collective media reporting in 2012 and 2016, over half  
339 the articles conveyed inaccurate information related to recommended physical activity  
340 levels. The most common mis-reporting was that the recommendation was the former “30  
341 minutes a day” recommendation, and that this should be doubled to offset the risks of  
342 sedentary behaviour. Furthermore, several articles mis-interpreted ‘insufficiently active’  
343 (failing to meet recommended physical activity levels) as undertaking no physical activity at

344 all. It is critical for researchers to ensure that media outlets fully understand the research  
345 evidence in order to avoid this sort of mis-reporting, which is likely to cause confusion  
346 among the general public.

347

348 In 2016 there was a stronger emphasis on how the recommended activity levels could be  
349 achieved through undertaking unstructured lifestyle activities as opposed to more formal  
350 gym or sports activities. This information is important for persuading the public that the  
351 current physical activity recommendations are achievable.

352

353 Media attention tends to focus on a key headline finding <sup>34</sup>. In 2012 there were two major  
354 headlines that grabbed the media's attention; how inactive and 'lazy' Britain was as a  
355 nation, and that physical inactivity is responsible for as many deaths annually as smoking.  
356 The headline on low levels of physical activity in Britain was an unintended focus of media  
357 attention. Comparative "rankings" between nations is problematic, as the use of different  
358 physical activity survey questions produces different prevalence estimates. Standardisation  
359 of physical activity measurement across countries remains a challenge to overcome.

360

361 In 2016, all but one article focused on the headline finding of the Ekelund paper, that an  
362 hour a day of physical activity offsets the risks of eight hours of sitting <sup>29</sup>. The results  
363 presented in the Ekelund paper came from the largest harmonized meta-analysis on the  
364 joint health effects of physical activity and sedentary behavior. Thus the scale of the data,  
365 the novelty of the analysis, and the practical applicability to the majority of the population  
366 with office based occupations likely contributed to media interest. A key finding from the  
367 Ekelund paper, which was not well reported, is that for the segment of the population who



368 are not physically active, prolonged sitting still poses a clear dose-response synergistic risk,  
369 with the combination of both *low active* and *high sitting* equivalent to the global risks  
370 attributable to smoking or obesity. A second innovative paper in 2016 presented the first  
371 global estimate of the economic burden of physical inactivity<sup>35</sup>, but was largely overlooked  
372 in UK media coverage. It is possible that prolonged sitting is still viewed as a ‘novel’ and  
373 interesting risk behavior and thus more easily attracted media attention. Another reason for  
374 high media interest in the Ekelund paper may be that it refuted the oft (incorrectly)  
375 reported message that ‘high levels of sitting time are harmful to health no matter how much  
376 exercise one undertakes’<sup>36</sup>.

377

378 Many articles in both 2012 and 2016 included a ‘call to action’. In 2012, this call to action  
379 focused on many different actors with a role in physical activity promotion, including  
380 governments, researchers, doctors, schools, employers, and individuals themselves. In the  
381 2016 special issue, the focus on office workers attenuating the health consequences of a  
382 sedentary job led to a call to action which focused primarily on governments and employers,  
383 and workplace interventions. Only five of the 22 articles that included a call to action in  
384 2016 made reference to other sectors and settings for action. Of concern was that over half  
385 of the 2016 reports which included a call to action urged office employers to be  
386 understanding about staff taking short breaks from their desks, which was not a message  
387 which was included in any of the Lancet 2016 papers. Simply taking short breaks from sitting  
388 is unlikely to contribute to achieving the necessary one hour of daily physical activity (of at  
389 least moderate intensity) required to combat the risks of sedentary behaviour. Therefore  
390 suggesting to the public that taking short breaks from sitting is sufficient, is misleading and

391 counter-productive to the mission to promote population health through increased physical  
392 activity.

393

394 The Lancet special issues on physical activity in 2012 and 2016 were launched to coincide  
395 with the summer Olympic Games. The rationale for this was to make the case that  
396 investment in elite sport should be balanced with investment in creating a more active  
397 society <sup>11</sup>. More references were made to the Olympics in the 2012 articles, which may be  
398 linked to the Olympics being hosted in London. Whilst the coincident Olympics was referred  
399 to in several articles, none explicitly picked up on the issue of resource allocation for elite  
400 sport versus physical activity, and the Lancet series' have not managed to leverage the  
401 Olympics to promote sport for all. If this is an aim of future Lancet series' on physical  
402 activity, it may be necessary to include papers that focus specifically on the potential of  
403 sport to promote changes in population health and the recommended intervention  
404 strategies. Furthermore, the lead researchers may have to raise this issue of resource  
405 allocation more explicitly in interviews and/or other interactions with the media.

406

407 Whilst the research community acknowledges the importance of the Lancet special issues in  
408 raising the profile of physical activity as a major risk factor for non-communicable diseases,  
409 more research is needed to understand the impact of the Lancet series' and the associated  
410 media coverage in increasing public knowledge and awareness. Furthermore research is  
411 needed to understand the impact of these special issues on national and international  
412 policy, and any subsequent impact on public health.

413

414 Several limitations of this research should be noted. Firstly, as with all media analysis, the  
415 findings and conclusions rely on researcher interpretation. The consensus process, involving  
416 three members of the research team, helped to ensure that the findings reflect the media  
417 content and were not unduly influenced by individual opinion. Secondly, media content  
418 analysis is often devoid of a theoretical base or attempts too liberally to draw meaningful  
419 inferences about relationships and impacts. As such this paper reports on the content of the  
420 media coverage but does not attempt to make inferences about the potential impact of the  
421 media coverage on knowledge, attitudes or behavior towards physical activity. It is not  
422 possible to determine the underlying causes of increased media attention between 2012  
423 and 2016. It is possible that media activity has increased generally over time. It is also  
424 possible that the press strategy of the Lancet varied between the 2012 and 2016  
425 publications and the small number of media articles published on the launch day in 2016 in  
426 comparison to 2012 seems to support this. Finally, whilst this research provides a  
427 comprehensive analysis of UK media coverage related to the Lancet 2012 and 2016 special  
428 issues, the findings are not likely to be generalizable to other contexts.

429

430 This is the first study to explore the impact of prestigious scientific special issue publications  
431 on media interest in the topic of physical activity. A further special issue is planned to  
432 coincide with the 2020 Olympic Games in Tokyo. This will shed more light on trends in  
433 media coverage on this topic over time. In addition, research should be undertaken at the  
434 time of release, to determine the impact of physical activity related media coverage on  
435 public awareness of the topic, as well as attitudes and behaviour.

436

## 437 **Conclusions**

438

439 The Lancet physical activity series' attracted considerable attention in the UK media. This  
440 paper has highlighted the key issues that were reported in the media, as well as the ways in  
441 which the Lancet series' content was framed. Raising awareness of physical inactivity can  
442 assist the broader prevention debate. Country comparisons of physical activity prevalence  
443 seem to capture media interest, although substantial caveats exist where there are different  
444 surveillance questions used to estimate prevalence. The Lancet series' contextualised  
445 physical activity, not just in a health setting, but as a policy issue for multiple sectors. Ways  
446 to address physical inactivity was a focus of the media reporting, which could assist future  
447 cross-sectoral action. If a key objective of the Lancet special issues is to make the case for  
448 greater investment in physical activity and public health, compared to resource allocations  
449 to elite sport, this needs to be made more explicit in media reports. The profile given to an  
450 issue through prestigious scientific publication is one of the levers for community attention  
451 and policy change. Efforts are needed to better utilise the Lancet special issues for  
452 improving policy, practice and public awareness, which are antecedents to changes in  
453 population health.

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456 The authors declare that they have no competing interests.

457

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462 KM and JC conceived the idea for the paper. BM undertook the searches with advice from  
463 KM and JC. KM and BM undertook the analysis, which was verified by JC. KM drafted the  
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465 revised, and approved the final manuscript.

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467 **Ethical approval**

468 This study involved a review of publically available documents. No participants were  
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