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3 **Review**  
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5 **Voluntary agreements between government and business – a scoping**  
6 **review of the literature with specific reference to the Public Health**  
7 **Responsibility Deal**  
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12 **Abstract [200 words]**  
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14 Objectives: A scoping review was conducted to synthesise the findings of evaluations of  
15 voluntary agreements between business and government. It aimed to summarise the types of  
16 agreements that exist, how they work in practice, the conditions for their success and how  
17 they had been evaluated.

18 Methods: Voluntary agreements were included if they involved a transparent signing-up  
19 process and where businesses agreed to carry out specific actions or to achieve specific  
20 outcomes. Studies of any design published in English were included.

21 Results: 47 studies were identified. Voluntary agreements may help to improve relationships  
22 between government and business, and can help both parties agree on target-setting and data-  
23 sharing. Governments may also use the experience to help develop subsequent legislation.  
24 For voluntary agreements to be successful, targets should be ambitious and clearly defined,  
25 with robust independent monitoring. Public knowledge of agreements can help encourage  
26 participation and ensure compliance.

27 Conclusions: If properly implemented and monitored, voluntary agreements can be an  
28 effective policy approach, though there is little evidence on whether they are more effective  
29 than compulsory approaches. Some of the most effective voluntary agreements include  
30 substantial disincentives for non-participation and sanctions for non-compliance. Many  
31 countries are moving towards these more formal approaches to voluntary agreements.  
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33 *Keywords:* literature review; public health; evaluation; voluntary agreement  
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36 **Main text: 5110 words**  
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42 **1. Introduction**

43 The Public Health Responsibility Deal (RD), launched in England in March 2011, aims to  
44 bring together public sector, academic, commercial and voluntary organisations in five  
45 networks (covering food, alcohol, physical activity, health at work and behaviour change) to  
46 help meet public health goals. Central to the approach is the development of collaborative  
47 relationships between business, the voluntary sector and government. The RD was described  
48 as follows by the Department of Health [1]:  
49

50 *“The Public Health Responsibility Deal tap[s] into the potential for businesses and other*  
51 *organisations to improve public health and tackle health inequalities through their influence*  
52 *over food, alcohol, physical activity and health in the workplace... Partners signing up ...*  
53 *have committed to take action to improve public health. This action is expressed as a series*  
54 *of pledges covering food, alcohol, physical activity and health at work. These pledges are*  
55 *not intended to replace Government action.”*

56

57 In his foreword to the launch report [2], the Secretary of State for Health also stated that:

58

59 *“By working in partnership, public health, commercial and voluntary organisations can*  
60 *agree practical actions to secure more progress, more quickly, with less cost than*  
61 *legislation”.*

62

63 The RD acts as a mechanism which aims to bring about voluntary partnerships to produce  
64 specific pledges and is one among several national [3] and international [4] voluntary  
65 agreements designed to contribute to public health objectives. Some previous voluntary  
66 agreements have reported positive results. For example the EU Pledge Programme, a  
67 voluntary agreement by food and drink companies to change their advertising strategies  
68 targeted at children has been independently monitored on an annual basis and reports a  
69 positive record of compliance [4]. However, drawing on the long-standing experience of  
70 tobacco control [5, 6], the public health community has been sceptical of the long-term  
71 effectiveness of such voluntary initiatives. Investigations into the public health effectiveness  
72 of previous voluntary agreements by the food and drinks industries to self-regulate have  
73 found the agreements to be inadequate [7], with discrepancies between promised and actual  
74 changes made, [8, 9] and little sign that they have been effective in reducing consumption  
75 and reducing harm [10, 11].

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77 One of the main criticisms which has been levelled at voluntary agreements like the Public  
78 Health RD is that industry’s views and interests are prioritised, and that organisations with  
79 financial and commercial interests that may be at variance with public health goals are put in  
80 a position to set the agenda for health improvement [12]. Critics also point to evidence that  
81 government regulation is more effective in bringing about public health benefits, as supported  
82 by studies of the positive health impact of alcohol control policies [11, 13-15], and have  
83 suggested that voluntarism means that governments have largely renounced their  
84 responsibility to implement a comprehensive, evidence-based and cross-sectoral strategy to  
85 improve the public’s health [16].

86

87 Since there is experience of similar agreements outside public health, there is a strong case  
88 for exploring the conditions and the degree to which these voluntary agreements are effective,  
89 and whether there are lessons for public health and the development of the RD to be learned  
90 about the conditions affecting the success, or lack of success, of previous voluntary  
91 agreements. This paper reports on the findings of a scoping review on the operation and  
92 evaluation of such voluntary agreements between government and business. The review was  
93 undertaken as part of a wider project sponsored by the Department of Health in England to  
94 help plan evaluation of the RD in England. Its objectives were to identify the rationales for  
95 voluntary agreements in public health and other sectors, and to identify their impacts and the  
96 conditions that appeared to be associated with more and less successful agreements in terms  
97 of public policy goals. It also aimed to obtain pointers to ways in which the RD could be  
98 changed or implemented differently to enable it to operate more effectively. The review  
99 therefore sought to answer the following specific questions:

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1. What are the different types of voluntary agreements?
2. Why do governments develop voluntary agreements?
3. Why do businesses join voluntary agreements, and which businesses join?
4. How are voluntary agreements received by those who do or do not participate?
5. What are the potential problems and enabling factors? Are voluntary agreements effective in achieving their goals?
6. Are voluntary agreements worthwhile (do benefits exceed costs)? and,
7. How have voluntary agreements been evaluated and what can be learned for future evaluations of voluntary agreements?

## 111 **2. Methods**

112 Scoping reviews aim “to map rapidly the key concepts underpinning a research area and the  
113 main sources and types of evidence available... where an area is complex or has not been  
114 reviewed comprehensively before” [17]. Thus they are suitable for preliminary examination  
115 of a field of research, sometimes as a precursor to a full systematic review [18]. They differ  
116 from full systematic reviews in that they are conducted to identify the range and type of  
117 evidence within a field, without conducting an in-depth appraisal of each study. We adopted  
118 the following definition of a voluntary agreement for the purposes of the review – “a contract  
119 between the government and industry, or negotiated targets with commitments and time  
120 schedules on the part of all participating parties” [19]. The focus was on identifying evidence  
121 from previous studies of voluntary agreements between governments and businesses, within  
122 any sector, that were structurally or operationally similar to the RD.

### 123 **2.1 Inclusion criteria**

124 Voluntary agreements between governments or government bodies and individual businesses  
125 or industry groups were included, where there was a transparent signing-up process and  
126 where businesses agreed to carry out specific actions or to achieve specific outcomes.  
127 Industry sectors were classified using an amended version of the Office for National  
128 Statistics’ Standard Industrial Classification of Economic Activities [20].

129  
130 Studies evaluating processes or outcomes were included, and these could be either primary or  
131 secondary analyses. Studies of any design were eligible. Only English language studies from  
132 any country were included. Eleven databases were searched: ASSIA, Business Source  
133 Premier, Econlit, Greenfile, HMIC, MEDLINE, NHS Economic Evaluation Database, PAIS,  
134 Science Citation Index, Social Policy and Practice and Social Science Citation Index. Full  
135 details of the search strategy are available from the authors.

136  
137 Data relevant to each of the main review questions were extracted and are summarised below.  
138 Data on the setting, aims and methods of evaluation where this could be deduced were also  
139 extracted, and are summarised narratively. We did not undertake a quality assessment of  
140 included studies because of the diversity of methods and the lack of methodological  
141 information reported in many studies. This approach is consistent with the aims and methods  
142 of scoping reviews in general.

## 143 **3. Results**

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145 The search initially resulted in 2368 titles and abstracts. From these, 47 studies met the  
146 inclusion criteria, representing evaluations of 36 different voluntary agreements (Table 1 -  
147 some voluntary agreements were evaluated in more than one study). Over half were from  
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150 Europe (Table 2), and most were from the last 20 years (Table 3). Half were on general  
151 environmental agreements (e.g. improving energy efficiency) (Tables 1 and 4).  
152 The findings are presented below under the main themes/review questions.

153

### 154 ***3.1 What are the different types of voluntary agreements?***

155 A review of environmental programmes suggested that there are three categories of voluntary  
156 agreements [21]: (i) Agreements that are completely voluntary where businesses have a  
157 totally free choice on whether to join and there are no sanctions for non-compliance. (ii)  
158 Voluntary agreements that use the threat of future regulations or taxes as a motivation to  
159 participate, and (iii) Voluntary agreements implemented in conjunction with an existing tax  
160 policy or strict regulations. These agreements usually include well-specified targets,  
161 comprehensive monitoring systems and sanctions for non-compliance. The financial  
162 disincentives for non-participation in these agreements are often so costly for businesses that  
163 they may not be seen as truly ‘voluntary’.

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165 The Public Health Responsibility Deal appears to be a hybrid of the first two approaches.  
166 The current pledges on physical activity could be included under the first category, whereas  
167 the pledges on food and alcohol could be included under the second category. Although there  
168 is no specific threat of legislation for the food and alcohol industries, there appears to be an  
169 understanding among many stakeholders that there are alternative options; legislation has  
170 been identified as a potential policy approach by public health groups and has been  
171 introduced in other countries [22, 23].

172

### 173 ***3.2 Why do governments develop voluntary agreements?***

174 A government’s rationale for taking action through a voluntary agreement was described in  
175 two-thirds of the included studies, and included the perception that voluntary agreements are  
176 a cheaper, quicker alternative mechanism for changing the behaviour of business and the  
177 public compared to introducing, monitoring and enforcing legislation [24, 25]. A government  
178 may wish to be seen to take rapid action on a controversial policy issue [26, 27] or to take  
179 action whilst protecting the economic interests of the country and thus be attracted to the  
180 voluntary option. For example, in an environmental agreement in Germany there was  
181 substantial pressure from the ministry of economic affairs to attempt a voluntary approach, in  
182 order to avoid any potentially negative economic impacts of regulation [28].

183

184 Voluntary approaches may also be a result of pressure from industry, particularly where the  
185 specific industry group can exert political power [29] or where governments may adopt  
186 voluntary agreements to improve relationships with industry[30]. Governments may wish to  
187 join forces with industry to promote improvement in societal attitudes, such as in an  
188 agreement on making workplaces more inclusive [31]. Governments may also want to access  
189 industry data [32, 33], or to adopt voluntary approaches where a policy area is  
190 underdeveloped, as in the case of a voluntary agreement in Germany to gradually reduce the  
191 levels of acrylamide (a potential carcinogen) in food products [34]. Voluntary agreements  
192 may also be introduced in order to help develop subsequent legislation [33]. They may also  
193 be introduced as part of a wider policy package. A policy issue may be complex and multi-  
194 faceted, requiring a range of actions – for example, a UK agreement on alcohol labelling was  
195 seen as part of a wide-ranging campaign to raise awareness on alcohol-related harm [24].  
196 They may also be a preferred alternative, or supplement, to weak national legislation [35].

197

### 198 ***3.3 Why do businesses join voluntary agreements, and which businesses join?***

199 The initial proposal to develop a voluntary agreement often comes from industry, particularly  
200 when there is a threat of legislation [27, 36]. Businesses may do so to avoid mandatory  
201 actions, or to prepare for compliance if necessary [36]; or to avoid or reduce the financial  
202 costs related to legislation, such as financial penalties for non-compliance [37] and  
203 implementation costs [24]. Businesses may also participate in order to help governments  
204 better understand which actions and targets are achievable and which are not [33]. They may  
205 wish to achieve recognition for actions already being taken, for example if they have  
206 concluded that the likely government target is achievable and are already working towards it  
207 [26]. Businesses may also join a voluntary agreement for marketing purposes, especially if  
208 they have a poor public image [25, 30] or if there is increasing pressure from the public or  
209 from lobby groups [38, 39]. Participating in a voluntary agreement may be seen by the public  
210 as better behaviour than being ‘forced’ to take action through legislation, thereby raising the  
211 reputation of a firm [27]. Some voluntary agreements explicitly offer public recognition as  
212 an incentive to businesses, for example, by allowing businesses to use a logo on products  
213 [27], by publishing a list of participants [40] or by offering awards for outstanding  
214 achievements [25]. Businesses may also simply want to improve their relationship with  
215 government [41], and to take advantage of incentives. For example, governments have  
216 offered an expensive environmental audit of a business [42], have conducted workshops and  
217 provided an information exchange to facilitate the sharing of information and learning  
218 between businesses and the regulatory agency [25] and have offered exclusive access to  
219 advantageous business locations [39].

220

221 Voluntary schemes that are highly visible to businesses and the public appear to have high  
222 participation rates and coverage. Public image can be used to help encourage compliance and  
223 to strengthen an agreement: for example a public announcement of poor performance by a  
224 firm within an agreement can be used as an effective sanction and encourage compliance.

225

226 Some agreements encountered difficulties persuading businesses to sign up. For example, a  
227 UK agreement on alcohol labelling was unsuccessful in recruiting some of the major alcohol  
228 producers, resulting in limited market coverage and problems with achieving the target which  
229 was based on a percentage of the market share. This was believed by some commentators to  
230 be due to of a lack of commitment to labelling on the part of the drinks industry [24].

231

232 However, agreements signed with industry groups or closely linked to large, prominent  
233 national schemes appear to have high participation rates and/or coverage [26, 43]. High  
234 participation rates were also found for agreements that offered a reduction in, or avoidance  
235 of, a costly tax [44-46].

236

237 Some studies investigated differences between participating and non-participating businesses.  
238 For example, an evaluation of a voluntary agreement on pollution prevention in the United  
239 States found that large businesses, those with high advertising expenditures, those with small  
240 market shares and those already participating in other voluntary environmental programs  
241 were most likely to participate [25]. In one Chinese study, businesses that participated in a  
242 voluntary agreement already had good management and monitoring systems, as well as high  
243 levels of social responsibility [47].

244

245

### 246 ***3.4 How are voluntary agreements received by those who participate and those who do not?***

247 Nine studies investigated how voluntary agreements were received by interested parties. In  
248 five out of six studies of those directly involved in a voluntary agreement (governments and

249 businesses), the participants viewed the agreements positively [27, 32, 40, 48, 49]. Five  
250 studies presented data on the opinions of those not directly involved in a voluntary  
251 agreement. Two studies found that environmental organisations held positive opinions about  
252 agreements [49, 50], and another three studies found concerns expressed by those outside a  
253 voluntary agreement [26, 27, 37]. In a UK agreement on energy efficiency in the chemical  
254 industry, doubts had been expressed as to whether the targets represented a real improvement  
255 [26].

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### 258 ***3.5 What are the potential problems and enabling factors with voluntary agreements?***

259 There are many potential barriers to successful implementation of a voluntary agreement.  
260 Conflict within government may result in a lack of a credible threat of legislation, thus  
261 resulting in a stronger negotiating position for businesses. Governments may be concerned  
262 that legislation could reduce consumer choice by reducing the number of products entering  
263 the market – for example, because of strict alcohol labelling standards [24]. In addition,  
264 industry may encourage a government to introduce a voluntary agreement by arguing that  
265 proposed legislation would primarily have a negative impact on sales, resulting in  
266 unemployment [51]

267

268 Specific problems identified here relate to the content of the agreement, the signing-up  
269 process, the targets agreed, incentives, sanctions, monitoring of compliance, management of  
270 the agreement and non-government support for implementation.

271

272 Some agreements may be limited by focusing only on one aspect of a problem [28, 37, 52-  
273 54]. For example, a UK agreement on tobacco advertising only focused on restricting poster  
274 advertising, even though shop-front advertising was more prevalent [53, 54]. However,  
275 although a voluntary agreement may not include all important measures to address a specific  
276 policy issue, it may be viewed as a significant development which can subsequently be built  
277 upon [37].

278

279 If an agreement does not involve a strong commitment, its achievement depends solely on the  
280 good will of businesses to take the actions as agreed [31, 37]. Requiring senior managers to  
281 sign an agreement may help to ensure an organisation's commitment to achieving the targets  
282 set [27]. However, this is only the case if senior managers are keen to implement the agreed  
283 measures and to support the staff members implementing the changes [42]. Some voluntary  
284 agreements are signed by industrial associations, which may result in a risk of  
285 communication difficulties with individual member firms, and potential non-compliance [26].  
286 In an Italian environmental agreement signed by local industrial associations, only 22% of  
287 constituent businesses had heard of it [32].

288

289 Some targets may not be ambitious enough [30, 55]. Some agreements set targets purposely  
290 low at first to allow a settling-in period and then make them more stretching [36]. Some  
291 agreements may gradually introduce new measures, thereby allowing potentially harmful  
292 business practices to continue for a period of time. For example, a UK voluntary agreement  
293 on tobacco advertising allowed businesses to continue to use old health warnings for  
294 consumers even though new warnings had been developed [56].

295

296 Clearly defined agreements are an enabling factor; conversely a lack of clearly defined  
297 targets may be seen as a lack of commitment to the proposed actions. Some agreements may  
298 be complex or ambiguous, making it difficult to ascertain whether the targets have been

299 achieved. For example in the case of a UK agreement on tobacco advertising, it was not clear  
300 what constituted a breach in the agreement [53, 57]. Targets that are not quantifiable or that  
301 lack time frames make it extremely difficult to assess achievement [28, 32, 37, 42].

302

303 Some voluntary agreement targets may represent minimal actions. In a UK agreement on  
304 energy efficiency, it was found that the main driving factors for improvement would still  
305 have existed without the agreement, including the fact that businesses were already working  
306 towards the target under a different voluntary programme [26]. Others may omit important  
307 aspects and allow businesses and individuals to circumvent the measures. For example, a  
308 payment ban on internet tobacco sales in the United States only applied to credit cards and  
309 not to personal cheques, allowing internet companies to continue selling tobacco [52]. If  
310 businesses perceive the targets to be unrealistic there may be issues with compliance [32, 58].  
311 In addition, if a baseline for targets is set substantially earlier than the beginning of the  
312 agreement, businesses could agree to a target that they are already on their way to achieving  
313 [26].

314

315 Incentives such as public recognition and information exchange, as mentioned above, can  
316 also be enabling, though the benefits need to be large enough to encourage good performance  
317 and need to be clearly specified by government to ensure that businesses are aware of, and  
318 can take advantage of, them [47]. It is also generally assumed that there will be a business  
319 case for participation in a voluntary agreement. Conversely agreements may include  
320 sanctions for individual businesses, or for entire industries, if they do not achieve the targets  
321 – often involving a concrete threat of legislation. There is a risk that agreements without any  
322 sanctions at all [26, 27, 30], or with no credible threat of legislation [29], may allow  
323 businesses to gain the benefits of participation with little effort to achieve the targets.

324

325 Some agreements have strong monitoring systems in place, usually with a combination of  
326 self-reporting and independent verification checks [26, 45]. Businesses usually have to  
327 provide their own self-reported monitoring data in a voluntary agreement. If the agreement  
328 process is not transparent, or if monitoring data are not published or are of poor quality, the  
329 credibility of actions taken under the agreement may be questioned [30, 32]. Strong  
330 management of a voluntary agreement by the government can help to ensure its success [42].

331

332 Non-governmental organisations (NGOs) may play a key role in the negotiation and  
333 implementation of a voluntary agreement. Involving third parties in a voluntary agreement  
334 generally increases its credibility.

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336

### 337 ***3.6 Are voluntary agreements effective in achieving their goals?***

338 All voluntary agreements include goals, based on implementing processes (e.g. introducing a  
339 recycling system) and/or achieving outcomes (e.g. reducing emissions). Agreements with  
340 vague, unquantifiable goals are difficult to evaluate, compared to those with well-specified  
341 targets and robust monitoring systems. Some agreements were considered by authors of  
342 studies to be effective based on change against targets [25, 33, 36], whilst others had  
343 difficulties with achieving their targets [24, 59-61]. Several studies found non-compliance  
344 with a UK agreement to limit tobacco advertising, with tobacco companies sponsoring events  
345 particularly appealing to young people to circumvent the agreement [60] and with  
346 advertisements breaching one or more of the agreement rules [53, 54]. A UK agreement on  
347 alcohol labelling only resulted in 15% compliance compared to a target of 50% of labels [24].  
348 This was mainly due to the non-participation of some major alcohol producers.

349  
350 A number of studies were unable to evaluate the effectiveness of voluntary agreements, for  
351 example where the targets of the agreement had not been clearly defined [42]. In general, it  
352 appears that those agreements that include appreciable sanctions for non-compliance and/or  
353 credible monitoring with publicity are most likely to be effective, though the volume and  
354 quality of evidence is such that this conclusion is tentative.

355  
356 Among the secondary positive outcomes identified in these studies were strengthened  
357 relationships between governments and businesses [26, 48, 50]. Positive impacts on attitudes  
358 and awareness of businesses on a specific issue [27, 42, 48] and increased competitive  
359 advantage for businesses over non-participants were also cited. Through working together on  
360 a voluntary agreement, governments and businesses may also benefit from improved  
361 expertise and a shared understanding on a specific issue [26] [27]. There may also be spill-  
362 over effects to non-participating businesses. For example, an evaluation of a large, national  
363 agreement on reducing the use of toxic chemicals in the United States found that non-  
364 participating businesses also achieved a reduction [25].

365  
366 Negative secondary outcomes were also observed, including compensation effects, in which  
367 businesses participate in a voluntary agreement which addresses a certain issue, but  
368 subsequently increase activities that are not included within the agreement in order to  
369 maintain profits. For example, a South African agreement banning television advertising of  
370 tobacco resulted in a large increase in radio advertising (which reaches a greater proportion of  
371 the population) and sponsorship of sporting events, including those broadcast on television  
372 [62].

### 373 374 ***3.7 Are voluntary agreements worthwhile (do the benefits outweigh the costs)?***

375 In any evaluation an assessment of the balance of benefits and costs is important to determine  
376 whether it is worthwhile to different groups of participants. Few studies attempt such an  
377 analysis or indeed any form of economic evaluation of voluntary agreements. Nine studies  
378 were found which addressed costs and/or benefits, though most were only able to calculate  
379 costs. For example, the UK government was not able to calculate the exact costs and benefits  
380 of a voluntary agreement on alcohol labelling, due to insufficient evidence on its impact on  
381 consumption [24]. Three environmental studies found that voluntary agreements were not  
382 particularly costly policy options [27, 30, 55] whereas other studies found that participation  
383 in a voluntary agreement was costly for businesses [28, 33]. Other studies found that  
384 voluntary agreements were costly to government and/or industry [42] [26, 63]. Overall, given  
385 the limited data it is unclear whether voluntary agreements in general are more or less costly  
386 than statutory legislation.

### 387 388 ***3.8 How have voluntary agreements been evaluated?***

389 The two most common types of evaluation were investigations of whether an agreement was  
390 successful in achieving its targets and investigations of the reasons why governments or  
391 businesses developed, or joined, a voluntary agreement. In general, interviews and surveys  
392 were the main methods used in process evaluations, and independent data analysis was the  
393 main method in outcome evaluations. Studies that investigated why governments and  
394 business enter voluntary agreements used a range of research methods – interviews were  
395 conducted with government representatives [30, 39, 42, 63], business representatives [27, 31,  
396 42, 63] and independent consultants involved in implementation of an agreement [42, 63];  
397 surveys of businesses were undertaken [55], and independent analysis of business-level data  
398 conducted [35, 64]. Other methods included media analysis [49]. Studies which aimed to



399 assess whether agreed targets had been achieved most often involved independent data  
400 analysis based on monitoring data [24, 34] or on businesses' self-reported data [48]. Routine  
401 data sources were also used in some cases [65]. Researchers carried out their own data  
402 collection in some studies, for example, using surveys [60] or observations of business  
403 activities [53, 57]. One study based its assessment on publicly available government and  
404 industry publications [37], and one study analysed internal industry documents [66].  
405 Scenario modelling was also used to ascertain whether an agreement was likely to be  
406 successful [67] [26].

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#### 409 **4. Discussion**

410 If properly implemented and monitored, voluntary agreements can be effective and  
411 businesses can help to achieve public policy aims, but without a full systematic review it is  
412 not possible to determine whether, and in which circumstances, they are likely to be more  
413 effective than regulation. However, it should be noted that some of the most effective  
414 agreements do not appear to be particularly 'voluntary'; that is, some of the most effective are  
415 those with substantial and financially important incentives and sanctions for non-participation  
416 or non-fulfilment of targets. The evidence on whether voluntary agreements are worthwhile  
417 (i.e. whether the benefits exceed the costs) is very limited such that no conclusions can be  
418 drawn. This lack of evidence may not matter to policymakers and industries advocating their  
419 use, if their purpose is primarily political - for example, to avoid the implementation of  
420 legislation. This has been claimed by critics of the public health RD who for example have  
421 suggested that it is in industry's interests to oppose effective binding regulation by promoting  
422 self-regulation via voluntary codes. [77]. It is also possible that assessments of the  
423 effectiveness of voluntary agreements are biased, in that there may be a tendency to over-  
424 claim their effectiveness by participants in order to avoid more coercive approaches.

425

426 However, the review has several important implications for developing voluntary agreements  
427 in public health, including the Public Health Responsibility Deal. The main one is that  
428 agreements without appreciable sanctions for non-compliance and/or credible monitoring  
429 with publicity are less likely to be effective. The available evidence also shows that a wide  
430 range of factors affects the credibility and effectiveness of a voluntary agreement between  
431 business and government. For example, the way in which industry joins a voluntary  
432 agreement is important. Sign-up by industry associations may result in wider coverage of  
433 eligible businesses, and a strong, public commitment signed by senior managers of businesses  
434 may also be effective in ensuring commitment. Targets for businesses need to be realistic,  
435 but stretching, to achieve real change. If un-ambitious targets are set, then they should be  
436 seen as a starting point to be built upon after a settling-in period.

437

438 Targets also need to be clear and specific. Complex or ambiguous targets are not useful;  
439 clearly defined, quantifiable targets with time frames, and with a specified baseline for the  
440 purpose of comparison, allow evaluation of progress and improve the credibility of the  
441 agreement.

442

443 The existing evidence also highlights the role of incentives and benefits to making voluntary  
444 agreements "work". Any benefits offered by a government as part of a voluntary agreement  
445 need to be clearly specified to help ensure that businesses are aware, and can take advantage,  
446 of them. Benefits may include low-cost measures, such as training schemes or public  
447 recognition through logos or awards, or higher-cost measures such as environmental audits or  
448 co-financing of initiatives. Sanctions for non-compliance also need to be made clear to

449 businesses, even in voluntary agreements. Without any sanctions, or in the absence of a  
450 credible threat of legislation to encourage compliance, businesses may gain the benefits of  
451 participation whilst making little effort to achieve the targets, thus undermining the  
452 credibility of the agreement. Independent monitoring of progress toward those targets is  
453 essential, with checks on data quality.

454

455 It is also clear from the review that public image plays an important role, both as a benefit  
456 and a sanction. When voluntary schemes are highly visible to businesses and the public and  
457 are strongly promoted, participation rates are often high. Public image can therefore be used  
458 to help encourage compliance. A public announcement of poor performance by a firm within  
459 an agreement can also be used as an effective sanction and encourage compliance.

460

461 International organisations have also made recommendations for governments developing  
462 voluntary agreements that support the findings of this scoping review. OECD recommends  
463 that agreements have clearly defined targets with a specified baseline, robust monitoring  
464 systems, third-party participation, information-oriented benefits (such as technical  
465 workshops), sanctions for non-compliance and a credible threat of legislation [68]. The  
466 European Commission (EC) also provides guidelines for voluntary agreements, with an  
467 emphasis on transparency [69]. These include prior consultation with industry and NGOs, a  
468 legally binding commitment, quantified targets and the independent verification and  
469 publication of results. However the presence of a legal commitment is a departure from the  
470 principle of voluntarism, and indeed few voluntary agreements in the literature meet these  
471 criteria. For example, the RD partly meets some of these criteria but not others; in particular  
472 there are few substantial incentives or benefits to business to participate, legislation appears  
473 to be absent as an alternative, and the use of quantified targets is limited.

474

#### 475 ***Implications for evaluation of voluntary agreements***

476 Based on the findings of this review, a robust evaluation of voluntary agreements requires  
477 that targets are quantitative, clearly-defined and time-bound, and that a monitoring system is  
478 in place from the start, ideally with independent verification of data. It is also important that  
479 the evaluation (or different stages of an evaluation) addresses both process and outcomes. For  
480 example, Sullivan's (2005) comprehensive set of criteria for evaluating environmental  
481 agreements seems to apply equally to public health agreements and includes effectiveness,  
482 economic efficiency, transaction costs (for governments and businesses), competitiveness,  
483 "soft" effects (such as attitudinal changes), innovation, acceptability, inclusiveness and public  
484 participation, and law and public policy issues (e.g. compatibility with existing institutions)  
485 [70]. The evaluation also needs to assess unintended outcomes and spillover effects – that is,  
486 effects which extend beyond the main goals of the agreement, such as effects on non-  
487 participants. Some form of economic evaluation can also be helpful in bringing together the  
488 range of positive and negative impacts of an agreement, in fully understanding its costs and in  
489 comparing a voluntary agreement to alternative policy approaches, though such analyses are  
490 very difficult to do definitively.

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#### 494 ***Strengths and limitations***

495 The main strength of this review is that it draws on evidence on how voluntary agreements  
496 work in practice in different business sectors, countries and political contexts. Although a  
497 scoping review, it was informed by systematic review methods. It aimed to identify common  
498 themes and conditions for success, rather than to comprehensively review all previous studies

499 of voluntary agreements. However, the relevance of some of the voluntary agreements  
500 included to public health policy does needs consideration. Half of the studies were on  
501 environmental agreements which have had a relatively long history, and are likely to be  
502 further advanced than voluntary agreements in other policy areas and industries, including  
503 public health. The industries involved are also likely to be different, facing different  
504 economic imperatives.

505

506 Because the inclusion criteria were based on both the type of study and the type of voluntary  
507 agreement, potentially useful studies may have been omitted from this scoping review if there  
508 was no clear indication of the nature of the voluntary agreement being evaluated. Possible  
509 publication bias also has to be considered, as some voluntary agreements may only have been  
510 evaluated in certain circumstances, for example, if they had been particularly effective or  
511 ineffective. However, the studies included in this review did provide generally consistent  
512 findings for each of the research questions.

513

## 514 **5. Conclusions**

515 Voluntary agreements can be an effective policy approach for governments to take to  
516 persuade businesses to take actions, although there is very little evidence on whether, and in  
517 which circumstances, voluntary agreements are likely to be more (cost-) effective than  
518 compulsory approaches. Targets should be ambitious and clearly defined, and a robust  
519 monitoring system should be in place. The role of businesses' public image can be very  
520 important both to encourage participation and to ensure compliance. Finally, it is important  
521 to note that some of the most effective voluntary agreements are those with substantial  
522 disincentives for non-participation and costly sanctions for non-compliance. Many countries  
523 are moving towards these more formal and even legally-binding approaches to voluntary  
524 agreements.

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526

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528 **\*\*Anonymised\*\***

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## TABLES

**Table 1 – Brief description of included studies**

Industry	Voluntary agreement name / identifier	Overall aim	Country	Start date	Reference	Study design / methodology
Agriculture	The Voluntary Initiative	Reduce the environmental impact from pesticides	United Kingdom	2001	Anon, 2005 [48]	Analysis of parliamentary inquiry evidence on the effectiveness of pesticide manufacturers and farmers Voluntary Initiative
					Garratt & Kennedy, 2006 [67]	Modelling study on the effect of changes in farmer behaviour on pesticide contamination of environmental water bodies
	National Scrapie Plan	Reduce the incidence of scrapie (a fatal neurodegenerative disease in sheep)	United Kingdom	2001	Dawson et al, 2008 [71]	Review article describing a UK voluntary programme to control classical scrapie and strategies to minimise future disease risks
Food	German minimization concept for acrylamide	Reduce the levels of acrylamide (a potentially carcinogenic chemical) in food products	Germany	2002	Gobel & Kliemant, 2007 [34]	Quantitative analysis of the change in levels of acrylamide in food products as a result of a voluntary agreement to reduce levels
Alcohol	UK-wide voluntary agreement on alcohol labelling	Include alcohol unit and health information on labels of alcoholic drinks	United Kingdom	2007	Department of Health, 2010 [24]	Consultation report to inform the Government's decision on how best to improve unit and health information for consumers on alcohol labels across the UK.
Tobacco	US voluntary agreement on internet cigarette sales	Reduce payment and shipping options for internet tobacco sales	United States	2005	Ribisl et al, 2011 [52]	Longitudinal study of internet cigarette vendors over 5 years to assess whether they were in business and to monitor their advertised sales practices
	Cigarette adverts on television & vending machines	Ban television advertising of tobacco and improve management of vending machines	South Africa	1980s	Yach, 1994 [62]	Review of studies on voluntary agreements with the tobacco industry, illustrated by two South African case studies

Industry	Voluntary agreement name / identifier	Overall aim	Country	Start date	Reference	Study design / methodology
	Voluntary Agreement on Advertising and Labelling	Restrict tobacco advertising, e.g. near schools	United Kingdom	1971	Amos et al, 1989 [53]	Cross-sectional survey of tobacco promotions near places used predominantly by children and young people
					Amos et al, 1987 [54]	Cross-sectional survey of tobacco promotions near places used predominantly by children and young people
					Hastings & MacFadyen, 2000 [66]	Qualitative analysis of five UK advertising agencies' internal documents covering tobacco related business in the previous five years
					Nelson & Charlton, 1991 [72]	A survey of 2,433 children from 3 secondary schools to determine whether they saw and remembered cigarette advertisements in national newspapers, magazines or comics in their homes
					Robertson et al, 1996 [56]	Survey of local garages to assess the extent of tobacco advertising and compliance with the Voluntary Agreement on tobacco advertising
					Robertson et al, 1998 [57]	Repeated cross-sectional survey of 56 off-licences and their compliance with the voluntary agreement on tobacco advertising
					Sengupta et al, 2000 [60]	Cross-sectional survey of 16-24 year old students, assessing the receipt of smoking-related 'junk mail' and attendance at music-oriented events sponsored by tobacco companies.
Pharmaceuticals	Voluntary agreement on child resistant containers	Introduce child resistant medication containers	United Kingdom	1981	Sibert et al, 1985 [61]	Analysis of hospital records from 1980-4 for children under 5 years admitted to hospital because of accidental poisoning to test effect of a voluntary agreement on child resistant pharmaceuticals containers

Industry	Voluntary agreement name / identifier	Overall aim	Country	Start date	Reference	Study design / methodology
Waste & recycling	French end-of-life vehicle voluntary agreement	Reduce landfill from old vehicles	France	1993	Aggeri & Hatchuel, 1999 [73]	Qualitative decision analysis
	Voluntary pledge regarding the environmentally sound management of end-of-life vehicles	Reduce landfill from old vehicles	Germany	1996	Aggeri & Hatchuel, 1999 [74]	Qualitative decision analysis
					Jorgens & Busch, 2002 [28]	Secondary review of studies on the voluntary agreement
	US voluntary agreements on old newspaper recycling	Increase the use of recycled paper in newspapers	United States	1989	Alexander, 1994 [36]	Policy review, description of voluntary agreements and legislated mandates for recycled content newsprint in an area of the US
	Dutch Packaging Covenant	Reduce the use of packaging materials	Netherlands	1991	Rouw & Worrell, 2011 [65]	Quantitative analysis of the consumption, recycling, recovery and disposal levels of packaging materials at different stages of the covenant to reduce total packaging volume
	Agreement on collection and recycling of batteries	Establish a battery collection and recycling scheme	Belgium	1997	De Clercq & Ameels, 2002 [51]	Interviews and data analysis
Finance	Financial Sector Charter	Improve access to financial services	South Africa	2002	Moyo & Rohan, 2006 [37]	Secondary review of publicly available government and industry publications
Environment	33/50 Program	Reduce industry use of toxic chemicals	United States	1991	Arora & Cason, 1994 [25]	Quantitative analysis of likelihood of participation in the agreement, by various aspects of businesses (e.g. amount spent on advertising)
	Agreement on the quality of gasoline	Improve the quality of petrol	Italy	1989	Vicini & Wallace-Jones, 2002 [33]	Secondary review of internal industry documents

Industry	Voluntary agreement name / identifier	Overall aim	Country	Start date	Reference	Study design / methodology
	Agreements on the use of CFCs	Reduce the use of CFCs	France	1989	Aggeri, 2002 [30]	Qualitative study, interviews with government representatives
	Clean Industry Program	Improve the environmental performance of industry	Mexico	1992	Blackman et al, 2010 [35]	Quantitative analysis (duration model and propensity score matching) of likelihood of participation in the agreement by various aspects of over 100,000 industry plants (e.g. size of plant), and impact on environmental performance
	Cleaner Production Agreements	Improve the environmental performance of industry	Chile	1999	Jimenez, 2005 [41]	Propensity scores analysis on innovation as a result of participation in voluntary agreement, using data from cross-sectional survey of 322 businesses
Jimenez, 2007 [55]					Propensity scores analysis of likelihood of participation in the agreement by various aspects of businesses (e.g. turnover), using data from cross-sectional survey of businesses	
	Climate Change Levy Agreements	Reduce energy consumption by industry	United Kingdom	2001	de Muizon & Glachant, 2004 [45]	Scenario analysis of voluntary agreement
	Climate Leaders	Reduce greenhouse gas emissions by industry	United States	2002	Fisher-Vanden & Thorburn, 2008 [75]	Economic analysis of shareholder wealth effects of 46 firms participating in the agreement
	Energy efficiency agreement	Improve energy efficiency within the chemicals industry	United Kingdom	1997	Salmons, 2002 [26]	Policy analysis
	EPA pollution prevention voluntary agreements	Reduce industry use of toxic chemicals	United States	1990	Sam, 2010 [38]	Statistical analysis using a two-way fixed effects Poisson model to investigate the impact of 43 EPA-sponsored pollution prevention practices on compliance and enforcement for a sample of facilities in the US manufacturing sector

Industry	Voluntary agreement name / identifier	Overall aim	Country	Start date	Reference	Study design / methodology
	Greenhouse Challenge	Reduce greenhouse gas emissions by industry	Australia	1995	Sullivan, 2005 [27]	Qualitative study using interviews with key stakeholders and analysis of parliamentary inquiry's evidence
	Pilot Project of Energy Conservation Agreements	Reduce energy consumption by industry	China	2003	Hu, 2007 [47]	Policy analysis of voluntary agreements pilot project in two iron and steel companies in Shandong Province, and review of policy and legislation development for voluntary agreements
	Strategic Goals Program	Improve the environmental performance of industry	United States	1998	Brouhle et al, 2009 [64]	Regression analysis of 199 industry facilities on likelihood of participation agreement by various aspects of facilities (e.g. local population density), and impact of agreement on emissions
	Swedish Eco-Energy Programme	Improve energy efficiency within industry	Sweden	1994	Linden & Carlsson-Kanyama, 2002 [42]	Qualitative analysis of voluntary agreement through interviews with key stakeholders and document analysis.
	Target Group Policy agreements	Improve the environmental performance of industry	Netherlands	1989	Hofman & Schrama, 2005 [50]	Secondary review of studies
	The Province of Vicenza negotiated agreements	Improve the environmental performance of industry	Italy	1997	Wallace-Jones, 2002 [32]	Qualitative study through stakeholder interviews
	Voluntary agreement on reducing automotive greenhouse gas emissions	Reduce greenhouse gas emissions from vehicles	Canada	2005	Lutsey & Sperling, 2007 [49]	Modelling study on the effectiveness of the voluntary agreement, based on different scenarios (e.g. full compliance)
Perl & Dunn, 2007 [76]					Policy and media analysis	
	Voluntary agreements on	Increase the use of renewable energy	Netherlands	1990	van Rooijen & van Wees, 2006	Analysis of policy decisions using the policy arrangement concept

Industry	Voluntary agreement name / identifier	Overall aim	Country	Start date	Reference	Study design / methodology
	green electricity				[59]	
	Voluntary agreements on leather tannery pollution	Reduce pollution from leather tanneries	Mexico	1987	Blackman & Sisto, 2006 [29]	Cross-sectional survey of 137 tanneries, interviews with key stakeholders and document analysis
	Voluntary agreements on pollution	Improve the environmental performance of industry	Japan	1970s	Welch & Hibiki, 2003 [39]	Interviews with four government representatives and document analysis
	Voluntary energy agreements	Improve energy efficiency within industry	Denmark	1995	Bjorner & Jensen, 2002 [46]	Modelling study of the effects of the carbon dioxide tax, voluntary agreements and investment subsidies to improve energy efficiency
Johannsen, 2002 [63]					Two case studies, based on stakeholder interviews and document analysis	
Employment / workforce	Good Business Partnership program	Introduce a living wage for employees	United States	1999	Grant & Trautner, 2004 [40]	Cross sectional survey of two sets of employers in the same community, with 59 responses (a group of contractors subject to a living wage ordinance and the other a group of businesses that voluntarily pledged to pay their workers a living wage)
	Tripartite Agreement on a More Inclusive Working life (the IW Agreement)	Make workplaces more inclusive	Norway	2001	Midtsundstad, 2011 [31]	Cross-sectional survey of a representative sample of 456 companies, to assess voluntary policies to prevent the exclusion of older employees

**Table 2 – Country or region of voluntary agreement studied**

Country / Region	Number of studies	Percentage
Continental Europe	15	32
United Kingdom	14	30
United States & Canada	9	19
Other	9	19
Total	47	100

**Table 3 – Start date of voluntary agreement studied**

Start date of voluntary agreement	Number of studies	Percentage
1970-79	4	9%
1980-89	10	21%
1990-99	20	43%
2000-09	13	28%
Total	47	100%

**Table 4 – Industry sector of voluntary agreement studied**

Industry sector	Number	Percentage
Environment (general)	24	51%
Tobacco	9	19%
Waste & recycling	5	11%
Agriculture	3	6%
Employment & workforce	2	4%
Food	1	2%
Alcohol	1	2%
Pharmaceutical products	1	2%
Finance	1	2%
Total	47	100%