

1 **ABSTRACT**

2

3 **Background**

4

5 Pharmacy has experienced both incomplete professionalization and
6 deprofessionalization. Since the late 1970s, a concerted attempt has been
7 made to re-professionalize pharmacy in the UK through role extension – a key
8 feature of which has been a drive for greater pharmacy involvement in public
9 health. However, the continual corporatization of the UK community
10 pharmacy sector may reduce the professional autonomy of pharmacists and
11 may threaten to constrain attempts at reprofessionalization.

12

13 **Objectives**

14

15 The objectives of the research: to examine the public health activities of
16 community pharmacists in the UK; to explore the attitudes of community
17 pharmacists towards recent relevant UK policy and barriers to the
18 development of their public health function; and, to investigate associations
19 between activity, attitudes and the type of community pharmacy worked in
20 (e.g. supermarket, chain, independent).

21

22 **Methods**

23

24 A self-completion postal questionnaire was sent to a random sample of
25 practicing community pharmacists, stratified for country and sex, within Great
26 Britain (n=1998), with a follow-up to non-responders 4 weeks later. Data were
27 analyzed using SPSS (v12.0). A final response rate of 51% (n=1023/1998)
28 was achieved.

29

30 **Results**

31

32 The level of provision of emergency hormonal contraception on a patient
33 group direction (PGD), supervised administration of medicines and needle
34 exchange schemes was lower in supermarket pharmacies than in the other
35 types of pharmacy. Respondents believed that supermarkets and the major
36 multiple pharmacy chains held an advantageous position in terms of attracting
37 financing for service development despite suggesting that the premises of
38 such pharmacies may not be the most suitable for the provision of such
39 services.

40

41 **Conclusions**

42

43 A mixed market in community pharmacy may be required to maintain a
44 comprehensive range of pharmacy-based public health services and provide
45 maximum benefit to all patients. Longitudinal monitoring is recommended to
46 ensure that service provision is adequate across the pharmacy network.

47

48 **FOOTNOTES**

49

50 ^a Several letters and emails were sent to the PSNI asking for the required
51 registration information. However, no response was forthcoming therefore
52 Northern Irish pharmacists were removed from the sample.

53

54 ^b The services listed are commonly perceived, as was identified in pilot
55 studies, to be the “public health services” that pharmacy provides. The
56 authors in no way claim that all the listed services are “public health services”
57 in the widest sense of the new public health agenda.

58

59

60 **BACKGROUND**

61

62 In the United Kingdom (UK), community pharmacists have often been
63 described as the most accessible of health professionals.¹⁻³ This accessibility
64 can, at least in part, be attributed to the operation of community pharmacies in
65 a retail environment. Pharmacies can only continue to function while they are
66 profitable. This context has fostered a tension between the desire of
67 pharmacists to provide a health service and the necessity to operate a
68 profitable business.

69

70 **The corporatization of community pharmacy**

71

72 Historically, most community pharmacies in the UK were owned by self-
73 employed community pharmacists. However, this pattern of ownership has
74 been altered markedly by the takeover of independent pharmacies by larger
75 pharmacy chains and, most recently, by supermarkets (at the time of writing
76 less than 42% of pharmacies in England and Wales are now part of chains of
77 5 or fewer outlets compared to 66% in 1994 – see Figure 1).^{4,5} This growing
78 ‘corporatization’ of the community pharmacy sector has seen multiple
79 pharmacy chains, and now supermarkets, assume a position of predominance
80 in terms of the provision of pharmaceutical services.

81

82 Figure 1 shows an uncharacteristic increase in the number of pharmacy
83 outlets between the years 2004-2005 and 2006-2007 (an increase of 398
84 outlets for the two years compared to a net decrease of 68 pharmacies for the

85 previous 10 years). While the number of independents fell by 321, the
86 number of chains increased by 719. In 2003, the Office of Fair Trading (OFT)
87 – a Government department which is ostensibly responsible for making
88 markets work well for consumers – published its report “*The control of entry*
89 *regulations and retail pharmacy services in the UK*”.⁶ The OFT recommended
90 the abolition of regulations governing the awarding of National Health Service
91 (NHS) dispensing contracts which enable a retail pharmacy outlet to dispense
92 NHS prescriptions (approximately 80% of the average community pharmacy's
93 turnover is generated by NHS prescription business).⁷ The regulations had
94 been in place since 1987 and had ensured the maintenance of outlets at a
95 relatively steady level ever since (see Figure 1), thus ensuring a fairly uniform
96 community pharmacy network throughout the UK.

97

98 Of 542 applications awarded contracts from 2005-06 to 2006-07 under the
99 exemptions introduced in response to the OFT report, 15% (n=84) were
100 awarded to pharmacies meeting the criteria for out of town, large shopping
101 developments (that is developments over 15,000 square meters – which
102 applies to many supermarkets) and 77% (n=415) were awarded to
103 pharmacies proposing to open for 100 or more hours a week (again,
104 applicable, but not exclusive to, supermarkets).^{5 8} These data suggest that
105 the relaxations to the Control of Entry Regulations have further facilitated the
106 development of the corporate pharmacy sector.

107

108 **Corporatization and professionalism**

109

110 As an organization, such as a pharmacy chain, grows in complexity, it is
111 forced to adopt distinct working practices in order to operate economically,
112 effectively and competitively. Profits are maximized by the rationalization of
113 products and services. Ritzer (2000) has coined the term “McDonaldization”
114 to illustrate that the policies and practices adopted for efficient, routinized
115 production of fast food pervade into other organizations, including those in the
116 healthcare sector.⁹ Harding and Taylor (2000) have underlined how the four
117 dimensions of rationality highlighted by Ritzer (2000), namely Efficiency,
118 Predictability, Calculability and Control, are evident in corporate pharmacies in
119 the UK.^{9 10}

120

121 *Efficiency* is achieved through standardisation and rationalisation of products
122 and services. For example, there is a production line approach to dispensing
123 with technicians each completing a small part of the process, a process set to
124 become further rationalised by new technologies such as electronic transfer of
125 prescriptions and robotic dispensing systems. *Predictability* is achieved by
126 standardising services, products and pack sizes, so that all outlets – all of a
127 uniform design – offer identical “experiences”. Employees follow written
128 protocols to ensure uniformity of service – routinizing even interactions
129 between pharmacists and clients.¹¹ *Calculability* comes from the
130 commodification of medicines (i.e. medicines are sold as commodities on the
131 basis of cost rather than on quality and efficacy). *Control* is exerted by
132 minimising the skilled activities of the workforce. Employees undertake
133 simple, clearly defined tasks in accordance with written procedures whilst
134 technology is used whenever possible.¹⁰

135

136 The changing patterns of pharmacy ownership have implications for
137 pharmacy's claim to professional status. The predominance of the multiple
138 pharmacy chains and supermarkets has led to a proportionate increase in
139 employee pharmacists at the expense of independent pharmacist-proprietors.
140 With an increasing number of pharmacists being recruited as employees of
141 major corporations, it is argued that the professional autonomy of these
142 pharmacists is challenged. As Harding and Taylor (1997) state:

143

144 *“Successful large bureaucratic organizations require rational and*
145 *routinized procedures for maximizing efficiency, and this is reflected in*
146 *their delivery of rationalized, standardized pharmaceutical services*
147 *dictated by company policies. Thus the autonomy of pharmacists*
148 *employed in such organizations to practice discretion in their*
149 *occupation is precluded” (p556).¹²*

150

151 The rationalization imposed by corporate pharmacy has been such that some
152 pharmacists have non-pharmacist line managers and may be required to
153 undertake 'general shop duties'.¹³ It is argued that a future breed of
154 “McPharmacists” may be subjected to de-skilling and ultimately perform solely
155 routinized activities for comparatively little remuneration.^{10 14}

156

157 However, corporatization was just one of a series of developments that
158 threatened the professionalism of community pharmacists. Throughout the
159 twentieth century community pharmacy was subjected to widespread erosion

160 of its traditional functions. Massive increases in prescription volumes and the
161 transference of the responsibility for drug manufacture from pharmacists to
162 the pharmaceutical industry – allied to technological advances such as the
163 introduction of pharmacy computer systems and the repackaging of drugs
164 from loose pots of one thousand or more into standardized original packs (of
165 28 days duration for example) – have led to the automation of tasks within
166 pharmacy which has, in turn, undermined the traditional basis for its claim to
167 professional status.^{15 16} Additionally, the trend of making drugs increasingly
168 available for purchase from non-pharmacy outlets (such as petrol filling
169 stations and grocers), reduces the drugs to a commodity, with the connotation
170 that no associated ‘expert’ supervision and advice is required.¹⁷ By the late
171 1970s there was recognition that community pharmacy in the UK was in
172 trouble. Community pharmacists found themselves over-trained for what they
173 did and under-utilized in relation to what they knew.¹⁸

174

175 **Reprofessionalization**

176

177 The profession's response to the loss of function and the resultant stress and
178 role ambiguity was ‘role extension’ as part of a movement toward
179 ‘reprofessionalization’.^{15 19} The process of reprofessionalization manifested
180 itself primarily in a gradual shift away from the technical paradigm (i.e. drug
181 procurement, storage and compounding) toward an entirely different
182 paradigm: one that emphasizes a disease and patient-orientated approach to
183 pharmaceutical decisions.^{19 20}

184

185 Anderson (2002) argues that, in the UK, a significant part of the
186 reprofessionalization of pharmacy took the form of a reclaiming of the
187 pharmacists' traditional role in health promotion.²¹ Indeed, the gamut of
188 pharmacy policy documents published in the UK since the mid-1980s would
189 appear to support this thesis.²²⁻²⁷ In addition to the pharmacists' role in health
190 promotion, a number of health improving or harm reducing services have
191 been categorized, certainly within the profession, as constituting pharmacy's
192 public health function (see Table 1). Recent developments have seen an
193 expansion in the provision of diagnostic testing (e.g. blood pressure, diabetes
194 etc.) through pharmacies, a function set to be reinforced by the provision of a
195 nationwide (England) programme of 'vascular health checks'.²⁷ Furthermore,
196 changes in policy, law and contractual frameworks have led to the
197 reclassification of a growing number of prescription-only medicines (POMs –
198 preparations that are available only on a prescription issued by an appropriate
199 practitioner) as pharmacy medicines ("P" medicines – preparations which are
200 available in a pharmacy without a prescription, under the supervision of a
201 pharmacist), the introduction of patient group directions (PGDs) to allow
202 pharmacy supply of POMs to specific patient groups without the requirement
203 of a physician's prescription and the introduction of a limited number of
204 pharmacist-prescribers – first on a supplementary basis to physicians, but
205 now also as independent prescribers.

206

207 In 1994, health promotion became a contractual obligation for community
208 pharmacy with remuneration being received for the display of health
209 promotion materials (posters and leaflets). The obligation for pharmacists to

210 be involved in health promotion was consolidated in the 'new' (2005)
211 contractual framework for England and Wales with 'public health' (in terms of
212 healthy lifestyle promotion) designated as an 'essential' service obliging each
213 pharmacy to take part in six public health campaigns (again, principally health
214 promotion), coordinated by the local Primary Care Organization (PCO – local
215 NHS organization), each year. Furthermore, many services that
216 contemporary debate designates as contributing towards pharmacy's public
217 health function (i.e. services for drug misusers), are included in the 'enhanced'
218 services category introduced under the new contract and therefore provision
219 of these services by pharmacy is dependent upon the commissioning
220 decisions of local PCOs.²⁸

221

222 **Enhanced service provision under the new pharmacy contract.** The
223 development of the public health function of community pharmacists, as part
224 of the extended role, has been focused on individual-level intervention and
225 service provision. Pharmacy has been criticized for this focus and for a
226 reluctance to engage with the arguments surrounding the structural and
227 political causes of ill health within communities.²⁹ However, no practical
228 suggestions of how pharmacy can contribute at a more macroscopic level are
229 suggested and it is difficult to envisage how pharmacy's public health function
230 could develop any differently.

231

232 As stated previously, since 2005, many of the services that contemporary
233 debate in the UK deems as pharmacy's 'public health services' have been
234 located in the 'enhanced' services category of the pharmacy contract (i.e.

235 services which have to be commissioned by local PCOs on the basis of need).
236 While little data are currently available on enhanced service provision, the
237 data that are in the public realm suggest that the commissioning of enhanced
238 pharmaceutical services has been modest.^{30 31} No data are available to
239 indicate variations in service provision under the new contract between the
240 different types of pharmacy (e.g. supermarket, multiple, independent)
241 although one study suggests that pharmacists working in large, national
242 companies were most enthusiastic about the new contract.³²

243

244 **Limits to reprofessionalization presented by corporatization**

245

246 As community pharmacists have sought to develop an extended role through
247 the provision of health improvement/harm reduction services, there has been
248 some opposition from General Practitioners (GPs – ‘community physicians’)
249 who have countered what they perceive to be encroachment from
250 pharmacists onto both their economic and professional turf, viewing this as a
251 threat to their status as the predominant profession in the medical division of
252 labour.^{18 33} However, Edmunds and Calnan (2001) believe that the role
253 extension of community pharmacists is more accurately interpreted as a bid
254 for survival rather than any threat to the dominance of GPs.³⁴

255

256 However, opposition to the extended role as a reprofessionalization strategy is
257 in some part fuelled by the corporatization of the community pharmacy sector.
258 Denzin and Mettlin (1968) argue that the commercial interests of pharmacy
259 owners are inconsistent with the altruistic attitude of the service ideal of

260 professions.³⁵ It has to be acknowledged however, that all professions are
261 paid – some, such as lawyers and physicians, are generally paid handsomely.
262 What distinguishes these professions from pharmacy is that a pharmacist-
263 proprietors' remuneration is based on trading as opposed to the levy of a fee.
264 Community pharmacists operate in a commercial environment and, as
265 traders, their *raison d'être* is to sell – not whether the customer requires or is
266 in anyway poorly served by the sale. Physicians are likely to be unwilling to
267 work in partnership with individuals who they believe have a focus on profit-
268 generation: a focus which may possibly be detrimental to 'their' patients.³⁶⁻³⁹
269 To compound this, pharmacy has a uniprofessional culture which reinforces
270 the professional isolation of pharmacists by understating the value of
271 partnerships.⁴⁰

272

273 Jesson and Bissell state that attempting to “graft” a public health mindset onto
274 pharmacists, as required amid the current direction of role extension,
275 operating within a commercial environment is, in their opinion, contradictory.²⁹
276 Indeed, the commercial nature of the sector may impact negatively on
277 pharmacy's reputation. Companies are sensitive to public opinion and may
278 react to please shareholders rather than patients.^{41 42}

279

280 The corporatization of the community pharmacy sector also impacts on the
281 functions of the pharmacist. The Royal Pharmaceutical Society of Great
282 Britain (RPSGB – the professional and regulatory body for pharmacists in
283 England, Scotland and Wales) has developed a number of initiatives (e.g.
284 *Pharmacy in a New Age* – PIANA) aimed at developing the pharmacist's

285 professional function.²³ However, the rise of corporate pharmacies has made
286 it increasingly difficult for the RPSGB to exert influence across the community
287 pharmacy sector. For example, despite concerns from within the profession
288 that pharmacists are not being given adequate breaks during working hours,
289 potentially leading to an increased number of dispensing errors, the RPSGB
290 has proved ineffectual in ensuring its members have the working conditions
291 and support necessary to promote and develop professional practice
292 (although its ability to do so was seriously curtailed by defeat in the Jenkins
293 Case of 1920 which, to a significant extent, prohibited it from representing the
294 interests of its members).⁴³⁻⁴⁵ Taylor and Harding (2003) argue that the
295 community pharmacy sector is characterized by a dualistic approach to
296 service delivery: “*corporate pharmacies maximize profit through economies of*
297 *scale and rationalization, independents pursue profit maximization primarily by*
298 *service delivery*” (p143).¹⁴

299

300 **OBJECTIVES**

301

302 The aim of the research presented in this paper was to explore how the type
303 of pharmacy in which pharmacists were employed (supermarket, multiple,
304 large chain, small chain, independent) influenced the data collected under the
305 following objectives:

306

- 307 1. To describe the public health activities of UK community pharmacists in
308 2006;

- 309 2. To explore the attitudes of community pharmacists towards pharmacy's
310 ability to compete effectively for funding to provide services that meet
311 public health needs identified by local PCOs; and,
312 3. To explore the attitudes of community pharmacists on the potential of
313 various factors to act as barriers to the development of community
314 pharmacy's public health function.

315

316 **METHODS**

317

318 A survey design was considered a suitable strategy to explore various issues
319 surrounding the development of the public health function of community
320 pharmacists. Initial interviews were conducted with six pharmacy and public
321 health 'key players' identified during a comprehensive literature review.

322 Based on the findings of the literature review and the initial interviews, a self-
323 completion postal questionnaire was developed. This was piloted and
324 administered to Directors of Public Health and Chief Pharmacists in all the
325 PCOs of the UK (the results of this phase of the study are not discussed here
326 but are available elsewhere).⁴⁶

327

328 This first questionnaire was then amended to reflect a community pharmacist
329 population and piloted on a convenience sample of nine community
330 pharmacists which reflected the breadth of community pharmacy practice (i.e.
331 employed and self-employed pharmacists, pharmacists working in
332 supermarket pharmacies, multiple pharmacies and independent pharmacies).

333

334 The questionnaire comprised four sections and contained a total of 17
335 questions. The first section concerned occupational details. Respondents
336 were asked to indicate which of the following titles most closely corresponded
337 to the job they held during data capture:

338

- 339 • Proprietor/owner
- 340 • Manager
- 341 • Relief pharmacist
- 342 • Second pharmacist
- 343 • Locum
- 344 • Non-store based pharmacist
- 345 • Other (respondents selecting this option were asked to specify their job
346 title).

347

348 This question was used to filter respondents to the appropriate part(s) of the
349 questionnaire.

350

351 In this section, respondents were also asked to indicate which type of
352 pharmacy they had most regularly worked in during six months preceding data
353 capture:

354

- 355 • Supermarket
- 356 • Multiple (200 outlets or more)
- 357 • Large chain (more than 20 outlets but less than 200)
- 358 • Small chain (20 outlets or less but more than 5)

359 • Independent (5 outlets or less).

360

361 The second section of the questionnaire focussed on “pharmacy public health
362 activity” – i.e. health improving measures/schemes provided through
363 community pharmacies. A list of 18 different services (see Table 2)^b, derived
364 from the literature – most noticeably the two PharmacyHealthLink (a charity
365 which advocates a greater role for pharmacy in public health) Evidence
366 Bases^{47 48} – the preliminary exploratory interviews, and the pilot work was
367 utilised. Respondents were asked to select one of four possible options:

368

- 369 • Yes (i.e. the service is being provided)
- 370 • No (i.e. the service is not being provided)
- 371 • Planned for the future (i.e. the pharmacy is planning to provide the
372 service in the future)
- 373 • I do not think that this is a public health role.

374

375 Section three examined attitudes towards pharmacy’s involvement in public
376 health, including opinions on recent pharmaceutical and NHS policy
377 developments, and beliefs on advantages and disadvantages in the
378 development of the public health function of community pharmacists. In this
379 section, community pharmacists were asked to indicate on a three-point scale
380 (“pharmacy will”, “pharmacy may” and “pharmacy will not” – plus an “unsure”
381 option) if they believed that community pharmacy would be able to compete
382 effectively with other healthcare providers for access to funding to develop
383 services that met public health needs identified by local PCOs.

384

385 A number of potential barriers to the development of the public health function
386 associated with community pharmacy practice were identified from the
387 literature and preliminary interviews, and further refined after the pilot study.
388 In addition, respondents were given the opportunity to add “other” barriers as
389 they saw fit. The factors listed were:

390

- 391 • Time constraints
- 392 • Lack of available funding
- 393 • Unsuitable premises
- 394 • Lack of knowledge
- 395 • Lack of training opportunities
- 396 • Lack of understanding of public health
- 397 • Lack of awareness of the social model of health
- 398 • Unwillingness of pharmacists to leave the ‘comfort zone’ of dispensary
- 399 • Conflicts arising from commercial interests
- 400 • Pharmacy’s position on the fringes of the NHS
- 401 • Lack of communication between pharmacy and other health
402 professionals/PCOs
- 403 • Ignorance of community pharmacy’s potential public health contribution
404 at PCO level
- 405 • Pharmacy’s inexperience of the commissioning process
- 406 • Lack of a local, unified pharmacy organisation to bargain collectively for
407 funding

- 408 • Inability of the Local Pharmaceutical Committee (LPC) to represent
- 409 pharmacy effectively
- 410 • The removal of the obligation of PCOs to consult LPCs
- 411 • Lack of incentive for employee pharmacists.

412

413 Respondents were asked to indicate whether they thought the various factors
414 constituted a “major” barrier, a “minor” barrier, or if the factor was “not a
415 barrier” (they were also provided with the option of selecting an “unsure”
416 option). The internal consistency, measured using Cronbach’s alpha, of the
417 scales used in this section was 0.81. The exclusion of any of the items would
418 not increase the alpha value (see Table 4).

419

420 The final section of the questionnaire recorded demographic information about
421 respondents. Data collected were sex and age (respondents were provided
422 with a “do not want to say” option for any details which they did not wish to
423 impart). Such background information helped to build a demographic profile
424 of the respondents (to assess how representative of the study population the
425 sample was) as well as allowing analysis of the effects of these variables on
426 attitudes towards pharmacist involvement in public health.

427

428 At the time of the study (August-October 2006) there were over 46,000
429 pharmacists registered with the regulatory body for pharmacy and
430 pharmacists in England, Scotland and Wales, the RPSGB.⁴⁹ All pharmacists
431 who wish to practice in the UK have to be on the RPSGB’s Register of
432 Pharmaceutical Chemists, with the exception of pharmacists in Northern

433 Ireland (n≈1,800) who are registered with the Pharmaceutical Society of
434 Northern Ireland (PSNI).⁵⁰ It was decided to survey a proportionate stratified
435 sample of 2000 practicing community pharmacists.

436

437 The community pharmacist population was divided into strata – country of the
438 UK and sex – and sampling from the strata was carried out using simple
439 random sampling. This guarded against obtaining an unrepresentative
440 sample. At this point the proposed sample still included pharmacists from
441 Northern Ireland, however, these were later removed.^a The final sampling
442 frame was designed to ensure proportionate representation of all the strata in
443 the final sample with 84.17% (n=1683/2000) of the sample resident in
444 England, 10.38% (n=208/2000) resident in Scotland and 5.45% (n=109/2000)
445 resident in Wales, 47.1% (n=942/2000) being male and 52.9% (1058/2000)
446 being female.

447

448 Contact details for the 2000 practicing community pharmacists of the sample
449 were sought from the RPSGB. However, only 1998 labels (per set) were
450 received. The self-completion postal questionnaire was then administered to
451 the sample (n=1998) with a follow-up to non-responders 4 weeks later.

452 Returned questionnaires were checked for completeness. Although some
453 item non-response was apparent, the levels were insignificant and it did not
454 appear that respondents had experienced any real difficulty in answering any
455 of the questions. Responses to closed questions were inputted into a
456 bespoke database and analyzed in SPSS (version 12.0 for Windows). The

457 final data set was screened for errors by frequency checks which revealed all
458 coded values fell within the expected ranges.

459

460 **RESULTS**

461

462 A total of 1023 community pharmacists returned their questionnaire – an
463 overall response rate of 51%. Response was higher amongst the female
464 subset of the sample (57%; n=597 returns/1056 possible returns) than the
465 male subset (45%; n=426/942). Respondents approximated to the
466 proportions intended in the original sample with 85% (n=869/1023) of
467 respondents being registered in England, 10 % (n=98/1023) in Scotland and
468 5% (n=56/1023) in Wales.

469

470 Women accounted for 58% (n=590/1023) of all survey respondents. This
471 figure is similar to the proportion of women (54%) on the Register of
472 Pharmaceutical Chemists held by the RPSGB (figures obtained from ⁴⁹).
473 However, the most recent Pharmacy Workforce Census⁴⁹ reported that 51%
474 of the community pharmacy workforce (as opposed to the overall pharmacy
475 workforce) were women.

476

477 Nine percent (n=88/1014) of respondents were under the age of 29.
478 However, around a fifth of all pharmacists (20%), and more specifically
479 community pharmacists (19%), were under 29 in 2005.⁴⁹ This suggests that
480 pharmacists below the age of 29 were less likely to respond to the
481 questionnaire. Conversely, a quarter (25%, n=258/1014) of all respondents

482 were aged 50-59 compared to just 15% and 19% of all pharmacists and
483 community pharmacists respectively. Nine respondents chose not to indicate
484 their age.

485

486 The following section details selected results from the study. A
487 comprehensive report of all the findings of the wider research project is
488 available elsewhere.⁴⁶

489

490 **Service provision**

491

492 Community pharmacists were asked which 'public health services' were
493 provided in the pharmacy in which they worked most regularly during the six
494 months preceding the study.

495

496 Analysis showed relationships (Chi square test (χ^2) with $P \leq 0.05$, "this is not a
497 public health role" category excluded – owing to small number of respondents
498 selecting this option – to ensure conditions of the test statistic were met)
499 between the provision of 14 different services and the type of community
500 pharmacy most regularly worked in (independent: number of outlets ($n \leq 5$,
501 small chain: $5 < n \leq 20$, large chain: $20 < n \leq 200$, multiple: $n \geq 200$, and
502 supermarket). There was no relationship between the type of pharmacy
503 worked in and the two essential services assessed namely health promotion
504 on the premises and the collection of waste medicines. Furthermore, there
505 was no association between the provision of the sale of emergency hormonal
506 contraception (a retail transaction) over the counter and the type of pharmacy

507 worked in. Of the enhanced and 'unspecified' services assessed only the
508 provision of minor ailments schemes showed no association with the type of
509 pharmacy. Where an association between provision and type of pharmacy
510 was observed, the percentage of pharmacists reporting the provision of
511 services, sub-divided by type of pharmacy is shown in Table 3.

512

513 **The ability of pharmacy to compete in a commissioning-led NHS**

514

515 Amid the climate of NHS reform pursued by New Labour, most pertinently the
516 gradual transition of the NHS from a provider to a commissioner of healthcare
517 with increasing scope for private sector provision, community pharmacists
518 were asked if they believed that community pharmacy would be able to
519 compete effectively with other healthcare providers for access to funding to
520 develop services that met public health needs identified by local PCOs. The
521 type of pharmacy worked in most regularly during the six months preceding
522 administration of the questionnaire influenced the attitudes of community
523 pharmacists towards pharmacy's ability to compete effectively for funding (χ^2 ,
524 $P=0.001$). Over a third of survey pharmacists working in small chains and
525 independents (37% (n=21/57) and 33% (n=113/341) respectively) believed
526 that pharmacy would not be able to compete effectively for funding. This
527 figure falls to below 25% (23% (n=15/65) supermarkets, 22% (n=21/97) large
528 chains) for the corporate pharmacy chains (i.e. those in chains of 20 or more)
529 and to 18% (n=62/353) for pharmacists employed most regularly in multiples
530 (chains with 200 or more outlets).

531

532 **Barriers to the development of the public health function of community**
533 **pharmacists**

534

535 Respondents were asked their opinions on the potential of a variety of factors
536 to act as barriers to the development of the public health function of
537 community pharmacists. Associations were observed between the type of
538 pharmacy worked in and the reporting of the potential of three out of the
539 seventeen listed factors to act as barriers to development.

540

541 Pharmacists working most regularly in supermarkets (34%, n=22/64) and
542 multiple pharmacy chains (41%, n=147/355) considered conflicts with
543 commercial interests to be a more significant barrier than their colleagues
544 working within small chains (23%, n=13/56) and independents (26%,
545 n=89/336) (χ^2 , P=0.000).

546

547 Conversely, for factors relating to representation (weak Local Pharmaceutical
548 Committee (LPC) – LPCs represent all NHS pharmacy contractors within a
549 defined locality (χ^2 , P=0.003) – and the removal of the obligation of the PCO
550 to consult the LPC when developing new, potentially pharmacy-based,
551 services (χ^2 , P=0.035)), the opposite was observed. Survey pharmacists who
552 had worked in independents (53%, n=178/339 and 52%, n=170/330) most
553 regularly in the six months preceding the study were more inclined to class
554 these factors as major barriers than their counterparts in supermarkets (47%,
555 n=30/64 and 39%, n=24/61) and multiples (49%, n=174/358 and 44%,
556 n=154/350).

557

558 **DISCUSSION**

559

560 Based on the reporting of respondents, supermarket pharmacies appeared to
561 be less likely than small chains and independent pharmacies to provide a
562 home delivery service and domiciliary visits. Supermarkets also appeared to
563 be less likely to provide emergency hormonal contraception (EHC) on a
564 patient group direction (PGD), needle exchange schemes and the supervised
565 administration of medicines (the most common medicines for which
566 supervised administration is requested are used in the withdrawal treatment of
567 drug addiction).

568

569 It is of note that the delivery of medicines to patients' homes offers no direct,
570 short-term financial return and is operated primarily to both benefit patients
571 and, hopefully, retain business in the long-term. The provision of EHC and
572 services for drug misusers are controversial to certain subsections of the UK
573 population (not to mention pressure groups and the print media) which may
574 deter commercial bodies, reliant as they are on the patronage of the general
575 public, from offering such services. This provides an example of the potential
576 conflicts that can arise between operation in a commercial environment and
577 the provision of professional services and adds weight to Denzin and Mettlin's
578 criticism that the commercial interests of pharmacists are inconsistent with the
579 altruistic attitude of the service ideal of professions.³⁵ One notable illustration
580 of the commercial focus overriding the interests of patients was the decision of
581 Tesco (the UK's largest supermarket group) to stop supplying EHC to persons

582 under 16 years of age without a prescription in response to concerns
583 expressed by some of their customers, thus highlighting the fact that
584 companies have a significant responsibility to their shareholders – a
585 responsibility that might not exist with individual professionals.^{42 51}

586

587 Another area where there appeared to be a particularly marked difference in
588 levels of provision between the different types of pharmacy outlets were the
589 screening services – cholesterol, diabetes and sexually transmitted infection
590 (STI) testing. Corporate pharmacies possess the financial power, by virtue of
591 their large turnovers, to be able to subsidize provision of these services –
592 which are unlikely to generate significant profits – than small chain and
593 independent pharmacies which appeared less likely to engage in the provision
594 of screening services.

595

596 A larger proportion of supermarket and multiple pharmacies provided the only
597 advanced service – Medicines Use Reviews (MURs) – than independents or
598 small chains. It is important to acknowledge that these were introduced as
599 part of the new contract for England and Wales in April 2005, only shortly
600 before the commencement of the research and as commercial organizations,
601 pharmacies have to adapt to the market, and the greater capacity of multiples
602 allows them to adapt to the contractual changes much more rapidly than
603 independent pharmacies. However in a further example of the low levels of
604 professional autonomy afforded employee pharmacists, evidence is emerging
605 of pharmacy companies pressuring pharmacists into conducting significant

606 numbers of MURs, even threatening disciplinary action if employee
607 pharmacists fail to achieve the targeted number of MURs.⁵²
608
609 While it appears that service provision varies based on ownership, these
610 variations have a number of possible explanations. The variation could be
611 dependent on the willingness of the contractors to offer the service, the ability
612 – particularly in terms of capacity – of contractors to offer the service, or the
613 appropriateness of the service for the location served by the pharmacy (i.e.
614 there may be little call for a needle exchange scheme at an out-of-town
615 supermarket pharmacy). Regardless of the explanation(s), it does mean that
616 changes in the balance and composition of the pharmacy market could impact
617 upon service provision. The exemptions to the Control of Entry Regulations
618 introduced as a result of the OFT inquiry are beginning to have an impact (as
619 can be seen in Figure 1). The exemptions effectively allow any number of
620 supermarkets, provided they meet the exemption for floor space, extended
621 opening hours or both, to automatically obtain a contract to provide NHS
622 pharmaceutical services without the requirement to prove that the pharmacy is
623 either necessary or desirable for a given community. The most conspicuous
624 implication of this, as was recently highlighted by the Pharmaceutical Services
625 Negotiating Committee (PSNC – the representative organization of community
626 pharmacy on NHS matters) Chairman, is that less money is available for each
627 contractor.⁵³
628
629 Under the contractual framework, local enhanced services, commissioned by
630 PCOs, will inevitably lead to variations in service provision between localities

631 due to the differing health needs of local populations. However, the results
632 from this study suggest that variation in service provision through community
633 pharmacy will also be observed between pharmacy outlets based on their
634 ownership (i.e. supermarkets, multiples, independents etc.).
635
636 Attitudinal elements of the survey suggested that community pharmacists
637 believed that the larger pharmacy chains and supermarkets, in effect
638 corporations with significant turnovers, would occupy a propitious position in
639 terms of attracting finance to develop services.
640
641 New Labour, consistent with its third way approach of avoiding socialist-style
642 state intervention while ostensibly ameliorating the worst excesses of
643 capitalism, has openly invited the private sector into the provision of NHS
644 primary care services by virtue of the commissioning process.⁵⁴ Pharmacy,
645 as a private provider of NHS services operating on the interface between
646 commerce and healthcare, would seem to be ideally placed to exploit these
647 reforms. Indeed, the seemingly unprecedented attention given to pharmacy in
648 Department of Health (DoH) policy documents would suggest that the
649 Government has identified pharmacy as a suitable partner.²⁴⁻²⁷ Furthermore,
650 the multiples – with their capacity and responsiveness, allied to their
651 widespread geographical coverage – are attractive to partners (e.g. the
652 government) because of their national scope (organizing the provision of a
653 service through a single partner provider with 1000 outlets across the country
654 is considerably less complex than organizing provision of the service through
655 1000 independent pharmacies). For example, Boots, the UK's second largest

656 pharmacy chain, was selected as the DoH's preferred partner for Chlamydia
657 screening through pharmacy which was piloted at all its London stores (over
658 200) from November 2005.⁵⁵

659

660 Paradoxically, the results suggest that community pharmacists consider
661 multiple pharmacy chains and supermarkets to have proportionally more
662 outlets unsuitable for the provision of services specified by the new contract
663 and that conflicts between patient care and commercial interests may be
664 heightened within these pharmacies.

665

666 Furthermore, the results suggest that community pharmacists feel that factors
667 relating to representation and financing will disproportionately affect smaller
668 chains (i.e. smaller chains will find it more difficult to access funding, perhaps
669 in part because of the inability to bargain collectively brought about by
670 removing the obligation of PCOs to consult LPCs). Should the views of
671 pharmacy owners and those working most regularly in small chain and
672 independent pharmacy prove to be correct, the most salient implication of this
673 is that, as highlighted previously, independent pharmacies will not be able to
674 provide as comprehensive a range of services (including those services
675 currently classified by the profession as 'pharmacy-based public health
676 services') as the multiple chains and supermarket pharmacies.

677

678 Logic suggests that large corporations, with their financial muscle, widespread
679 geographical coverage and efficient marketing and public relations
680 departments, may attract a disproportionate amount of income through

681 commissioning processes. As chains of five pharmacies or less made up
682 41% of the retail pharmacy sector in 2006/2007 this could have severe
683 implications for service provision across the sector.⁵ If corporate pharmacy
684 chains were to monopolize commissioning monies then the proportion of the
685 global sum (total NHS funding for pharmacy) available to independents will be
686 diminished; arguably hastening their demise. Additionally, an inability to
687 attract funding has the potential to stifle the professional development of
688 community pharmacists employed within independent pharmacies who may
689 find themselves providing only a limited range of routine services in
690 comparison to their corporate colleagues.

691

692 It is also worthy of note that independent pharmacies tend to be located in the
693 heart of communities whereas supermarkets are more often found in out-of-
694 town retail developments which are difficult to access without a car.

695 Independent pharmacies are more accessible to those without private
696 transport, disproportionately those with lower incomes.⁷ Commissioning
697 therefore has the potential to reinforce inequities in access to pharmacy-
698 based services with those without access to a car, predominantly the
699 socioeconomically disadvantaged, unable to visit supermarket pharmacies
700 without considerable difficulty and/or expense. Furthermore, the
701 corporatization of pharmacy may further reinforce these inequities by
702 decreasing the numbers of independent pharmacies. With the current
703 economic climate favoring the larger pharmacy chains and the concentration
704 of pharmacies in affluent areas at the expense of areas of economic
705 deprivation, variability in service provision between pharmacy outlets may

706 further increase the inequalities in access identified by the Inverse Care Law,
707 which, in its simplest form, prognosticates that those most in need of health
708 care (disproportionately the socioeconomically disadvantaged) are those who
709 are least likely to be able to access it (the role of the market in reinforcing this
710 should also be highlighted). This is an area which demands further
711 research.⁵⁶⁻⁵⁸

712

713 While the data collected on service provision are robust, further research is
714 recommended, in particular:

715

- 716 • The longitudinal monitoring of service provision through community
717 pharmacy to assess:
 - 718 ○ The effects of increased levels of primary care commissioning
719 on service provision (particularly amongst the independent
720 pharmacy sector); and,
 - 721 ○ Variations in service provision between the different types of
722 pharmacy to ensure that service provision is adequate across
723 the pharmacy network so as to avoid any inequities in access
724 for the general public.

725

726 The results of the study suggested several areas where further qualitative
727 research is justified in order to provide a more nuanced understanding of the
728 phenomena observed. With commissioning being forced to the forefront of
729 NHS reforms, in-depth study of the attitudes of stakeholders to pharmacy's
730 ability to compete for funding is merited. The reasons why community

731 pharmacists displayed a lack of confidence in the ability of community
732 pharmacy to compete effectively for funding were not examined. Identification
733 of such concerns may enable commissioning bodies to address these and
734 promote greater engagement in the commissioning process by pharmacists,
735 to the benefit of pharmacy itself, the NHS and the general public.

736

737 **LIMITATIONS**

738

739 Survey methodology, and the data collection instruments associated with
740 them, possess inherent disadvantages and these are to be considered as
741 limitations in this research. Structured questionnaires largely contain pre-
742 coded response choices that may not be sufficiently comprehensive.⁵⁹ More
743 specifically, self-completion postal surveys do not allow for detection of
744 ambiguities in, and misunderstanding of, the survey questions (although pilot
745 studies aimed to negate these possibilities).⁶⁰ There is no guarantee that the
746 questions have been completed honestly and there is also likely to be a social
747 desirability response bias – people responding in a way that shows them in a
748 good light.^{60 61}

749

750 Postal questionnaires tend to yield low response rates but the response rate
751 to the questionnaire was satisfactory. This may be explained by the subject
752 matter being of interest to respondents and the relatively high profile of public
753 health at the time of the study. A further limitation of this research is the
754 limited evidence-base available for consultation when designing the
755 questionnaire. However, the preliminary interviews and the available literature

756 were used to inform the design of the questionnaire which was further refined
757 as the research progressed.

758

759 A final point concerns questionnaire non-response. Ideally non-responders
760 would have been contacted to ascertain reasons for non-response. Such data
761 would have been useful to assess potential bias introduced into results as a
762 result of certain characteristics of the respondents (i.e. did some members of
763 the sample fail to return questionnaires because they were offended by a
764 certain question/the questionnaire?). However, owing to time constraints,
765 ethical approval limitations and data protection restrictions this was not
766 possible.

767

768 **CONCLUSIONS**

769

770 The results of this study indicate that the provision of pharmacy-based public
771 health services varies based on pharmacy ownership. The decreased levels
772 of provision of certain services in certain types of pharmacy highlights
773 potential conflicts between patient care and commercial interests.

774 Furthermore, attitudes towards pharmacy's ability to compete effectively for
775 funding to develop services, and the barriers to the development of the public
776 health function, suggest that community pharmacists believe that corporate
777 pharmacy chains may attract a disproportionate amount of financing from
778 NHS commissioning processes.

779

780 A mixed market in community pharmacy may be required to maintain a
781 comprehensive range of pharmacy-based public health services and, in turn,
782 provide maximum benefit to all patients. The increased commissioning
783 activity of NHS PCOs, allied to the increasing corporatization of community
784 pharmacy may promote the maldistribution of health improvement/harm
785 reduction services through community pharmacy in the UK. Longitudinal
786 monitoring of service provision is recommended to ensure that service
787 provision is adequate across the pharmacy network.
788

789 **REFERENCES**

790

- 791 1. Tommasello A. Substance abuse and pharmacy practice: what the
792 community pharmacist needs to know about drug abuse and
793 dependence. *Harm Reduction Journal* 2004;1(1):3.
- 794 2. All Party Pharmacy Group. Community pharmacy - tackling obesity: A
795 report to Health Ministers. London, 2004.
- 796 3. Noormohamed SE, Ferguson KJ, Woodward JWB, Helms CM.
797 Pharmacists' knowledge base and attitudes on safer sex, condoms,
798 and AIDS in a low human immunodeficiency virus prevalence state.
799 *Journal of Pharmacy Teaching* 1994;4(2):77-94.
- 800 4. Department of Health. General pharmaceutical services in England and
801 Wales 1990-91 to 1999-2000. London, 2003.
- 802 5. The Information Centre. General Pharmaceutical Services in England and
803 Wales 1997-98 to 2006-2007. London, 2007.
- 804 6. Office of Fair Trading. The control of entry regulations and retail pharmacy
805 services in the UK. *A report of an OFT market investigation*. London,
806 2003.
- 807 7. Conisbee M. Ghost Town Britain: A Lethal Prescription; the impact of
808 deregulation on community pharmacies: New Economics Foundation,
809 2003.
- 810 8. The Information Centre. General Pharmaceutical Services in England and
811 Wales 1996-97 to 2005-2006. London, 2006.
- 812 9. Ritzer G. *The McDonalidization of society*. 2nd ed. California: Thousand
813 Oaks, 2000.
- 814 10. Harding G, Taylor K. The McDonaldisation of pharmacy. *Pharmaceutical*
815 *Journal* 2000;265:602.
- 816 11. Hibbert D, Bissell P, Ward P. Consumerism and professional work in the
817 community pharmacy. *Sociology of Health and Illness* 2002;24(1):46-
818 65.
- 819 12. Harding G, Taylor K. Responding to change: the case of community
820 pharmacy in Great Britain. *Sociology of Health & Illness*
821 1997;19(5):547-560.
- 822 13. Sidhu A. Glorified shelf stackers? *Pharmaceutical Journal* 2003;270:153.
- 823 14. Taylor K, Harding G. Corporate Pharmacy: Implications for the Pharmacy
824 Profession, Researchers and Teachers. *Pharmacy Education*
825 2003;3(3):141-147.
- 826 15. Birenbaum A. Reprofessionalization in pharmacy. *Soc Sci Med*
827 1982;16(8):871-878.
- 828 16. Holloway SW, Jewson ND, Mason DJ. 'Reprofessionalization' or
829 'occupational imperialism'?: some reflections on pharmacy in Britain.
830 *Soc Sci Med* 1986;23(3):323-32.
- 831 17. Harding G, Taylor KMG. Realising pharmacy's mandate. *Pharmaceutical*
832 *Journal* 1996;257:236.
- 833 18. Eaton G, Webb B. Boundary encroachment: pharmacists in the clinical
834 setting. *Sociology of Health & Illness* 1979;1(1):69-89.
- 835 19. Gilbert L. Pharmacy's attempts to extend its roles: A case study in South
836 Africa. *Soc Sci Med* 1998;47(2):153.

- 837 20. Bissell P, Traulsen JM. *Sociology and Pharmacy Practice*. London:
838 Pharmaceutical Press, 2005.
- 839 21. Anderson S. The changing role of the community pharmacist in health
840 promotion in Great Britain 1930 to 1995. *Pharm Hist (Lond)*
841 2002;32(1):7-10.
- 842 22. The Nuffield Foundation. *Pharmacy: The Report of a Committee of Inquiry*
843 *Appointed by the Nuffield Foundation*. London: The Nuffield
844 Foundation, 1986.
- 845 23. Royal Pharmaceutical Society of Great Britain. *Pharmacy in a New Age:*
846 *building the future - a strategy for a 21st century pharmaceutical*
847 *service*. London, 1997.
- 848 24. Department of Health. *Pharmacy in the Future - Implementing the NHS*
849 *Plan*, 2000.
- 850 25. Department of Health. *A Vision for Pharmacy in the New NHS*. London,
851 2003.
- 852 26. Department of Health. *Choosing Health through pharmacy - a programme*
853 *for pharmaceutical public health 2005 - 2015*. London, 2005.
- 854 27. Department of Health. *Pharmacy in England: building on strengths -*
855 *delivering the future*. London, 2008.
- 856 28. Department of Health. *Implementing the new community pharmacy*
857 *contractual framework: information for primary care trusts*. London,
858 2005.
- 859 29. Jesson J, Bissell P. Public health and pharmacy: a critical review. *Critical*
860 *Public Health* 2006;16(2):159-169.
- 861 30. Bradley F, Elvey R, Ashcroft D, Noyce P. Commissioning services and the
862 new community pharmacy contract: (3) Uptake of enhanced services.
863 *Pharmaceutical Journal* 2006;277(7414):224-226.
- 864 31. The community pharmacy contract: reflections from the National
865 Evaluation. British Pharmaceutical Conference; 2007 10th - 12th
866 September; Manchester.
- 867 32. Candlish CA, Higgins J. What were community pharmacists' early views
868 regarding future service provision as outlined in the 'new contract'?
869 *International Journal of Pharmacy Practice* 2005;13(Supplement):R37.
- 870 33. Friedson E. *Profession of Medicine: A Study of the Sociology of Applied*
871 *Knowledge*. New York: Dodd, Mead and Company, 1970.
- 872 34. Edmunds J, Calnan MW. The reprofessionalisation of community
873 pharmacy? An exploration of attitudes to extended roles for community
874 pharmacists amongst pharmacists and General Practitioners in the
875 United Kingdom. *Soc Sci Med* 2001;53(7):943-55.
- 876 35. Denzin NK, Mettlin CJ. Incomplete professionalization: the case of
877 pharmacy. *Social Forces* 1968;46(3):375-381.
- 878 36. Hughes CM, McCann S. Perceived interprofessional barriers between
879 community pharmacists and general practitioners: a qualitative
880 assessment. *Br J Gen Pract* 2003;53(493):600-6.
- 881 37. Chen J, Britten N. 'Strong medicine': an analysis of pharmacist
882 consultations in primary care. *Fam Pract* 2000;17(6):480-3.
- 883 38. Sheppard CP, Hunt A, Lupton C, Begley S. Community pharmacists in
884 primary care: Prospects for pharmacist-doctor collaboration. *Journal of*
885 *Social and Administrative Pharmacy* 1995;12:181-189.

- 886 39. Sutter CA, Nathan A. The community pharmacist's extended role: GPs'
887 and pharmacists' attitudes toward collaboration. *Journal of Social and*
888 *Administrative Pharmacy* 1993;10:70-83.
- 889 40. Walker R. Pharmaceutical public health: the end of pharmaceutical care?
890 *Pharmaceutical Journal* 2000;264(7085):340-341.
- 891 41. Super market "criticised" for patient group direction. *Pharmaceutical*
892 *Journal* 2002;268:385.
- 893 42. Gray NJ, O'Brien KL. Sad example of profits before patients.
894 *Pharmaceutical Journal* 2002;269:247.
- 895 43. Jukes AJ. Work breaks and adequate numbers of support staff required.
896 *Pharmaceutical Journal* 2005;275:225.
- 897 44. Kellett CG. Work breaks should be mandatory for pharmacists.
898 *Pharmaceutical Journal* 2005;275:225.
- 899 45. Anderson S. The burdens of history. *Pharmaceutical Journal* 2000;264:93.
- 900 46. Bush J. Pharmacy and public health: examining the links between strategy
901 and practice [PhD thesis]. Aston University, 2008.
- 902 47. Anderson C, Blenkinsopp A, Armstrong M. The contribution of community
903 pharmacy to improving the public's health. Report 1: evidence from the
904 peer-reviewed literature 1990 - 2001. London: PharmacyHealthLink,
905 2003.
- 906 48. Blenkinsopp A, Anderson C, Armstrong M. The contribution of community
907 pharmacy to improving the public's health. Report 2: evidence from the
908 UK non peer-reviewed literature 1990-2002. London:
909 PharmacyHealthLink, 2003.
- 910 49. Hassell K, Seston L, Eden M. Pharmacy workforce census 2005: Main
911 findings. London: Royal Pharmaceutical Society of Great Britain, 2006.
- 912 50. Pharmaceutical Society of Northern Ireland. Mission Statement of the
913 PSNI. Belfast, 2005.
- 914 51. Anonymous. Tesco stops supply of EHC to under 16s. *Pharmaceutical*
915 *Journal* 2002;269(7208):124.
- 916 52. Murphy JA. Employers applying pressure to conduct MURs.
917 *Pharmaceutical Journal* 2007;279(7468):258.
- 918 53. PSNC chairman: pharmacy's confidence is shaken. *Pharmaceutical*
919 *Journal* 2008;280:295.
- 920 54. Pollock AM, Price D, Viebrock E, Miller E, Watt G. The market in primary
921 care. *BMJ* 2007;335(7618):475-7.
- 922 55. Minister launches Boots chlamydia service. *Pharmaceutical Journal*
923 2005;275:596.
- 924 56. Hart JT. The inverse care law. *Lancet* 1971;i:405-12.
- 925 57. Hart JT. Commentary: Three decades of the inverse care law. *BMJ*
926 2000;320:18-19.
- 927 58. Departments of General Practice and Primary Care and Management
928 Studies University of Aberdeen. Community Pharmacy Service Delivery
929 and Organisation R and D Programme: Evolution and Change in
930 Community Pharmacy. London: Royal Pharmaceutical Society of Great
931 Britain, 2003.
- 932 59. Bowling A. *Research Methods in Health: Investigating Health and Health*
933 *Services*. Buckingham: Open University Press, 1997.
- 934 60. Oppenheim AN. *Questionnaire Design, Interviewing and Attitude*
935 *Measurement*. 2nd ed. London: Pinter Publishers, 1992.

936 61. Robson C. *Real World Research*. Oxford: Blackwells, 1993.
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939

940 **TABLES**

941

942 **Table 1** Examples of public health roles for pharmacists (after Walker⁴⁰)

943

<ul style="list-style-type: none">• Provide advice on self-care• Provide advice to young mothers• Provide support to develop effective parenting skills• Participate in health promotion campaigns• Promote drug misuse awareness• Participate in needle exchange schemes• Promote healthy schools• Improve AIDS awareness• Provide sexual health support	<ul style="list-style-type: none">• Provide unplanned teenage pregnancy support• Support patients with chronic illness• Provide advice on how medicines work• Maintain patient medication records• Promote patient medication awareness• Provide out-of-hours services• Provide collection and delivery services• Undertake domiciliary visits• Facilitate disposal of waste medicines
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Table 2 Services included in the study

Service	Classification under 2005 Pharmacy Contract
Collection of waste medicines	Essential
Health promotion (HP) on premises	
Medicines Use Reviews (MURs)	Advanced
Supervised administration of medicines	Enhanced
Smoking cessation	
The supply of EHC on a patient group direction (PGD)	
Minor ailments scheme	
Needle exchange	
Palliative care services	
Out of hours services	<i>Retail transaction^a</i>
The supply of emergency hormonal contraception (EHC) over the counter (OTC)	
Diabetes testing	Services not specified in the terms of the contract but provided through certain pharmacies
Cholesterol testing	
Blood Pressure (BP) testing	
Sexually transmitted infection (STI) testing ^b	
Domiciliary visits	
Home delivery of medicines	
HP off premises	

^a The retail supply of EHC was included for assessment owing to the additional level of pharmacist involvement in these supplies (the pharmacist must assess the suitability of the supply to the patient and provide an additional level of counseling in comparison to the vast majority of 'P' medicine sales) and the focus given to pharmacy's role in reducing teenage pregnancy in policy documents.

^b It should be noted that the multiple pharmacy chain Boots was selected as the Department of Health's preferred partner for Chlamydia screening through pharmacy which was piloted at all its London stores (over 200) from November 2005.

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Table 3 Reporting of the provision of public health services through the different types of community pharmacy by survey pharmacists

	Percentage of respondents working most regularly in each type of pharmacy who reported provision of the service					Total (%)	P
	Supermarket (max n=65)	Multiple (max n=360)	Large chain (max n=97)	Small chain (max n=59)	Independent (max n=346)		
Home delivery	28.8	75.4	93.6	92.9	88.4	80.7	0.000
Supervised administration of medicines (i.e. methadone)	54.4	78.1	76.1	77.2	61.4	70.3	0.000
Smoking cessation	60.7	66.2	64.9	64.9	75.3	69.1	0.035
Medicines use reviews	75.0	78.1	68.1	50.0	55.7	66.9	0.000
The supply of emergency hormonal contraception on a patient group direction	36.4	50.0	43.8	52.7	50.8	48.8	0.050
Blood pressure testing	64.4	44.3	39.1	26.4	42.9	43.5	0.000
Needle exchange	5.7	30.4	33.3	38.5	32.4	30.9	0.021
Palliative care	19.2	21.0	32.9	30.4	33.6	27.7	0.000
Out of hours	28.3	22.1	17.9	20.8	30.0	25.6	0.000
Domiciliary visits	5.9	19.1	19.5	33.3	37.4	25.0	0.032
Diabetes testing	23.1	31.0	19.8	13.7	20.3	24.0	0.000
Cholesterol testing	3.8	36.5	13.8	15.1	15.6	23.5	0.000
Health promotion off of the pharmacy premises	7.8	9.0	8.6	6.4	14.5	10.9	0.016
Sexually transmitted infection testing	2.0	11.0	1.3	6.1	3.1	6.3	0.001

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Table 4 Results of the internal consistency analysis between items

Barrier	Cronbach's alpha value if the item is excluded
Time constraints	0.81
Lack of available funding	0.81
Unsuitable premises	0.81
Lack of knowledge	0.80
Lack of training opportunities	0.80
Lack of understanding of public health	0.80
Lack of awareness of the social model of health	0.80
Unwillingness of pharmacists to leave the 'comfort zone' of dispensary	0.80
Conflicts arising from commercial interests	0.80
Pharmacy's position on the fringes of the NHS	0.80
Lack of communication between pharmacy and other health professionals/PCOs	0.80
Ignorance of community pharmacy's potential public health contribution at PCO level	0.80
Pharmacy's inexperience of the commissioning process	0.79
Lack of a local, unified pharmacy organisation to bargain collectively for funding	0.79
Inability of the Local Pharmaceutical Committee (LPC) to represent pharmacy effectively	0.79
The removal of the obligation of PCOs to consult LPCs	0.80
Lack of incentive for employee pharmacists	0.80

Cronbach's alpha = 0.81

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960

961 **FIGURE LEGENDS**

962

963 **Figure 1** Number of community pharmacies in England and Wales from 1994-95 to 2006-07

