Evolution of the need and coverage of opioid substitution treatments and needle exchange programmes in Spanish prisons, 1992-2009

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ABSTRACT

Introduction: Spain is one of the few countries to have widely implemented opioid substitution treatments (OST) and needle exchange programmes (NEP) for drug users in prison. We analyze the evolution of the need, coverage and the timeliness of these interventions in Spain between 1992 and 2009.

Methods: Data on the provision of interventions is taken from official publications. The need was calculated by applying multiplicative methods to secondary data from several sources. Coverage was estimated as the quotient between provision and need. Temporal opportunity was estimated by observing the gap between the acme of the incidence of consumption, of HIV infection or need and the curve of provision.

Results: OST's began to be implemented in 1992. In 2002 they reached their maximum coverage (63.8%) and subsequently stabilized. NEP's started in 1997. Their maximum coverage reached 20.7% in 2006, but halved in a period of two years. The delay between the epidemic acme and the need and maximum intervention coverage was of 8-25 years. Conclusions: OST and NEP introduction in Spanish prisons was a great advance, but the delay in their implementation and the low level of NEP coverage could have limited their potential impact on the improvement of the health of incarcerated drug users. The decline of NEP coverage in recent years is a cause of major concern for the evolution of HIV and Hepatitis C epidemics.

Key words: opiate substitution treatment; needle-exchange programs; prisons; program evaluation; harm reduction; HIV; hepatitis C; Spain.

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INTRODUCTION

Along with the transition from dictatorship to democracy, in the mid seventies in Spain, heroin consumption became widespread, mostly injected among usual users [1]. According to a recent estimate, the maximum incidence regarding heroin consumption was in 1980 [2], when the HIV infection epidemics had already began among such population, reaching its acme in 1985 [3]. The superposition of both epidemics in drug users during the last two decades of the 20th century entailed a matchless effect in both morbidity and mortality among young Spaniards within Western Europe, not even in Spain since the last civil war [4].

Due to several reasons such as the fact that drug use is regarded as illegal in most countries, the high incidence of drug abuse among disadvantaged

groups, the need to offend against property or commit retail drug trafficking as to fulfill the economic demands derived from the need of acquiring drugs, etc. in all countries a very high percentage of heroin and other illegal drug users eventually end up imprisoned during long periods of time [5]. In our country, in the late eighties and early nineties, about one out of every two inmates had used injected drugs and about one out of three was infected by HIV [6]. Awareness of this situation, mainly raised by guidelines of international organizations such as the WHO [7], led to a thorough reorganization of healthcare within prisons trying to comply with the principle that an inmate is only deprived of freedom, not of any other right. Moreover, a special program regarding the prevention, control and care of communicable diseases related to drug injection or highly prevalent among this population, such as HIV, hepatitis B and C and tuberculosis [8], was implemented. Nevertheless, such program included the distribution of bleach but did not consider the distribution of needles. Even then it was obvious that bleach should be considered a second line or complementary measure for when sterile needles "could not" be used. It was soon proved that its efficiency implied very specific concentration and exposure periods [9] which led to questioning its population efficacy [10]. Now, needles had not undergone what some have called a "legality test" [11] for their use in prisons, nor what we could calla legitimacy or social acceptance tests. In Spain they had not been developed outside prisons even if in Amsterdam they had been implemented over 5 years ago. Only after a couple more years, another efficacy-proved measure was undertaken outside prison: opioid substitution therapies (OST), while the provision of sterile injection material would have to wait another 5 years [11, 12].

Twenty years later, healthcare indicators also developed within such reform of prison healthcare, show that the situation has dramatically changed as far as incidence and prevalence of these infections among the imprisoned population are regarded [13]. Some recent analysis have only considered the last 10-20 years and show a continuously descendent trend of such indicators, simultaneously with a progressive increase of needles exchanged and inmates under opioid treatment. Such a temporal coincidence and probably the impatience to show the efficacy of a series of policies which were very hard to implement in the first place, have led to suggesting a somewhat rushed, or at least poorly clarified, casual relationship [6, 13].

Nevertheless, it is worth making an effort to assess as far as possible (process or results) the aforementioned policies, for at least two reasons: a) Due to the broad dimension of the heroin use and injected drug use epidemics in Spain and their impact on the health of young adults, and b)Due to the determination of policymakers who promoted the reform of healthcare in prisons which led to the implementation of two harm reduction measures based on scientific evidence with efficacy in the community [14, 15], but which only a reduced number of countries have implemented in prisons (mostly as pilot programs in some prisons)5.

This paper intends to analyze the temporal evolution of the needs of needles and OST among injecting drug users (IDUs) and opioid users in prisons in Spain during the period between 1992 and 2009, as well as the coverage achieved and the needs not covered by these interventions.

METHODS

Multiplicative methods were applied to data from several resources of secondary data as to estimate the need, provision and coverage of both harm reduction interventions: OST and needle exchange programs (NEP) in Spanish prisons between 1992 and 2009. It is convenient to specify that data from the autonomous community of Cataluña has not been included since its competence on prison healthcare has been transferred and they use different data sources. The target population of OST and NEP were, respectively, opioid users and IDUs imprisoned during the aforementioned period. Methodological details (such as algorithms, assumptions, definitions, and intermediate estimations and data sources) are listed in Table 1.

Data sources used in the analysis are sufficiently representative of the situation in Spanish prisons. Data on the average number of people imprisoned in December every year (MDP in Spanish) come from the National Statistics Institute [16]. Data on the annual number of new entries in prison (new imprisonment or NI) come from the registries of the Secretary General of Penitentiary Institutions (SGPI) [17] and entail the inconvenience of being referred to entry events, so that the number of people imprisoned can be slightly overestimated, since certain people may have been imprisoned more than once throughout the year. Moreover, data regarding some years were not available, and they had to e estimated by interpolation or projection from those available. Data regarding the provision of OST and needles also come

from the registries of the SGPI [17]. The provision of OST refers to the number of people who underwent OST sometime during the year, and the provision of needles to the annual number of sterile syringes distributed by NEP in all Spanish prisons.

The need of OST and needles was estimated from three national surveys on the use of drugs targeted at people who were and were not imprisoned, carried out in 1994, 2000 and 2006 [18-20]. The 1994 survey was carried out on 1541 people who entered prison selected in 25% of Spanish prisons [18]. The 2000 survey was carried out on 5028 inmates selected from 61 prisons, without including the prisons in Cataluña [19, 21]. The 2006 survey was carried out 1934 inmates selected from 66 facilities. Inmates were both preventive and already sentenced (mostly classified under second degree), excluding those who did not speak Spanish or Arab, and inmates in isolation cells, psychiatric centres or small and far away prisons [20].

The coverage of OST or needles was estimated, on the one hand, as the quotient of the provision of interventions (number of people who received OST or syringes distributed) and the need of such interventions, and on the other hand, as the difference between those two parameters. The quotient (relative coverage) indicates the proportion of needs covered and is useful for comparative purposes, while the difference expresses the absolute volume of uncovered needs and is useful for planning and economic assessment purposes. The annual average number of syringes distributed per IDU was also estimated, since it's a widespread indicator among international publications.

The need of OST refers to the annual number of opioid user inmates who need this therapy and was calculated as the addition of inmates who took OST sometime throughout the year (obtained from the records of the SGPI) and the number of heroin users upon imprisonment who did not receive OST in prison (estimated from data from the 2006 survey [20]). The need of needles was calculated by multiplying the number of IDUs within prison (obtained from data of the three aforementioned surveys on drug use in prison) and the annual average number of injection episodes per IDU (obtained from the 2006 survey [20]).

The difference observed between the problems or need curve and the provision curve was the basis for estimating the temporal adequacy or opportunity of the interventions. First, the time passed between the year when need or problem indicators (such as incidence of HIV infection related to injecting drugs, prevalence of injecting drug abuse within the general population, number of heroin users upon entering prison –equivalent to OST need- number of IDUs within prison –determining the need of syringes-) reached their acme and the year when the coverage of interventions (OST or NEP) was higher, was calculated. Furthermore, as far as OST is regarded, need was also assessed by estimating the time passed between the maximum of the aforementioned problems or need indicators and the year when a medium or high level of OST coverage was achieved. According to international organizations"medium coverage levels" were defined as 20-40% of opioid users receiving OST, and a "high level", that over 40% of injectors receiving OST [7]. As far as NEP, criteria established by such organizations refer to the average number of syringes distributed per IDU and are not applicable to the prison environment since within such localization the frequency of injection per IDU seems considerably lower than outside prison.

RESULTS

Need, provision and coverage of OST (see Table 2 and Figure 1)

It has been estimated that in 1980 the highest incidence of heroin abuse had been reached among the general population and in 1992, the highest prevalence. Our estimate shows that such prevalence, and hence the highest need for OST, was almost simultaneously reached (1992-93). This kind of treatment was the first of two harm reduction measures implemented just when the need was at its acme. Until 1996 its development was mostly anecdotic, but then experienced a quick growth, surpassing the 40% that the WHO defines for considering a high coverage. Its furthest development was achieved in 2002, with 21819 inmates receiving treatment at some time throughout the year, which entailed a coverage of 63.8%, and resting near 60% ever since. The reduction of uncovered need was mainly due to an increase in therapy provision although the reduction of need due to a progressive fall of the number of opioid users who entered prison also contributed substantially.

Need, provision and coverage of sterile syringes (see Table 3 and Figure 2)

Assuming that just one sterile syringe was used per injection, it has been estimated that the maximum need was that of 1992, when 377,529 syringes would

Indicator	Algorithms, Assumptions	Definitions, Intermediate Estimates	Data Sources
		A) OST for opioid users	
Number of heroin users upon prison entry (HF)	HF=PHF*P P=MDP+NI	HF: Number of inmates who had used heroine at least 30 days before entering prison. PHF: Prevalence of heroin use 30 days before entering prison among those imprisoned throughout that year. PHF_{1994}=0.429; PHF_{2000}=0.353; PHF_{2006}=0.265. The PHF for the rest of years was obtained through interpolation and linear projection of the prevalence found in the three aforementioned years. P: Number of people who have been imprisoned sometime throughout that year MDP: Daily average number of people imprisoned in December every year. NI: Annual number of entries in prison from freedom.	PHF: Surveys on health and drug use to inmates of Spanish prisons (ESDIP): 1994, 2000 and 2006 [18-20].
Number of heroin users in prison (HP)	HP=PHP*P P=MDP+NI	HP: Number of inmates who had used heroin in the last 30 days in prison. PHP: Prevalence of heroin use 30 days before, among those imprisoned throughout that year. PHP_{2006}=0,055. The PHP for the rest of years was obtained by multiplying the annual PHF and the quotient PHF_{2006} / PHP_{2006} = 4.8 [$PHP=PHF*(PHF_{2006}/PHP_{2006})$].	PHP_{2006}: 2006 Survey on health and drug use to inmates of Spanish prisons (ESDIP) [20]
Heroin users who do not receive OST (HNO)	HNO=HF-(HF*PHO)	PHO: Proportion of heroin users 30 days prior to entering prison who received OST in prison. . PHO_{2006}=0.53. For the period comprised between 2001 and 2009 the same 2006 annual PHO was assumed. The annual PHO regarding years prior to 2001 were calculated by decreasing the 2006 PHO directly proportionally to the drop of PO_{2006}, since it was considered that there was not enough OST offer yet.	PHP_{2006}: 2006 Survey on health and drug use to inmates of Spanish prisons (ESDIP) [20]
OST provision (PO)	-	PO: Number of people who underwent OST sometime throughout the year.	Prison records [17]
OST Need (NO)	NO=PO+HNO Assuming that all HNO Need OST	NO: Number of opioid users that need OST	-
Uncovered OST need (NONC)	NONC=NO-PO	NONC: Number of inmates who need OST but who do not receive it	-
OST Coverage (CO)	CO=(PO/NO)*100	CO: Relative OST coverage	-
		B) Sterile Syringes among injecting drug users	
Number of IDUs upon entering prison (IF)	IF=PIF*P P=MDP+NI	IF: Number of inmates who had used injecting drugs 30 days prior to entering prison. PIF: Prevalence of injecting drug use 30 days prior to entering prison among people imprisoned throughout that year. PIF_{1994}=0.390; PIF_{2000}=0.219; PIF_{2006}=0.117 The PIF for the rest of years was obtained through linear projection of the prevalence found in the aforementioned years.	PIF: Surveys on health and drug use to inmates of Spanish prisons (ESDIP): 1994, 2000 and 2006 [18-20]. MDP: National Statistic Institute [16]. NI: General Annual Reports of the SGPI [17].
Number of IDUs in prison (IP)	IP=PIP*P P=MDP+NI	IP: Number of inmates who had used injecting drugs 30 days before in prison. PIP: Prevalence of injecting drug use within the last 30 days in prison among those imprisoned throughout that year. . PIP2006=0.013. The PIP for the rest of years was obtained by multiplying the annual PIP and the quotient PIF_{2006} / PIP_{2006} = 9.0 [$PIP=PIF*(PIF_{2006}/PIP_{2006})$].	PIP2006: 2006 Survey on health and drug use to inmates of Spanish prisons (ESDIP). [20]
Needle provision (PJ)	-	PJ: Number of syringes provided per needle exchange program in prison.	Prison records [17]
Needle Need (NJ)	NJ=IP*IA Assuming: a sterile syringe per injection and one injection per day.	NJ: Annual need of needles in prison. IA: Average number of injection days per year and IDU. IA2006 =6.9*12=82.4 For the rest of years the same IA was applied.	IA_{2006}: 2006 Survey on health and drug use to inmates of Spanish prisons (ESDIP). [20]
Uncovered Needle Need (NJNC)	NJNC=NJ-PJ	NJNC: Number of sterile syringes needed per IDU in prison not provided by NEP.	-
Needle Coverage (CJ)	CJ=(PJ/NJ)*100	CJ: Relative coverage of syringes by needle exchange programs in prison.	-
Needles provided per IDU (JPI)	JPI=NJ/IP	JPI: Average number of syringes distributed every year by NEP to each IDU.	-

All indicators were calculated for one year and make reference to the imprisoned population in Spain. OST: Opioid Substitution Treatment; NEP: Needle Exchange Program; IDU: Injecting Drug User.

Table 1: Methods as to estimate the need, provision and coverage of harm reduction interventions in Spanish prisons

Year	People imprisoned sometime during the year [a] (**P**)	Daily average of people in prison (**MDP**)	Number of heroin users upon imprisonment (**HF**)[a]	Number of heroin users in prison (**HP**) [a]	OST provision (**PO**) [a]	Need of OST in prison (**NO**) [a]	Uncovered OST needs (**NONC**)[a]	OST Coverage (**CO**) (%)	Daily average of people on OST [a]
1992	92201	36210	41890	8694	90	41888	41798	0.2	30
1993	95815	39824	42318	8783	135	42314	42179	0.3	45
1994	96738	40747	41501	8613	696	41492	40796	1.7	234
1995	94603	38612	39386	8175	2041	39466	37425	5.2	686
1996	81528	35898	32910	6830	6606	34212	27606	19.3	1572
1997	86327	37132	33754	7005	10577	35621	25044	29.7	3192
1998	85811	38365	32465	6738	16283	35851	19568	45.4	5162
1999	76351	38266	27919	5795	18899	33945	15046	55.7	6589
2000	75105	39001	26512	5503	20214	33651	13437	60.1	7866
2001	76876	41131	26010	5398	21642	33919	12277	63.8	8816
2002	80907	44924	26187	5435	21819	34179	12360	63.8	8729
2003	83514	48645	25806	5356	21223	33403	12180	63.5	8778
2004	85684	51272	25220	5234	20917	32821	11904	63.7	8585
2005	86701	52747	24247	5032	19010	2930455	11445	62.4	8080
2006	93112	55049	24675	5121	17709	29355	11646	60.3	7567
2007	98278	57725	24602	5106	17541	29153	11612	60.2	7344
2008	106560	63517	25113	5212	16792	28645	11853	58.6	7431
2009	108134	65548	23898	4960	18212	29492	11280	61.8	7108

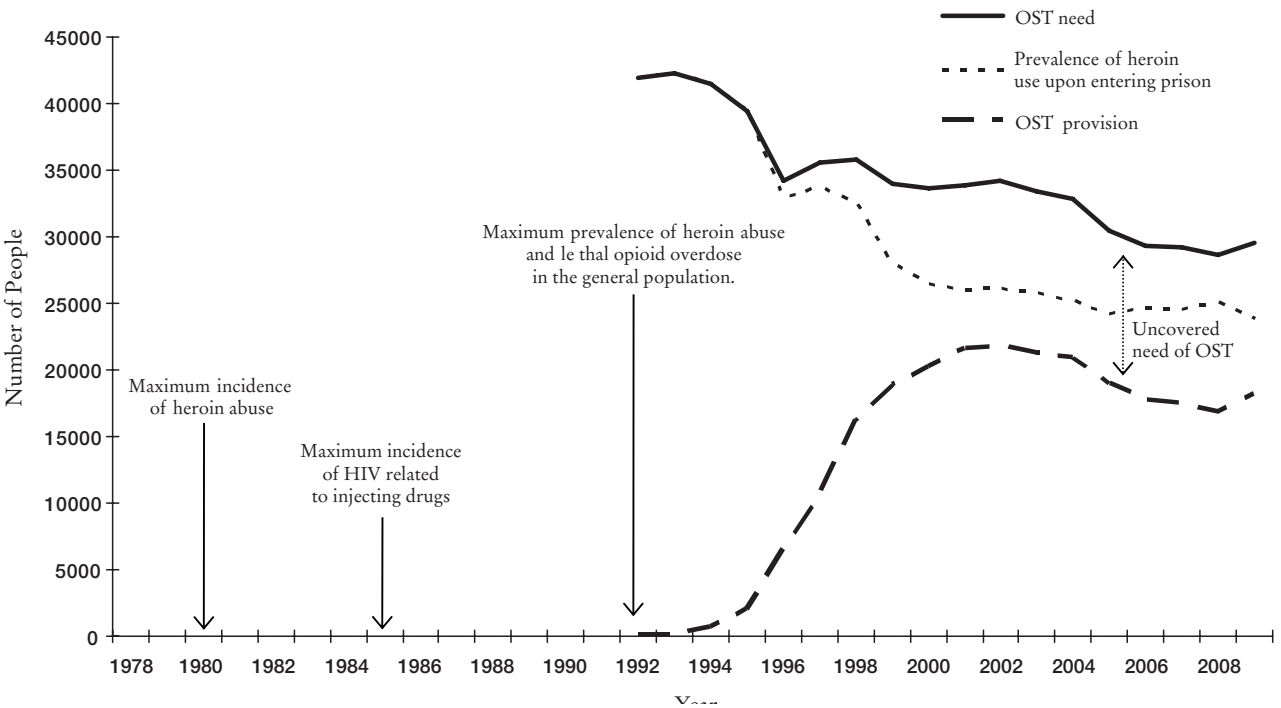
[a]: Números absolutos. TSO: Tratamiento sustitutivo con opioides.
P: Nº de personas que han estado alguna vez ingresadas en prisión durante el año. MDP: Media diaria de personas en prisión en el mes de enero. HF: Nº de reclusos que habían usado heroína en los 30 días previos al ingreso en prisión; HP: Nº de reclusos que habían usado heroína en los últimos 30 días en prisión; NO: Nº anual de reclusos que necesitan TSO en las prisiones españolas; PO: Nº anual de personas a las que reciben en algún momento tratamiento con opioides en las prisiones españolas; NONC: Nº anual de reclusos que necesitan tratamiento con opioides pero no lo reciben (NONC =NO-PO); CO: Cobertura relativa de tratamiento substitutivo con opioides en prisión [CO=(PO/NO)*100].

Tabla 2. Estimación de la necesidad, provisión y cobertura de tratamiento sustitutivo con opioides (TSO) en las prisiones españolas, 1992-2009

have been needed. Ever since that moment an abrupt and continuous reduction of need has been observed until 2005, when the decreasing trend became slower. The first NEP in prison was implemented in 1997 with 2582 syringes distributed, and its utmost was reached in 2006 (20,626), then reduced by half only three years later. The maximum coverage was 20.7%, yet as it can be graphically proven in Figure 2, the main factor was related to a substantial drop of need, while the increase in provision developed a secondary role. Moreover, the substantial decrease in coverage observed throughout recent years is a consequence of a reduction in provision.

Temporal adequacy or opportunity of interventions

If we take as a reference to estimate the opportunity the year when OST coverage was higher (2002), it can be observed that 22 years had then passed since the highest incidence of heroin abuse (1980), 17 since



The need of OST is higher than the prevalence of heroin use because it is assumed that those who do not use heroin and are receiving OST also need such treatment.

Figure 1: Evolution of need and opioid substitution therapy (OST) provision for opioid users in Spanish prisons, 1992-2009.

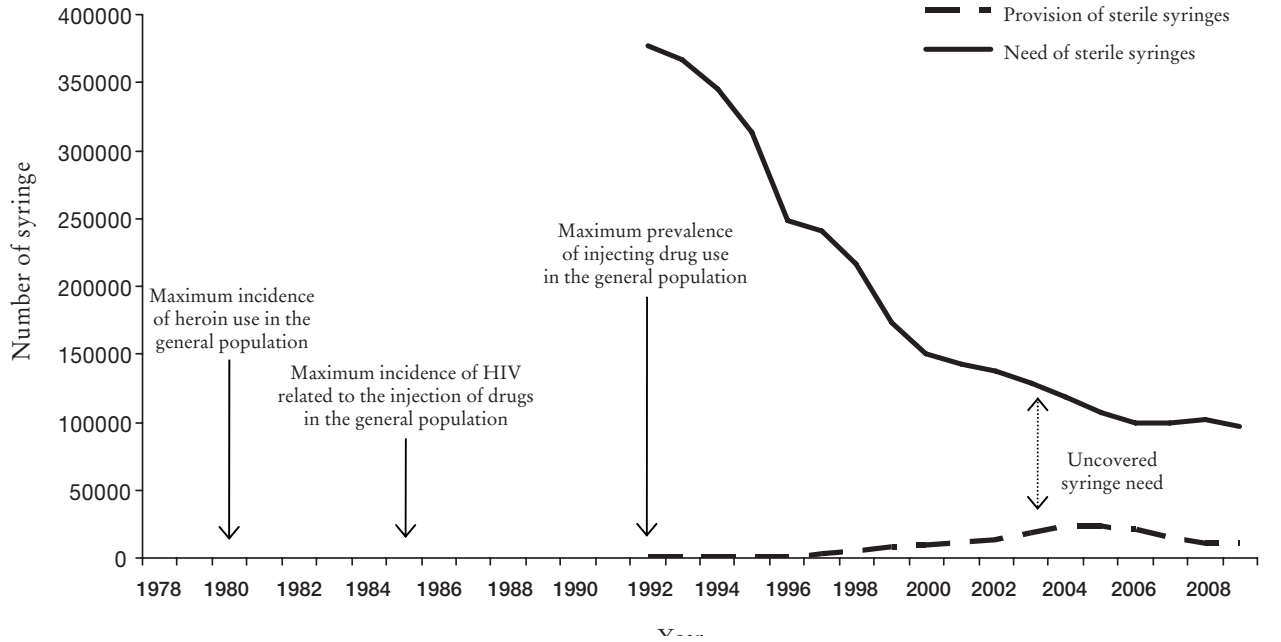


Figure 2: Evolution of need and provision of sterile siringes among injecting drug users in Spanish prisons, 1992-2009

Year	People imprisoned sometime during the year [a] (**P**)	Daily average of people in prison (**MDP**)	Number of IDU upon imprisonment (**IF**)[a]	Number of IDU in prison (**IP**)[a]	Syringe Provision (**PJ**)[a]	Need of syringes in prison (**NJ**) [a]	Uncovered need of syringes (**NJNC**)[a]	Syringe coverage (**CJ**) (%)	Syringes provided per IDU (**JPI**)
1992	92201	36210	41214	4579	0	377529	377529	0.0	0.0
1993	95815	39824	40099	4455	0	367915	367315	0.0	0.0
1994	96738	40747	37728	4192	0	345599	345599	0.0	0.0
1995	94603	38612	24199	3800	0	313273	313273	0.0	0.0
1996	81528	35898	27149	3017	0	248691	248691	0.0	0.0
1997	86327	37132	26286	2921	2582	240791	238209	1.1	0.9
1998	85811	38365	23684	2632	4943	216951	212008	2.3	1.9
1999	76351	38233	18897	2100	7056	173101	166045	4.1	3.4
2000	75105	39001	16448	1828	8584	150668	142084	5.7	4.7
2001	76876	41131	15529	1725	11339	142250	130911	8.0	6.6
2002	80907	44924	14968	1663	12970	137109	124139	9.5	7.8
2003	73514	48645	14030	1559	18260	128522	110262	14.2	11.7
2004	75684	51272	12938	1438	22356	118518	96162	18.9	15.6
2005	86701	52747	11618	1291	22989	106424	83435	21.6	17.8
2006	93112	55049	10894	1210	20626	99793	79167	20.7	17.0
2007	98278	57725	10860	1207	13998	99478	85480	14.1	11.6
2008	106560	63517	11082	1231	10582	101517	90935	10.4	8.6
2009	108134	35548	10543	1171	10038	96578	86540	10.4	8.6

[a]: Absolute numbers, IDU: injecting drug user

P: Number of people who have been imprisoned sometime during the year. MDP: Daily average of people imprisoned in January. IF: Number of inmates who had used injecting drugs sometime 30 days before entering prison. IP: Number of inmates who had used injecting drugs some tome 30 days before in prison. NJ: Annual need of syringes in prison (NJ=IP*IA). PJ: Number of sterile syringes annually distributed by Needle Exchange Programs in prison. NJNC: Number of syringes needed but not provided by NEPs. (NJNC=NJ-PJ). CJ: Syringe coverage [CJ= (PJ/NJ)*100]. JPI: Annual average number of syringes provided per every IDU in prison (SPI=SP/I).

Table 3: Estimates of need, provision and coverage of sterile syringes for injecting drug users in Spanish prison, 1992-2009.

the highest incidence of HIV related to injecting drug use (1985), 10 since the highest prevalence of heroin abuse among the Spanish population (1992) and 8 since the utmost need of OST (1994). The highest coverage of NEP in prisons was achieved in 2005 and the highest need for syringes concerns 1992 (or 1991), hence there is a 3 year delay in comparison with OST.

If we consider as a reference to estimate the opportunity, the year when a "medium level of coverage for OST" was achieved (1997) it can be observed that then 17, 12, 5 and 3 years had respectively passed since the maximum rates for the aforementioned problems and need indicators had been achieved. The high coverage level for OST (>40%) was reached one year later.

DISCUSSION

As far as we know, this is the first paper to assess the opportunity and temporal evolution concerning the needs of syringes and opioid substitution therapy (OST) in injecting drug users and opioid users in prisons in Spain as a whole, including the analysis of estimations regarding need, coverage achieved and uncovered needs. Until now all analysis had been limited to describing the provision without assessing its relationship with needs. We are not acquainted neither with similar studies in other countries.

The first relevant result is the enormous delay with which such measures were implemented: between 8 and 25 years, according to evolution indicators of the epidemics of heroin abuse or of need, and the provision indicators used in the comparison. Obviously such delay can be easily deduced from analyzing the implementation of such measures in the community [22], but it had not been explicitly commented. The most conservatory estimate (8 years) would be the result of comparing the maximum need, reached in 1994, and the moment when the highest OST coverage was achieved (2002). However, the time when more users could have benefited from such programs is not the time when more benefit could have been obtained. It is obvious that even then a great deal of such users had already been infected by HIV. Therefore, from the point of view of preventing such infection, it is undeniable that 1985 (highest incidence of the infection among users) was an utmost important reference point. Taking into account that HIV and Hepatitis C are communicable diseases and that drug use and its administration related behaviors are spread as innovations –with patterns alike those of infectious epidemics- it seems evident that a great part of the preventive potential was lost. On one hand, a high percentage of people at risk were already infected at the time when the policies were implemented [3], and on the other, to obtain a specific impact regarding the reduction of infections, major reduction of risk behaviors had to be achieved, as any behavior enabling transmission at this stage implies a higher probability of acquiring the infection since there is a high prevalence of people infected. It must be noted that at least as far as the HIV epidemics is concerned, the first five or six years should be discarded since until 1985-86 we were not aware of its magnitude among IDUs, and therefore in prisons [22].

The next evidence is that OST, the first of the measures developed, achieved already in 1998 high coverage levels according to the standards defined by the WHO for the community (>40%)[7], then achieving and maintaining even higher levels, about 60%. Moreover, the development of this measure was simultaneous to what was being implemented outside prisons [23]. Otherwise, the provision of syringes was implemented 5 years later and in 2005, the year with the highest coverage, only one of every five syringes needed were distributed. This lower coverage also took place in the estimation of community programmes [23]. Now, the reduction by half in the provision that has taken place between 2007 and 2008 does not seem justified by a simultaneous reduction of need due to a reduction of the number of injectors, as it has been suggested [13, 17]. The reduction of the estimated need in this short period of time has been very modest. The general perception that injection is no longer a problem may be leading to the fact that NEP are currently starting to disappear and that the inmates' theoretical right to requesting syringes to health staff members is not being exercised. As so often happens, less priority in any issue can lead to a poorer provision of care for those who still suffer such problem. This situation could be encouraged by a service whose instauration was obviously a social and public health conquest, but whose exercise certainly still faces enormous reluctance. Even if the coverage in this study has been estimated very thoroughly, when assuming one syringe per injection, we are also considering that inside prison there are no other legal provision means, while outside prison, sterile syringes can be freely purchased in pharmacies. Not having achieved a high coverage for syringes could have reduced the efficacy of OST, since recent theoretical models suggest that the combination of a high coverage of both measures, as well as antiretroviral therapy, is much more efficient than high levels of a sole intervention [24]. Although we have not been able to analyze it since there is no published data disaggregated by centre available, it is not difficult to hypothesize on the fact that there are several differences according to prisons regarding the coverage of both harm reduction measures, and that they are probably more relevant regarding syringes, where the activity of certain programs will have been specially notable, while other will have been merely anecdotic.

To demonstrate the efficacy and impact of the implementation of harm reduction measures with good final result measures (reduction in the incidence of HIV infections, for example) is not an easy task as it is very complicated to carry out studies of sufficient magnitude and duration and to fulfill certain methodological requirements (representa-

tiveness, good monitoring rates, etc.) taking into account the features of illegal drug users, specially injectors. Nevertheless, the evidence collected on the efficacy of such measures in the community is already broad, both for OST and NEP [14, 25-29], unlike prisons [30]. Firstly, these programs, especially NEP, have been implemented in fewer places. In most cases (especially those which were firstly implemented in each country) underwent an evaluation in their initial stage. Nevertheless a thorough and critical perspective in a recent review, demonstrate that such evaluations focused on the analysis of potential side effects and that the effect measures considered had to do mainly with self-reported changes regarding risk behaviors and only some included effect measures on infection incidence, their results therefore having a limited value due to their poor power. Undoubtedly, the most consistent evidence derived from the evaluation of these programs both in Spain [31, 32], and in other countries [5], regard the non existence of side effects, alleged then and still today by those who oppose the development of such programs. The main argument, also alleged against community NEP and also discarded by the evidence [31, 33], was that they could encourage the injection. Moreover, in prison there was the added risk that the provision of syringes could entail for other inmates and officers. It was difficult-and still is- to understand that it is feasible to reconcile the purposes of the judicial-criminal system and those of public health [11].

The present paper has not approached the evaluation of efficacy in terms of results but simply of process indicators. We are aware of the strong limitations entailed by certain quick evaluations of results based on the trend analysis of some indicators on incidence or prevalence of diseases, as well as on the provision of services. Having disposal of such indicators must be considered a relevant achievement itself. Obviously these indicators show that the health status of inmates in Spanish prisons has dramatically changed throughput the last 20 years as far as some infectious diseases are concerned (mainly HIV, Hepatitis B and C and Tuberculosis). Now, deducing that this change is mainly due to the implementation of harm reduction policies has to be regarded as an hypothesis for whose confirmation we do not have sufficient scientific evidence, easily refutable by those who still oppose their development. The main explicative hypothesis regards the reduction of the percentage of inmates who have used injected drugs some time. Geographical analysis of the evolution of this reduction, the fact that its onset was before full awareness of the problem of HIV infection and its lack of geographical association with HIV prevention policies implemented by different autonomous communities, can lead to considering that this dramatic reduction may not be primarily related to healthcare policies [22]. We must take into account that the population who uses drugs is a dynamic population whose risk period is mainly spent in the community. We believe that the information provided by epidemiologic surveillance indicators must be assessed more thoroughly than with an analysis of its raw trend (as it has been done until now), but we are afraid that neither would this analysis provide sufficient evidence on the efficacy of these policies.

Obviously the process evaluation hereby presented entails a series of limitations that is worth noting, especially relevant in estimating the need. First, it must be considered that its trend has been based on certain assumptions. The most relevant, that the relationship between the prevalence of injection 30 days before entering prison and 30 days before the time of interview in the 2006 study remained the same for the rest of years. This is probably untrue and during the first years such ratio was lower (there was no OST in prison), hence the number of injectors in prison during those years would be underestimated and the coverage overestimated. We also believe that the self-reported nature of injection entails the consideration that such behavior is probably underreported, which could be especially high for the injection in prison, as well as for old injection for people who no longer use this route of administration. It is also necessary to further note that data on the autonomous community of Cataluña is not included, although probably conclusions would not change substantially, at least as far as OST is concerned.

We could conclude that, although late, in Spain we had the courage to implement harm reduction/public health interventions with community proved efficacy, but against whose implementation in prison there was strong opposition from some social sectors and that not many countries have developed; that the provision of opioid substitutes reached a very high coverage while that of syringes remained more modest and seems to have strongly fallen throughout recent years. Therefore, effort must still be done to keep the already achieved coverage rates and so that the clear reduction in the number and percentage of opioid users and injectors among inmates does not lead to a justification to reduce care provided to them.

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