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The cost of providing methadone maintenance treatment in Ontario, Canada

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Abstract

Objectives—To estimate the cost of providing methadone maintenance treatment in Ontario, Canada, from the perspective of the public payer.

Methods—We analyzed a database of all patient clinic visits, laboratory tests for urine toxicology screening, and methadone scripts from a group of methadone clinics in Ontario. The database consisted of patient visits and visit information from January 1, 2003 to December 31, 2009. We estimated the cost of providing methadone maintenance treatment as the sum of physician costs, laboratory costs for urine samples (toxicology screens), methadone costs and pharmacy costs. Pharmacy costs include dispensing fees and markups. All costs are expressed in 2010 CAD.

Results—The database consisted of 9479 unique patients. The average age on the date of the first recorded visit was 34.3 and 62.3% were male. There were 6,425,937 patient-days of treatment and the total cost of all treatment-related services was approximately $99,491,000. The total cost was comprised of physician billing (9.8%), pharmacy costs (39.8%), methadone (3.8%), and performing urine toxicology screens (46.7%). The average cost per day in treatment was $15.48, corresponding to $5651 per year if patients were to remain in treatment continuously.

Conclusions—The cost of providing methadone maintenance treatment in Ontario is comparable to estimates from the United States and Australia.

Scientific Significance—This information is important to policy makers for planning and budgeting purposes and as part of a full cost-benefit or cost-effectiveness analysis of methadone treatment.

Keywords

methadone; cost; electronic medical record

1 Introduction

Methadone maintenance treatment is known to be effective in reducing heroin and other opioid use (1) as well as in reducing many other risk behaviors (1, 2). Studies based on decision analytic models have found that methadone maintenance treatment is cost effective

in the United States (3) and the United Kingdom (4). However, methadone maintenance treatment continues to be controversial.

Because of its potential for abuse, methadone is a controlled substance in many jurisdictions. For example, in the United States, methadone is classified by the Drug Enforcement Agency as a Schedule II substance (5). Consequently, methadone doses have typically been given daily under supervised settings and take-home doses were sparingly given, although this has begun to change. If take-home doses are given, they are given for limited periods of time, and patients in methadone maintenance treatment undergo frequent testing for drug abuse and methadone metabolites. Specific regulations vary by state, city, and type of clinic. These factors combine to make methadone maintenance treatment expensive compared to the cost of generic methadone.

Cost estimates for methadone maintenance vary widely. A recent review of costing studies in Europe suggested a range from €2/day in the UK (approximately $3 in year 2010 CAD[a]) to €32/day in Norway (51 CAD) (6). One study of 3 drug treatment models in Australia (7), using results from an earlier report (8), estimated the cost of pharmacotherapy, which could include methadone maintenance, to be $11/day (12 CAD). A study of methadone programs in Australian prisons estimated the cost per patient per year as $3234 (3533 CAD) (9). A cost-effectiveness analysis of buprenorphine versus methadone in Australia (10), based on a clinical trial (11), estimated that methadone costs $12.52/day in treatment (16 CAD) (compared to $18.59/day for buprenorphine)[b] (24 CAD).

Several differing estimates for the cost of methadone maintenance treatment also exist in the United States. One study used a Veteran's Affairs database and estimated the cost as $5250/year (7770 CAD) (12). Roebuck et al. report on the costs of 11 methadone maintenance programs in the US and show costs ranging from $42 to $166 per week (55–218 CAD), with an average of $91 per week (119 CAD) (13). A study of 170 programs found an average annual cost of $4176 (5631 CAD) (14). Dunlap et al. used data from 159 methadone programs to estimate a cost function for methadone programs, and found an average of $11.53 per day (16 CAD) (15). In multivariate analysis they observed economies of scale with larger programs having lower average costs. Other estimates range from $48 to $139 per week (75–218 CAD) in a comparison of 8 methadone maintenance programs (16); a range from $4750 to $6068 (7237–9246 CAD) annually at 5 programs operating a number of clinics in the New York area (17); and mean of $104 (120 CAD) per week (18). For patients who had been stabilized for at least one year, one study used data from a clinical trial of clinic-based versus office-based methadone to estimate the costs of these programs. The authors estimated the cost for clinic-based methadone as $240 per week (276 CAD) and the cost for office-based methadone programs as $275 per week (317 CAD) (19).

In Canada, methadone is a controlled substance. Physicians who prescribe methadone require specialized training and an exemption from Health Canada. In addition, each province has its own licensing body which regulates methadone prescription. In Ontario, all methadone maintenance treatment is outpatient-based and follows the College of Physicians and Surgeons of Ontario Methadone Maintenance guidelines (20). The guidelines contain

[a]Currency estimates from comparison studies were converted to equivalent 2010 Canadian dollars as follows. First, we applied the country-specific inflation rate to convert from the currency year stated in each study to 2010 in the relevant local currency units. Then we converted to Canadian dollars using to the mid-year exchange rate (July 2 2010). We note that there were considerable fluctuations in exchange rates during the last 15 years and if the two operations had been reversed (i.e., convert to Canadian dollars first, then inflate according to the Bank of Canada inflation rate) the comparison amounts would be different.

[b]The cost estimate for methadone is based on mean cost of $1415 and mean of 113 days retention in treatment ($1415/113 = $12.52). The cost estimate for buprenorphine is based on and mean cost of $1729 and mean of 93 days retention in treatment ($1729/93 = $18.59).

details on appropriate prescribing, dispensing, lab testing, use of “carries” (formulations of methadone that patients can take home and consume in an unsupervised setting), and other facets of treatment.

In Ontario, methadone treatment is paid for through a mix of public and private sources. Physicians operate their offices privately and collect revenues either from the Ministry of Health and Long Term Care (MOHLTC), for services listed on the Ontario Health Insurance Plan (OHIP) Schedule of Benefits for Physician Services, or directly from patients for services not covered by OHIP, such as travel vaccinations, doctor’s notes and insurance examinations. All physician services directly related to methadone maintenance treatment are covered by OHIP. Physicians use the fees collected from various sources to pay their salaries and cover all office expenses, such as rent, materials, and staff. If a methadone clinic provides additional services, such as psychosocial counseling, this is considered an office expense and not associated with additional billing.

Lab services are provided privately and lab fees are regulated by the schedule of benefits and fees for laboratory services (21). Dispensing of methadone is done privately by pharmacies. Patients in methadone maintenance treatment can fill their methadone prescription at a pharmacy of their choice or receive methadone at the clinic. Methadone must be dispensed by a pharmacist but it can be administered under delegation by a nurse. Drug costs and pharmacy fees are paid for publicly for patients who are eligible for coverage by the Ontario Drug Benefits Plan (ODB) and privately (as an out of pocket expense or by a private third-party insurer) for patients who are not covered by ODB. ODB is a government-funded drug plan that covers individuals over the age of 65 along with several other categories of individuals. For patients covered by ODB, fees and markups are regulated by ODB.

It is important to have an estimate for the cost of methadone maintenance treatment in Canada to help guide Canadian policy and healthcare financing decisions. Estimates derived from other countries might not be transferable to Canada for several reasons: studies from other jurisdictions may include cost items that are not relevant to the public payer perspective in Canada (or may exclude items that are relevant); fees for physician, pharmacy and lab services are subject to local regulation and payment schedules and may be quite different from fees in other countries; and treatment guidelines, which guide the use of carries as well as the frequency of physician visits and urine tests, are written by provincial medical boards and may differ from guidelines in other jurisdictions. In this paper we estimate the cost of methadone maintenance treatment for opiate dependent drug users in Ontario, Canada, from the perspective of the public payer. We use a large database created by an electronic medical record at a group of methadone clinics in Ontario. Our cost estimate is based on activities recorded in this database with costs per activity estimated from appropriate provincial fee schedules and other outside sources.

2 Methods

2.1 The Data

We obtained a database from the Ontario Addiction Treatment Centres (OATC). OATC is a group of methadone clinics that operates 34 clinics in a number of cities across Ontario, Canada (during the data collection period the number of clinics increased from 25 to 34 due to expansion of operations). There are three clinics in the Toronto area and two in Ottawa (the two largest cities in Ontario). The remaining clinics are spread throughout the province in a mix of large and small areas (e.g., Cambridge, with an urban area of approximately 500,000, and Fort Frances, with a population of approximately 9500).

The data represents all data gathered through their electronic medical record system for the period from January 1st, 2003 through December 31st, 2009. This data set has not been analyzed or described previously. During the month of December 2008 there were 5242 unique patient IDs in the OATC database and 21,254 patients enrolled in methadone maintenance treatment in Ontario (22); in December 2009, there were 6599 unique patient IDs in the OATC database and 25,396 patients enrolled in methadone maintenance treatment in Ontario (22). These numbers suggest that approximately 25% of methadone maintenance treatment patients in Ontario received treatment from OATC.

Patients receiving treatment at this group of clinics received their methadone either in daily doses under supervised settings (either at the clinic or at a community pharmacy) or carries for up to 6 days at a time. All patients initially receive methadone daily (or, in rare cases, multiple times daily) in a supervised setting. They begin to receive carries only if urine tests are drug-free for two months and they are deemed to be "functionally stable." Functional stability is typically subjectively assessed by the treating physician, based on such factors as, but not limited to, employment status, social and family situation, absence of criminal activity, emotional and mental stability and compliance with treatment recommendations and program rules. Patients then receive 1 carry per week, and each month they can increase by an additional 1 carry per week, up to a maximum of 6 carries per week (so that all patients receive at least one supervised dose per week). Carries are granted in accordance with the College of Physicians and Surgeons of Ontario guidelines (20).

The database includes information on every patient visit during the observation period, as well as details on the frequency and results of urine drug screens, methadone dosage and carry level (from 0 to 6 days). The total cost for each patient was estimated as the sum of the costs for physician fees, lab tests for urine drug screens, methadone, and pharmacy dispensing costs. These components are described in more detail below. All costs are expressed in 2010 Canadian dollars by using the database to estimate the quantities of health services used (i.e., number of physician visits, number of laboratory tests), then multiplying by costs from the appropriate 2010 costs or fee schedules.

2.2 Patterns of Treatment Use

For many patients there were alternating periods during which they were in treatment and then when there were no records in the database. We define the term "treatment episode" as a continuous period of time during which a patient received methadone treatment, and "treatment absence" as the continuous period of time between treatment episodes. We defined the transition from a treatment episode to a treatment absence as occurring if there was a 7-day period at the end of a treatment episode with no recorded clinic visits, similar to the definition used elsewhere (23). We defined the transition from treatment absence to a treatment episode as occurring when a patient who is currently in a treatment absence phase has his next recorded activity in the database. This was used to estimate the number of days in treatment.

2.3 Urine Samples

Patients provide urine samples for toxicology screening at varying frequencies, as per the College of Physicians and Surgeons of Ontario guidelines. Dates of urine samples were recorded in the database. At the beginning of their treatment, samples are typically provided twice per week; then less frequently (e.g. once per week, 2 weeks or month) or as deemed necessary by the treating physician based on patient stability and other factors, for the duration of treatment. Clinic support staff supervise the collection of all urine samples.

All tests are immunoassay tests and the results are used to provide information to the physicians rather than to confirm abstinence. These urine tests are used as "drug screens" and not confirmatory tests. Positive tests do not result in patients being removed from treatment and thus confirmatory tests are not required. A confirmatory test is occasionally required for medico-legal purposes. However, this is extremely rare and the costs of the confirmatory tests are not borne by the public payer.

Laboratory costs (including processing of urine samples) are regulated by the Ministry of Health and Long Term Care as specified in the Ontario Schedule of Laboratory Fees (21). The schedule specifies a number of "LMS units" for each lab test. The Ministry pays $0.517 per LMS unit. Urine tests are worth 17 LMS units per test, or $8.79 per test (17×$0.517= $8.79). Urine samples typically consist of a panel of 4 or more tests. Common panels include tests for methadone, EDDP (2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine), cocaine metabolite (benzoylecgonine), opiates and benzodiazepine. Panels may also include tests for alcohol, THC, amphetamines and barbiturates depending on individual needs. Reimbursement is limited to 4 panels, corresponding to a total cost of $35.16 per urine test ($8.79×4=$35.16). We estimated the cost of urine samples by counting the total number of samples given and multiplying by this amount.

2.4 Physician Billing

The database recorded all physician appointments. We assumed that physician appointments would be billed at $32.35 as "intermediate assessments" under the Ontario Health Insurance Plan (OHIP) schedule of benefits (24). Note that the category "physician billing" includes rent, office space, equipment, materials, office staff (including nurses, counselors, case managers, and therapists) and other expenses since these expenses are paid for by physicians from fees collected. In sensitivity analysis we also considered the possibility of increased frequencies of physician visits.

2.5 Methadone Cost

For each patient we calculated the total amount of methadone used per day as the dose frequency (per day) multiplied by the dose amount. We then calculated the total amount of methadone used per treatment episode as the sum of all daily amounts for that treatment episode.

The cost of methadone is not publicly available in Ontario and may vary between pharmacies due to negotiated pricing arrangements. We estimated the cost to be $0.01 per mg based on the costs at a large hospital formulary. We varied this estimate in sensitivity analysis. We calculated the total methadone cost per patient per treatment episode as the methadone cost multiplied by the total amount of methadone used in that episode.

2.6 Pharmacy Fees

Pharmacy fees include dispensing fees, compounding fees and markups. In the base case analysis, we assumed that these fees are covered by the Ontario Drug Benefits Program (ODB). ODB uses the capitation approach for calculating pharmacy fees (25). This approach includes government mandated dispensing fee of $4.11/day, a compounding fee of $2.00 per dose, and an 8% markup on methadone acquisition costs. These fees are provided to dispensing pharmacists per patient per day, regardless of the number of carries.

2.7 Total Cost

We estimated the cost per day in methadone maintenance treatment as the sum of all costs incurred by the public payer (i.e., urinalyses, physician billing, methadone costs and pharmacy fees) divided by the sum of all treatment days. We produced two estimates of the

annual total cost of methadone maintenance. For the first, we estimated the cost per patient per day and multiplied that by 365. This represents the total annual cost for a patient who remains in methadone continuously for an entire year. For the second estimate, we multiplied the first estimate by the percentage of time that the average patient is in a treatment episode. This represents the expected annual cost of methadone treatment per patient, accounting for the fact that a typical patient switches between treatment episodes and treatment absences. In sensitivity analysis we considered scenarios in which some of the pharmacy costs would be incurred by private payers.

3 Results

The database covers a time period of 2,257 days and included 9,479 unique patients. The average age on the date of each patient's first recorded visit was 34.3 and 62.3% were male. We estimated that there were 6,425,937 patient days in treatment episodes. This represents approximately 678 total treatment days per patient. When we include the treatment absences that occurred between the first and last recorded visit for each patient there were a total of 7,459,731 patient days, corresponding to an average of 787 total days observed for each patient.

The sum of all costs was approximately $99,491,000 (Table 1). When we divided this by the total number of patient days in treatment we obtained a cost per day in treatment of $15.48. The two largest components of cost were pharmacy costs (39.8%) and urine samples (46.7%). Methadone (including markups) accounted for 3.8% of the average cost per episode, or approximately $0.58 per day.

If patients were to remain in treatment continuously, then the cost per year would be $15.48×365 =$5651. However, as noted earlier, patients transition between treatment episodes and treatment absences. To obtain the expected annual cost per patient, we multiplied this number by the proportion of time that patients remain in treatment, yielding $5651×678/787 = $4868. The average length of a treatment episode was 129 days, resulting in a cost per episode of $2004.

3.1 Sensitivity Analysis

Our base case estimate of the cost per day in treatment was $15.48 ($5651/year). In sensitivity analysis (Table 2) we varied the frequency of physician visits, the average methadone cost, the average methadone dose amount, and the impact of changes in our assumptions about eligibility for public sector drug coverage.

We first varied the number of physician visits. The timing between physician visits would normally vary according to each patients' needs and factors related to patient stability. Patients early in the course of treatment (e.g., those in the stabilization phase) may require more visits than those later in treatment (e.g., those in the maintenance phase). Similarly, a patient having a lapse may temporarily require additional physician visits. Thus, we varied the frequency of physician visits. If there was one additional physician visit per episode, per week, or every two weeks, then the cost increased to $15.73/day ($5742/year), $20.10/day ($7338/year) and $17.79/day ($6495/year), respectively. Thus, the cost per patient may vary over time at any given clinic as the characteristics of the treated population changes. A relatively new clinic, with many patients in the early stages of treatment, may be expected to have relatively high frequencies of physician visits and hence increased costs per patient.

In the base case we assumed that generic methadone would cost $0.01/mg. We considered a cost of generic methadone of $0.005/mg, $0.02/mg, and $0.03/mg, resulting in daily (annual) costs of $15.17 ($5336), $16.11 ($5881) and $16.74 ($6112), respectively.

Next, we varied the average methadone dosage level. If the methadone dose was always 60 mg/day then the cost per day (per year) increased slightly to $15.50 ($5657). If the methadone dose was always 100 mg/day then the cost per day increased to $1593 ($5815). The changes associated with changes in methadone dosage are relatively small. In the base case, methadone only accounted for 3.8% of the total cost, so small changes in average dosage levels should have little impact on overall costs. Additionally, other pharmacy-related fees are covered by ODB using a capitation approach and are thus not dependent on methadone dose.

In the base case we considered the perspective of the public payer, assuming that all patients would have their methadone and pharmacy costs covered by ODB. However, not all patients are eligible for ODB coverage. In 2005 and 2006 there were an average of 14,898 patients in methadone maintenance treatment in Ontario (26), and in the 2005/2006 fiscal year 10,700 patients (approximately 72%) received methadone through ODB (25). Patients not eligible for ODB coverage would be expected to pay for methadone and pharmacy fees either out-of-pocket or through a private third-party insurer. Patients not covered by the public drug plan would be expected to pay the pharmacy's "usual and customary fee" for dispensing (27). This fee varies from store to store, and may also vary between stores in the same chain. One group benefits provider examined the dispensing fees charged by the 12 largest pharmacy chains and groups operating in Ontario (28). They found that the average fee per chain ranged from $4.11 to $11.41 per prescription, with an average of $10.08 and a median of $9.99. A more recent report from an insurance company stated that dispensing fees across the province range up to $15.99, with 1% of pharmacies charging more than $11.99 per prescription (29).

The difference in pharmacy fees between the public payer and private payers led us to consider three additional cases. First, we considered the expected cost to the public payer of one patient entering methadone. This is a weighted average of our base case cost for the 72% of patients who receive coverage from ODB, and physician and lab billing only for the 28% of patients whose methadone and pharmacy fees are covered privately, resulting in an estimate of $13.59/day ($4962/year). Next, we estimated the cost to all payers (public and private combined) of providing methadone maintenance for a patient who is not eligible to receive ODB coverage and instead has methadone and pharmacy fees covered privately. For this estimate we replaced our base case estimates of pharmacy fees with values that are representative of private practice. We assumed that methadone prescriptions for patients who are not eligible for ODB coverage would incur an average $10.08 dispensing fee (28), along with a 10% markup (30) and $2.75 compounding fee (based on $0.55 per minute for 5 minutes (31)). This resulted in a cost per day of $17.19/day ($6275/year). Finally, we considered the expected cost to all payers as a weighted average of our base case cost estimate (public payer only) and the cost estimate for an individual whose pharmacy costs are paid privately, resulting in a cost of $15.96/day ($5825/year).

4 Discussion

We have estimated the cost per day of methadone maintenance treatment in Ontario as $15.48 per day, corresponding to $5651 per treatment slot per year. This estimate is within the range of estimates from Australia (e.g., $11/day (12 CAD) (7) and $12.52/day (16 CAD) (10)) and the United States (e.g., $42/week (55 CAD) (13) to over $10,000 per year (19)).

We used electronic medical record data and considered the perspective of a public payer. This is important information for policy makers who must consider the cost and cost effectiveness of methadone maintenance treatment relative to other policy options. An important strength of our analysis is that it is based on a very large data set, consisting of

over 9400 patients, drawn from a large geographic area, including large and small cities, and observed over a 7 year time frame. In addition, the electronic record that we used allowed us to directly estimate the costs for each patient.

We are aware of only one other estimate of the cost methadone treatment in Canada. This appeared as a parameter estimate in a cost effectiveness analysis of methadone versus diacetylmorphine (32). The authors estimated a cost of $329.38/month ($3952.56/year) for drug treatment based on data from the North American Opiate Medication Initiative (NAOMI) trial (33, 34) and records from the British Columbia PharmaNet database. However, this estimate was based on data from a clinical trial as opposed to typical conditions. It is unclear if the estimate is generalizable beyond the trial setting because expenses for pharmacists, physicians and treatment delivery were considered part of the clinic overhead, and some urinalyses were excluded from the cost estimate. In addition, the method in which the overhead component of cost was allocated to patients was not specified.

We found that approximately 39.8% of the cost of methadone maintenance treatment was due to pharmacy fees and 46.7% due to laboratory fees. Thus, it would be necessary to reduce the frequency and/or unit costs of these services to significantly reduce the cost of methadone maintenance treatment. However, the frequency of pharmacy visits and urinalyses are guided by Ontario Guidelines and Health Canada regulations, and costs for pharmacy and laboratory services are determined by provincial fee schedules and usual practice (in the case of dispensing fees). A change in the guidelines would require appropriate supporting evidence. A change in the fee schedules would require a unilateral decision by the province which could have negative consequences in terms of supply of services.

Our estimates include only the incremental costs of providing methadone maintenance treatment and do not include other changes in healthcare costs that accrue from methadone maintenance treatment programs. Patients receiving methadone maintenance treatment are routinely tested for HIV, hepatitis and other conditions. Provision of these tests may lead to near-term cost increases as patients become aware of their status and seek treatment for these conditions, but may also generate longer term cost savings. For example, treatment may prevent or reduce disease complications; may lead to reductions in risky behavior and hence reductions in disease transmission; and may reduce routine health care costs if methadone patients begin to receive regular health care rather than seeking care through emergency departments. A full accounting of all of these indirect offsetting costs is beyond the scope of this paper. However, other work examining the cost effectiveness of expanding methadone (3) and buprenorphine (35) in a US context found both to be cost effective. We note that this previous work on methadone concluded that, even at a cost of $8000/year, expanded methadone treatment would still be considered cost effective.

We note that at the clinics studied, counseling and social services are provided by the clinic and paid for through funds collected by physician billing. Thus, our base case estimate includes these costs as long as patients seek these services at the clinics where they receive methadone. Similarly, overhead and administration are funded through physician billing at these clinics.

It is difficult to compare estimates from different studies for several reasons. Different studies use different time frames used for reporting costs – either per day, month, year, or per episode. Some studies report expected costs per year, reflecting the fact that patients typically do not receive treatment continuously for an entire year. In addition, studies vary in the information that is included and how it is gathered: some estimates rely on examination

of administrative records; some use key informant interviews; some use time and motion studies; and some use combinations of all of these methods. A third difference among costing studies relates to what costs are included. These differences make precise comparisons of program costs difficult. Note that even when using standard methodology and time frames, there may be considerable variations in results: one study evaluated the costs at 11 clinics and reported a range of $42–$166 per week (13), corresponding to a factor of 4 between the low and high estimates. Some methodological issues in costing methadone programs have been reviewed previously (36).

We used a 7-day absence from treatment to indicate the end of a treatment episode. Many other analyses of the costs of methadone treatment programs report the cost per episode. However, definitions of “treatment episode” vary. Thus, reported episode lengths and costs per episode may not be immediately comparable across studies.

4.1 Limitations

We did not include indirect health care costs or offsets in this analysis. We did not include the costs of mixing materials, although these would be expected to be small. This group of clinics does provide counseling and other social services. However, they do not explicitly bill for the provision of these services since these services are considered office expenses and are thus covered through physician billing to the Ontario Ministry of Health and Long Term Care. Our estimate of the cost of methadone would likely be higher if these services were obtained from outside facilities. We did not include costs incurred by patients enrolled in methadone maintenance treatment programs. One study estimated an average cost of $19.20 per visit (37).

The current study used a very large data set consisting of over 9400 individuals (approximately 25% of all methadone patients in the province) over a 7 year period, with representation from several communities across the province of Ontario. Nonetheless, our estimate may not be generalizable to all of Canada for several reasons. The study was based on one set of clinics, so differences may arise if other clinics have different policies or practices. For example, OATC does not provide detoxification services. Although drug treatment is provided in a similar fashion in other provinces in Canada, fee schedules and local practices may differ.

5 Conclusions

We used administrative data from a group of methadone clinics in Ontario and estimated that cost to the public payer of providing methadone treatment was $15.65 per day. This number is within a range of estimates from the US and Australia. This estimate is an important piece of information for policy makers when considering the value of methadone relative to other policy options, and may be an important input to a full cost-benefit or cost-effectiveness analysis of methadone programs.

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Table 1

Base case results. Total and average values per day by cost component.

	Total	Per Day	% of Total
Physician Billing	9,702,000	1.51	9.8%
Urine Samples	46,474,000	7.23	46.7%
Methadone	3,753,000	0.58	3.8%
Pharmacy (including markup)	39,563,000	6.16	39.8%
Total	99,491,000	15.48	100.0%

Table 2

Summary of sensitivity analyses.

Scenario	Cost/Day	Cost/Year
Base Case	15.48	5651
Additional Physician Visits (Base case: Variable, as observed in database)		
+1 visit per episode	15.73	5742
+1 visit per week	20.10	7338
+1 visit per 2 weeks	17.79	6495
Change in Cost of Methadone (Base case: $0.01 /mg)		
$0.005 /mg	15.17	5336
$0.02 /mg	16.11	5881
$0.03 /mg	16.74	6112
Methadone Dosage Level (Base case: Variable, as observed in database)		
60 mg/day	15.50	5657
100 mg/day	1593	5815
Payer Perspective (Base case: 100% of cost covered by public payer)		
Expected cost to public payer for one patient entering treatment[a]	13.59	4962
Cost to all payers of a patient entering treatment with private drug coverage	17.19	6275
Weighted average cost of one patient entering treatment	15.96	58.25

[a]Based on 72% of patients being covered entirely by the public payer and 28% having private drug coverage.