

Reimbursement of Drugs for Rare Diseases through the Public Healthcare System in Canada: Where Are We Now?

Remboursement, par le système de santé public au Canada, des médicaments pour maladies rares : où en sommes-nous?

DEVIDAS MENON, DEREK CLARK AND TANIA STAFINSKI

Appendix A. Literature search strategy

1. PubMed (www.pubmed.gov, searched 26 Feb 2013)

Search	Query	Items found
#85	Search #83 OR #84	735
#83	Search #17 AND #70 Filters: Publication date from 1990/01/01; Humans; English; French	728
#84	Search (#17 AND #70) AND (in process[<i>sb</i>] OR publisher[<i>sb</i>] OR pubmednotmedline[<i>sb</i>])	7
#71	Search #17 AND #70	887
#82	Search #17 AND #70 Filters: Publication date from 1990/01/01; English; French	804
#81	Search #17 AND #70 Filters: Publication date from 1990/01/01; English	740
#80	Search #17 AND #70 Filters: Publication date from 1990/01/01	858
#77	Search #17 AND (in process[<i>sb</i>] OR publisher[<i>sb</i>] OR pubmednotmedline[<i>sb</i>])	136
#17	Search #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #8 OR #14	5,238
#75	Search #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #8 OR #14 Filters: Publication date from 1990/01/01; Humans; English; French	4,215
#74	Search #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #8 OR #14 Filters: Publication date from 1990/01/01; Humans; English	3,999
#73	Search #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #8 OR #14 Filters: Publication date from 1990/01/01; Humans	4,723
#72	Search #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #8 OR #14 Filters: Publication date from 1990/01/01	4,964
#70	Search #46 OR #69	2,231,090
#69	Search #47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54 OR #55 OR #56 OR #57 OR #58 OR #59 OR #62 OR #63 OR #64 OR #65 OR #66 OR #67 OR #68	515,355
#68	Search insurance[<i>ti</i>]	17,294
#67	Search budget*[<i>ti</i>]	5,090
#66	Search framework*[<i>ti</i>]	17,267
#65	Search regulat*[<i>ti</i>]	320,095
#64	Search legislat*[<i>ti</i>]	9,931
#63	Search HTA[<i>ti</i>]	108
#62	Search technology assessment*[<i>ti</i>]	1,632

Search	Query	Items found
#59	Search policy*[ti]	27,068
#58	Search policies[ti]	7,202
#57	Search policy[ti]	26,684
#56	Search decision*[ti]	36,977
#55	Search catastrophic[ti]	1,585
#54	Search "co-pay"*[ti]	19
#53	Search copay*[ti]	223
#52	Search cost-shar*[ti]	303
#51	Search access[ti]	26,086
#50	Search coverage[ti]	9,825
#49	Search fund*[ti]	28,223
#48	Search financ*[ti]	12,120
#47	Search reimburs*[ti]	4,205
#46	Search #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44 OR #45	1,847,462
#45	Search ethics	166,830
#44	Search economics	571,693
#43	Search standards	594,053
#42	Search legislation and jurisprudence	205,662
#41	Search technology assessment, biomedical[mh]	8,805
#40	Search cost control[mh]	27,221
#39	Search cost sharing[mh]	3,376
#38	Search National Health Programs[mh]	70,119
#37	Search insurance, health[mh]	116,457
#36	Search insurance, health, reimbursement[mh]	36,230
#35	Search insurance coverage[mh]	9,741
#34	Search models, econometric[mh]	3,654
#33	Search models, economic[mh]	9,054
#32	Search economics[mh]	464,528
#31	Search budgets[mh]	11,595
#30	Search moral obligations[mh]	5,415
#29	Search financing, organized[mh]	189,397
#28	Search cost-benefit analysis[mh]	55,269
#27	Search health services accessibility[mh]	77,273
#26	Search health care rationing[mh]	9,999

Search	Query	Items found
#25	Search delivery of health care[mh]	731,728
#24	Search reimbursement mechanisms[mh]	29,260
#23	Search state medicine[mh]	44,588
#22	Search public policy[mh]	102,864
#21	Search health policy[mh]	75,898
#20	Search policy making[mh]	17,436
#19	Search decision making, organizational[mh]	10,214
#18	Search decision making[mh]	109,061
#14	Search "rare cancer*"[ti]	85
#8	Search "ultra rare"[ti]	9
#6	Search "orphan drug*"[ti]	145
#5	Search "orphan disease*"[ti]	60
#4	Search "rare disorder"[ti]	110
#3	Search "rare disease*"[ti]	594
#2	Search orphan drug production[mh]	700
#1	Search rare diseases[mh]	4,023

2. The Cochrane Library (Issue 1 of 12, 2013, John Wiley & Sons)

Total results: 509 (0 relevant from 280 Cochrane Reviews, 6 from DARE, selected 1 from 172 Central trials, 0 relevant from 19 Methods, 19 from HTA and 10 from NHS EED)

Search	Query	Items found
#1	rare diseases:ti,ab,kw (Word variations have been searched)	803
#2	orphan drug production	24
#3	"rare disease*"	236
#4	"rare disorder*"	30
#5	"orphan disease*"	15
#6	"orphan drug*"	23
#7	"ultra rare"	0
#8	"rare cancer*"	10
#9	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8	1,022
#10	decision making	17,699
#11	policy making	4,341
#12	health policy	6,651
#13	public policy	1,962
#14	state medicine	15,996
#15	reimbursement mechanisms	147
#16	delivery of health care	4,769

Search	Query	Items found
# 17	health care rationing	160
# 18	health services accessibility	669
# 19	cost-benefit analysis	14,224
#20	financing, organized	90
#21	moral obligations	21
#22	economics	19,665
#23	models, economic	9,091
#24	models, econometric	414
#25	insurance coverage	292
#26	insurance, health	2,291
#27	insurance, health, reimbursement	338
#28	national health programs	6,984
#29	cost sharing	1,154
#30	cost control	36,744
#31	technology assessment, biomedical	921
#32	legislation and jurisprudence	482
#33	standards	65,025
#34	economics	19,665
#35	ethics	2,384
#36	# 10 or # 11 or # 12 or # 13 or # 14 or # 15 or # 16 or # 17 or # 18 or # 19 or # 20 or # 21 or # 22 or # 23 or # 24 or # 25 or # 26 or # 27 or # 28 or # 29 or # 30 or # 31 or # 32 or # 33 or # 34 or # 35	115,592
#37	reimburs* or financ* or fund* or coverage or access* or cost* or copay* or "co-pay*" or catastrophic or decision*	82,452
#38	#36 or #37	138,747
#39	policy or policies or legislat* or regulat* or "technology assessment" or HTA or framework or budget or insurance	39,100
#40	#38 or #39	158,417
#41	#9 and #40	509

3. Centre for Reviews and Dissemination (CRD): DARE, NHS EED and HTA databases <http://www.crd.york.ac.uk/crdweb/HomePage.asp> (searched 28 Feb 2013)

Search	Query	Items found
1	MeSH DESCRIPTOR Rare Diseases EXPLODE ALL TREES	5
2	MeSH DESCRIPTOR Orphan Drug Production EXPLODE ALL TREES	4
3	("rare disease*") OR ("orphan drug*") OR ("ultra rare")	36
4	# 1 OR #2 OR #3	36

4. EMBASE (Ovid, 1974 to 17 Feb 2013)

Search	Query	Items found
1	exp *rare disease/	1,485
2	exp *orphan drug/	610
3	ultra rare.mp.	42
4	1 or 2 or 3	2,049
5	exp *decision making/	37,041
6	exp *health care policy/	50,482
7	exp *policy/	19,015
8	exp *national health service/	21,553
9	exp *economic aspect/	331,813
10	exp *reimbursement/ or exp **health care cost"/ or exp **cost"/	67,527
11	exp *health care delivery/	443,114
12	exp **cost benefit analysis"/	7,327
13	exp *financial management/	91,938
14	exp *morality/	7,445
15	exp *ethics/ or exp *medical ethics/	84,249
16	exp *budget/	4,298
17	exp *economics/ or exp *health economics/	197,002
18	exp *health insurance/	82,038
19	exp **cost effectiveness analysis"/	11,995
20	exp *biomedical technology assessment/	3,840
21	exp *law/	33,751
22	exp *jurisprudence/	19,123
23	5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22	964,538
24	4 and 23	253
25	limit 24 to yr="1990 -Current"	248

5. Web of Science (Thomson Reuters, searched 13 Mar 2013)

#3	579 #2 AND #1 Timespan=1990-2013 Search language=English
#2	Topic=(decision* OR policy OR policies OR reimbursement OR rationing OR access OR accessibility) OR Topic=(financing OR economic* OR model* OR cost* OR assessment* OR budget*) OR Topic=(moral OR ethic* OR legislation) Timespan=1990-2013 Search language=English
#1	Title=("rare diseases" OR "rare disorder*" OR "orphan drug*" OR "orphan disease*" OR "ultra rare") Timespan=1990-2013 Search language=English

6. EconLit (EBSCOHost, searched 13 Mar 2013)

SI	rare disease* OR rare disorder* OR orphan drug* OR "ultra rare"	Limiters- Published Date from: 19900101-20131231 Search modes- Find all my search terms	72
----	---	--	----

7. PAIS International (ProQuest, searched 14 Mar 2013)

= 60 results

(rare disease*) OR (rare disorder* OR orphan drug*) OR (ultra rare) limited 1990 to date

8. Sociological Abstracts (ProQuest, searched 14 Mar 2013)

= 305 results

(rare disease*) OR (rare disorder* OR orphan drug*) OR (ultra rare) limited 1990 to date

9. Canadian Business and Current Affairs (CBCA Complete, Proquest, searched 20 Mar 2013)

= 546 results

ti(rare disease*) OR ti((rare disorder* OR orphan drug*)) OR ti(ultra rare) limited 1990 to date, English or French

10. ABI/INFORM Global (Proquest, searched 20 Mar 2013)

= 335 results

ti((rare disease*) OR (rare disorder*) OR (orphan drug*) OR (ultra rare)) limited 1990 to date, English or French

11. Scopus (SciVerse, searched 20 Mar 2013)

= 110 results

(TITLE("rare disease*" OR "rare disorder*" OR "orphan drug*" OR "ultra rare") AND PUBYEAR > 1989) AND (TITLE(decision* OR policy* OR policies OR reimbursement OR delivery OR rationing OR access* OR financing OR economic* OR coverage OR cost* OR legislation* OR funding))

12. Proquest Dissertations & Theses Fulltext (Proquest, searched 20 Mar 2013)

= 157 results

all((rare disease*) OR (rare disorder*) OR (orphan drug*) OR (ultra rare)) AND all(decision* OR policy OR policies OR reimbursement OR rationing OR access* OR economic* OR funding OR legislation OR coverage) limited 1990 to date, English or French

13. Canadian Newsstand Complete (Proquest, searched 20 Mar 2013)

= 7 results

ti((rare disease*) OR (rare disorder*) OR (orphan drug*) OR (ultra rare)) AND ti(decision* OR policy OR policies OR reimbursement OR economic* OR rationing OR access* OR fund* OR legislation OR catastrophic OR regulat*) limited to 1990 to date, English or French, document type: Article, Bibliography, Book, Commentary, Conference, Editorial, Essay, Feature, General Information, Government & Official Document, Review

Grey literature search (searched April 2013; *unless otherwise noted, the search terms were: rare disease* or rare disorder* or orphan drug*)

- www.google.ca (“rare disease*” OR “rare disorder*” OR “orphan drug*” OR “ultra rare”) AND (decision* OR policy OR policies OR reimbursement OR economic* OR rationing OR access* OR fund* OR legislation OR catastrophic OR regulat*) *scanned first 300 hits

Canada

- KU-UC (Quebec Population Health Research Network (QPHRN)) <http://www.santepop.qc.ca/en/index.html>

- Canadian Organization for Rare Disorders <http://www.raredisorders.ca/> *scanned web site

- National Library of Canada. AMICUS: Canadian National Catalogue <http://www.collectionscanada.gc.ca/amicus/index-e.html>

Appendix B. Survey instrument – jurisdictional processes

Jurisdiction:	
Question	Response
How are orphan or ultra-orphan drugs defined in your jurisdiction?	
Who makes recommendations or decisions on funding for orphan or ultra-orphan drugs?	
Do these drugs go through the same centralized review process as those for more common conditions?	
Which drugs are eligible?	
Are there other ways in which patients can receive coverage for these drugs?	
Which drugs are eligible?	
Who can submit a request for coverage for one of these drugs?	
Does it depend on the process or program to which the request is being made?	
For each of the different processes through which requests for coverage can be made, what are the decision options?	
For each of the different processes involved in reviewing requests for coverage for these drugs, what information must be submitted?	
Who can submit additional information to each of these processes?	
What kinds of information can they submit?	
Is there a committee involved in reviewing the submission and making a recommendation in each of these processes?	
What are the steps involved in each process?	
What decision-making factors/criteria are considered in each process?	
Are there any specific equity, efficiency or ethical principles that are used in formulating a recommendation/decision?	
Are any stakeholder groups involved in the decision-making process?	
If yes: In what way(s)?	
What mechanisms are used to communicate outcomes of each of these processes to different stakeholder groups?	
How are patients engaged throughout the process?	
If a recommendation/decision is negative, are there opportunities to appeal?	
If yes: Who can make an appeal and where does that appeal go? What steps are involved in the appeals process? In making a decision, what factors are considered?	
Are recommendations/decisions resulting from each of these processes routinely reviewed to determine if they need to be revised?	
If yes: How often are they reviewed and by whom? What is involved in the review process?	
Once a decision on whether or not to cover the drug is made, are there any conditions on implementation of the decision?	
For drugs that receive a positive recommendation, how are they financed?	