



# Public Health Messaging Related to Bed Sharing

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## **Key Take Home Messages**

- Bed sharing key messages for clients require revision based on the findings of this review.
- Infant deaths related to bed sharing are infrequent in Peel.
- Providing clients with evidence informed key messages related to bed sharing will provide the opportunity for dialogue and teaching related to risks for infant death.
- Providing key messages that do not include a strong message against bed sharing may be controversial and is in conflict with the current messaging from the Public Health Agency of Canada and the Provincial Coroner and other Public Health Units.

## Executive Summary

The development of a new resource by the Public Health Agency of Canada prompted Peel Health staff to examine bed sharing messages delivered to clients. The bed sharing frequency in Peel is unknown but believed to be high based on anecdotal evidence from public health nurses in the home visiting and breastfeeding programs. There are many factors that influence a parent's decision to bed share and it is a complex issue.

Peel data indicates that in a 21 year period (1986-2007) there were 7 infant deaths due to suffocation in any bed; a rate of 0.02 per 1,000 live births. This is the same as the provincial rate. There have been 82 sudden infant death syndrome (SIDS) deaths in the same 21 years with a rate of .28 per 1000 live births. This is lower than the provincial rate of .50 deaths per 1,000.

The purpose of this review is to identify the benefits and harms associated with infant bed sharing in order to inform Family Health policy and key messages related to bed sharing.

A search of the literature revealed one high quality systematic review from which to base the findings of this report:

- Bed sharing by smoking mothers poses an increased risk for infant death from SIDS.
- Bed sharing, when done with infants younger than 11 weeks is associated with increased risk for infant death from SIDS.
- Bed sharing is positively associated with breastfeeding rates and duration.

The following recommendations resulted from an analysis of the applicability and transferability of the findings.

- Messaging should include the finding that there is no evidence to support advising to bed share or to not bed share.
- Clients should be made aware of the association between bed sharing and maternal prenatal and postnatal smoking and SIDS.
- Clients who smoke or who have a history of smoking during pregnancy should be encouraged to put their babies to sleep in a crib or cradle that meets the Health Canada safety guidelines.
- Clients with infants less than 11 weeks old should be encouraged to put their babies to sleep in a crib or cradle that meets the Health Canada safety guidelines.
- The Family Health Division Co-sleeping Policy should be revised to reflect the findings of this rapid review, and the more accurate ‘bed sharing’ language.
- A knowledge translation plan should be developed to inform Family Health Staff of the review findings, key messages and new bed sharing policy.
- Peel Health should review and critically appraise the RNAO Safe Sleep Best Practice Guideline when it is available and implement the recommendations as appropriate.
- Peel Health should not distribute the *Safe Sleep for your Baby* pamphlets from the Public Health Agency of Canada (1) but instead promote the key messages that are relevant to a Peel context.
- Peel Health should disseminate our report to relevant community stakeholders through our existing liaisons, providing opportunity for dialogue about the findings (e.g. Peel Children’s Aid Society and local hospitals).

# 1 Issue

A new booklet for parents *Safe Sleep for Your Baby*, (1) was published in 2010 by the Public Health Agency of Canada (PHAC) replacing the well known *Back to Sleep* (2) pamphlet issued in 1999. The key messages in the new booklet are not congruent with Peel Health's current Co-sleeping Guidelines (3). Specifically, the new booklet recommends that infants sleep in a crib in the same room as their parents, and advises that parents not share a bed with their baby. Co-sleeping is defined, for this report, as an infant sharing the same room as parents. Bed sharing by contrast is defined as an infant sharing an adult bed for sleep.

This new booklet has been anticipated for some time. In 2009, Peel Health, provided feedback on a draft version of the PHAC resource, voicing concerns about the weak 'systematic review' (4) which informed the key messages.

In addition, the topic of bed sharing is discussed in the 2009 and 2010 reports of the Paediatric Death Review Committee and the Deaths Under Five Committee in Ontario (5,6). The committee recommends, 'no bed sharing', stating that bed sharing is a 'significant factor in Sudden Unexpected Death in Infants' (SUDI) and further advise that many organizations, including public health should support this messaging consistently (5). Family Health staff are asking for direction about using the new booklet and what key messages to deliver to clients.

## 2 Context

There is no current information about the frequency of bed sharing among Peel families.

However, based on studies of the Caucasian population in the United States, United Kingdom and New Zealand, it would appear that 40% of infants bed share at some point during the night on a routine basis (7). A 2008 Manitoba study indicates that as many as 72% of infants share a bed at least some of the time. (8)

The following quotations come from a Peel Public Health nurse reference group discussion:

“Many mothers at the homeless shelter use the crib for storage and sleep with their baby. Even when a crib is provided they prefer to sleep with their baby.”

“Poverty is an issue for some families. They don’t have cribs so sleep with their babies on a mattress on the floor.”

“In the breastfeeding clinics, we ask where the baby is being fed. Women often tell us that they feed the baby in their (the mother’s) bed.”

“I am not sure what to tell clients who don’t have the means to have a crib in their bedroom. Shouldn’t we help clients to make the choice that makes sense for them?”

The factors associated with bed sharing are depicted in the concept model. (Appendix A) It shows the many influences on parents as they decide whether or not to have their baby in the bed.

Infant deaths in bed are coded as ‘suffocation and / or strangulation in any bed’ under the International Classification of Diseases (ICD) system. One limitation of this data is that they do not provide any context for circumstances surrounding the death, such as where the death

occurred (e.g. adult bed, couch or crib). Armour et al. note that child related deaths directly linked with the practice of bed sharing are infrequent occurrences in Canada. (7)

In Peel, for the years 1986 to 2007 (21 years), there have been 7 infant deaths due to suffocation and / or strangulation in any bed, with no more than one death in any given year. This is a rate of 0.02 per 1,000 live births, the same as the Ontario rate for the same time period. \*

\* Infant mortality data were accessed by Epidemiology through IntelliHEALTH Ontario (Ministry of Health and Long-Term Care) for the period 1986 to 2007. Cause-specific mortality rates were calculated for this period for deaths due to suffocation and / or strangulation in any bed (ICD-9 code E9130; ICD-10 code W75) and SIDS (ICD-9 code: 7980; ICD-10 code: R95) among infants less than one year of age.

Some studies have linked bed sharing with sudden infant death syndrome (SIDS). (9) There have been 82 SIDS deaths in Peel from 1986 to 2007, representing a rate of 0.28 SIDS deaths per 1,000 live births for these years. The rate in Ontario was 0.50 SIDS deaths per 1,000 live births for the same period.

Ontario public health units do not provide consistent messaging to clients with respect to bed sharing. Some advocate strongly against it and others are unsure of what to promote.

The Registered Nurses' Association of Ontario is in the midst of developing a Best Practice Guideline for safe infant and child sleep which will provide recommendations related to bed sharing. This guideline will be available in late 2012 or early 2013.



### **3 Literature Review**

Peel Public Health has undertaken a search for evidence of the benefits and harms of bed sharing in order to assess our current policies and provide evidence-informed public health messaging.

The plain language search question is: What is the evidence of benefit or harm to an infant as a result of bed sharing.

The PI(E)CO question:

Population – Infants from birth to one year

Intervention/Exposure – bed sharing

Comparator – No bed sharing

Outcome – Benefit or harm to the infant

#### **3.1 Search Strategy**

With the assistance of the Peel Health Librarian, a literature search was conducted to identify relevant systematic reviews and guidelines published from 2000 to 2011. MEDLINE, Psychinfo, Healthstar, CINAHL, the Cochrane Database of Systematic Reviews, Health Evidence, NICE-NHS Evidence, the National Collaborating Centre for Methods and Tools and other grey literature were searched. Search terms included ‘bed sharing’ and ‘co-sleeping’ in its various forms, ‘safe sleep’, and ‘infant’. Grey literature that resulted from consultation with subject matter experts was included. (See Appendix B – Literature Search Strategies)

The search conducted between February 24 and March 21, 2011, revealed a total of 214 articles. Titles and abstracts were screened for primary relevance, with 20 found to be potentially relevant. These articles were retrieved in full text for detailed review.

One systematic review, *The benefits and harms associated with the practice of bed sharing: A systematic review* authored in Canada by Horsley et al. (9) met the inclusion criteria: 1) bed sharing as major topic, and 2) systematic review or practice guideline. (See Appendix C – Overview of Search Results)

### **3.2 Critical Appraisal**

Three independent reviewers assessed the review using the Health Evidence Quality Assessment Tool. (10) All three rated the review as strong. Forty critically appraised studies published from 1993 to 2005 make up the body of the review.

### **3.3 Synthesis of Findings**

The evidence in the Horsley et al. (9) review reveals the following key findings:

- 1) The most frequently investigated interaction between bed sharing and SIDS is smoking. The evidence suggests there may be an association between bed sharing and SIDS, especially when the mother is a smoker or has smoked during pregnancy.
- 2) Bed sharing may be more strongly associated with SIDS for younger infants, especially less than 11 weeks of age. There is a decreased association between bed sharing and SIDS with increasing age. This conclusion is drawn from 3 studies in the review, with some overlapping data.
- 3) There is a positive association between bed sharing and an increased rate and duration of breastfeeding. This does not mean that bed sharing ‘causes’ an increase in breastfeeding, it may mean that women who breastfeed are more likely to bed share.

- 4) There were no relevant studies to determine an association between bed sharing and bonding.
- 5) All studies related to infant sleep reveal that there is an increased number of awakenings in bed sharing infants. It has been suggested that this may be protective against SIDS.

Following completion of the final draft of this report, a meta-analysis on the relationship between bed sharing and sudden infant death syndrome was published (11). Critical appraisal of the study was completed by three reviewers using the Health Evidence Quality Assessment Tool and rated as moderate. The findings and recommendations of the meta-analysis are consistent with the findings of Horsley et al. (9) and further quantify the risk of bed sharing when associated with maternal smoking and for infants of young age. In a meta-analysis of four primary studies it was found that infants who bed shared with a smoking mother were six times more likely to die from SIDS. There was no increased risk for non-smoking mothers who bed shared. The meta-analysis of 3 primary studies report that infants less than 12 weeks of age are 10 times more likely to die from SIDS when bed sharing than older infants. There was no increased risk for infants older than 12 weeks. The findings of this meta-analysis are not included in the data extraction table as they were found after the search was completed and the paper was in its final draft. They are included in this rapid review only to further support the recommendations that follow.

### **3.4 Strengths**

- This systematic review provides the most thorough review of the evidence related to bed sharing to date. Comparison group studies were included in the analysis which allows for a statement of association between factors.

### **3.5 Limitations**

- The primary studies did not explicitly set out to determine if bed sharing was harmful or beneficial. The studies set out to determine what factors increased the likelihood of SIDS. Bed sharing is one of the factors that have been examined in the studies along with a host of other factors (e.g. prone position, temperature and soft bedding).
- This study examines the interaction between bed sharing and other SIDS risk factors. For example, bed sharing *and* smoking, and bed sharing *and* age of infant. The study designs of case control and prospective cohort can not determine causation, only association.
- Heterogeneity between studies, differences in how confounders were controlled, inconsistencies in how interactions were examined and reported, the varying definitions of exposure and overlapping data sets means that data could not be pooled across studies.
- The primary study subjects are largely a Caucasian sample with specific samples of Aboriginal people and African Americans in two studies.

The conclusion of the review states that the existing evidence does not support a general recommendation for or against bed sharing to be made. This conclusion is reasonable given the state of the evidence and findings of this review.

### **3.6 Adaptability and Transferability**

A meeting to discuss the applicability and transferability of the evidence was attended by a Family Health Division reference group and key management representatives. The group concluded that Peel Public Health should alert parents to an increased risk of SIDS when bed sharing with infants less than 3 months of age or when infants bed share with mothers who

smoke. (It is notable that 5% of women in Peel smoke during pregnancy versus 10% in Ontario).

(12)

It was discussed and agreed that other professionals and organizations promote a ‘no bed sharing’ message that is based on data related to local context and the coroner’s report of infant deaths as a result of bed sharing. The data however, is presented without consideration of factors alongside bed sharing that may have contributed to the deaths, i.e. presence of bedding and pillows, smoking, or infant age.

Given the state of the findings of this review, the 2012 meta-analysis (11), the bed sharing nature of our community, and the low number of infant deaths from SIDS and deaths due to bed sharing, an overarching statement of ‘no bed sharing’ is unwarranted in the Peel context.

### **3.7 Recommendations**

Based on the rapid review findings, it is recommended that Peel Public Health take the following actions:

- Messaging should include the finding that there is no evidence to support advising to bed share or to not bed share generally.
- Clients should be made aware of the association between bed sharing and maternal prenatal and postnatal smoking and SIDS.
- Clients who smoke or who have a history of smoking during pregnancy should be encouraged to put their babies to sleep in a crib or cradle that meets the Health Canada safety guidelines.

- Clients should be made aware of the association between bed sharing, young infant age (less than 3 months) and SIDS.
- Clients with infants less than 3 months old should be encouraged to put their babies to sleep in a crib or cradle that meets the Health Canada safety guidelines.
- The current Family Health Division Co-sleeping Policy should be revised to reflect the findings of this rapid review, and the more accurate ‘bed sharing’ language.
- A knowledge translation plan should be developed to inform Family Health staff of the review findings, key messages and new bed sharing policy.
- Peel Health should review and critically appraise the RNAO Safe Sleep Best Practice Guideline when it is available and implement the recommendations as appropriate.
- Peel Health should not distribute the *Safe Sleep for your Baby* pamphlets from the Public Health Agency of Canada (1) but instead promote the key messages that are relevant to a Peel context.
- Disseminate our report to relevant community stakeholders through our existing liaisons, providing opportunity for dialogue about the findings (e.g. Peel Children’s Aid Society and local hospitals).

## References

1. Public Health Agency of Canada. (2010) Safe sleep for babies. Retrieved on May 27, 2010 from <http://www.phac-aspc.gc.ca/dca-dea/prenatal/sids-eng.php>
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8. Ateah CA and Hamelin KJ (2008) On bed sharing... Maternal bedsharing practices, experiences, and awareness of risk. *Journal of obstetric, gynecologic, and neonatal nursing* 2008;37(6):619.

9. Horsley T, Clifford T, Barrowman N, et al. Benefits and harms associated with the practice of bed sharing: A systematic review. *Archives of Pediatric and Adolescent Medicine* 2007;161:237-45.
10. Health Evidence. Quality Assessment Tool. Retrieved on March 1, 2010 from [http://www.health-evidence.ca/downloads/QA%20tool\\_Doc%204.pdf](http://www.health-evidence.ca/downloads/QA%20tool_Doc%204.pdf)
11. Venneman M. M, Hense H-W, Bajanowsiki T, Blair P S, Complojer C, Moon, R Y, Kiechl-Kohlendorfer, U. Bed sharing and the risk of sudden infant death syndrome: Can we resolve the debate?. *The Journal of Pediatrics* 2012;160:44-8.
12. Region of Peel. Born in Peel: Examining maternal and infant health. 2011. Retrieved on August 22, 2011 from <http://www.peelregion.ca/health/health-status-report/mat-infant-hlth/>



## **Appendices**

**Appendix A: Concept Model**

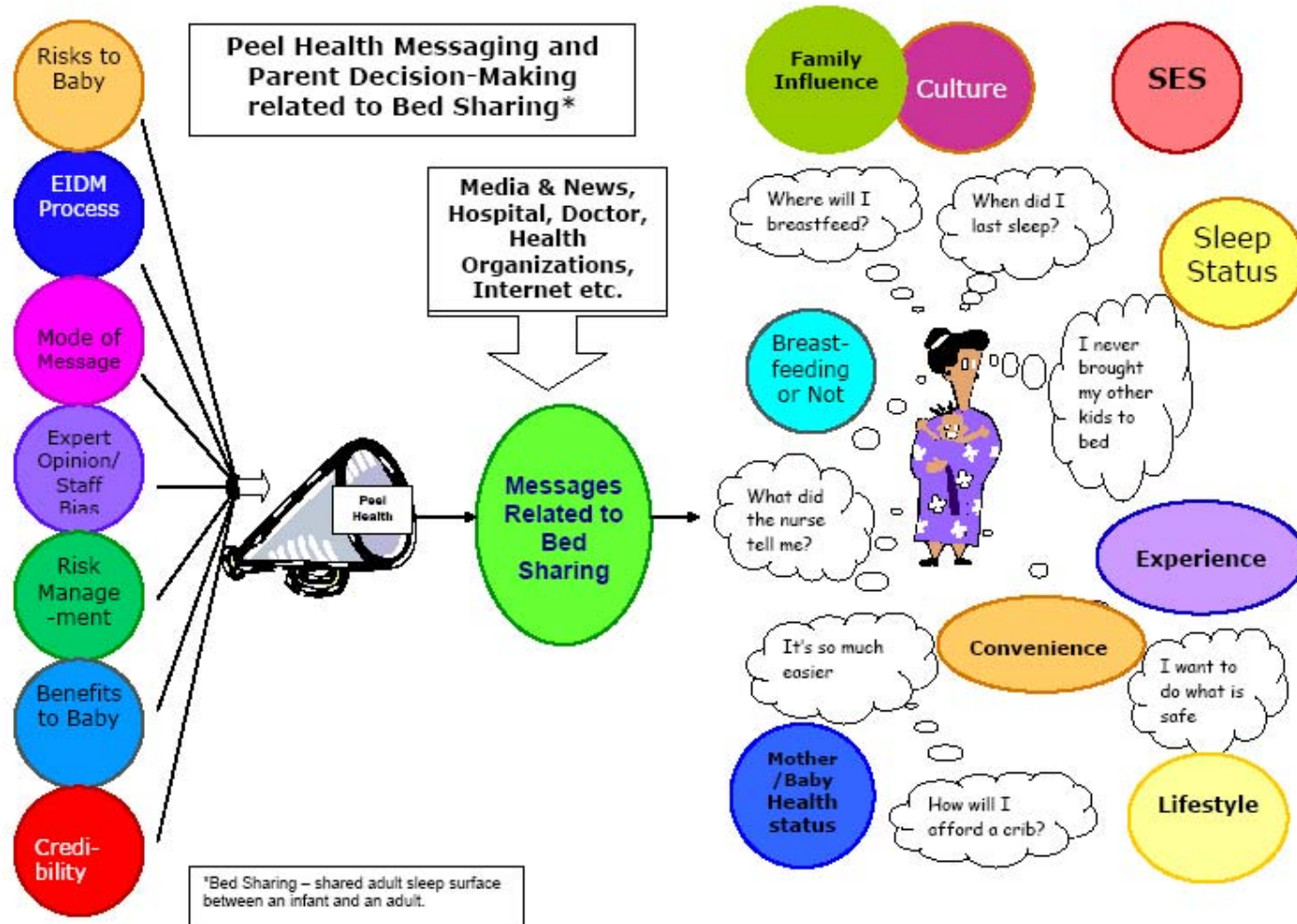
**Appendix B: Search Strategy**

**Appendix C: Literature Search Flowchart**

**Appendix D: Data Extraction Tables**

**Appendix E: Applicability & Transferability Worksheet**

## Appendix A: Concept Model



## Appendix B: Search Strategy

Database: Ovid Healthstar <1966 to January 2011>

Search Strategy:

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- 1 bedshar\$.tw. (52)
- 2 bed shar\$.tw. (187)
- 3 bed-shar\$.tw. (187)
- 4 cosleep\$.tw. (58)
- 5 co-sleep\$.tw. (112)
- 6 (safe adj sleep).tw. (32)
- 7 (safe adj infant adj sleep).tw. (6)
- 8 1 or 2 or 3 or 4 or 5 or 6 or 7 (409)
- 9 meta-analysis.mp.pt. (45747)
- 10 (search or systematic review or medline).tw. (102588)
- 11 cochrane database of systematic reviews.jn. (7082)
- 12 review.tw. (445951)
- 13 guideline\$.tw. (122676)
- 14 9 or 10 or 11 or 12 or 13 (626600)
- 15 infant\$.tw. (148049)
- 16 8 and 14 and 15 (36)
- 17 limit 16 to yr="2000 -Current" (30)

\*\*\*\*\*

Database: PsycINFO <1987 to February Week 4 2011>

Search Strategy:

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- 1 bedshar\$.tw. (25)
- 2 bed shar\$.tw. (47)
- 3 bed-shar\$.tw. (47)
- 4 cosleep\$.tw. (63)
- 5 co-sleep\$.tw. (78)
- 6 (safe adj sleep).tw. (9)
- 7 (safe adj infant adj sleep).tw. (3)
- 8 1 or 2 or 3 or 4 or 5 or 6 or 7 (189)
- 9 meta-analysis.mp.pt. (9574)
- 10 (search or systematic review or medline).tw. (34796)
- 11 cochrane database of systematic reviews.jn. (0)
- 12 review.tw. (168864)
- 13 guideline\$.tw. (28133)
- 14 9 or 10 or 11 or 12 or 13 (222492)
- 15 infant\$.tw. (38182)
- 16 8 and 14 and 15 (11)
- 17 limit 16 to yr="2000 -Current" (9)

\*\*\*\*\*

Database: Ovid MEDLINE(R) <1948 to February week 3 2011>

Search Strategy:

- 
- 1 bedshar\$.tw. (47)
  - 2 bed shar\$.tw. (186)
  - 3 bed-shar\$.tw. (186)
  - 4 cosleep\$.tw. (58)
  - 5 co-sleep\$.tw. (109)
  - 6 (safe adj sleep).tw. (38)
  - 7 (safe adj infant adj sleep).tw. (7)
  - 8 1 or 2 or 3 or 4 or 5 or 6 or 7 (405)
  - 9 meta-analysis.mp.pt. (43076)
  - 10 (search or systematic review or medline).tw. (139125)
  - 11 cochrane database of systematic reviews.jn. (6901)
  - 12 review.tw. (613378)
  - 13 guideline\$.tw. (127566)
  - 14 9 or 10 or 11 or 12 or 13 (832616)
  - 15 infant\$.tw. (252856)
  - 16 8 and 14 and 15 (34)
  - 17 limit 16 to yr="2000 -Current" (30)

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### CINAHL Search February 2011

S22	s21	Limiters - Published Date from: 20000101- 20111231; English Language Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	131
S21	s20 and s17	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	131
S20	s19 or s18	Search modes -	Interface - EBSCOhost	140896

		Boolean/Phrase	Search Screen - Advanced Search Database - CINAHL with Full Text	
S19	MW infant*	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	97909
S18	TX infant*	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	140896
S17	s16	Limiters - English Language Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	195
S16	s15	Limiters - Published Date from: 20000101-20111231 Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	195
S15	s8 and s14	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	203
S14	S9 or S10 or S11 or S12 or	Search modes -	Interface - EBSCOhost	229711

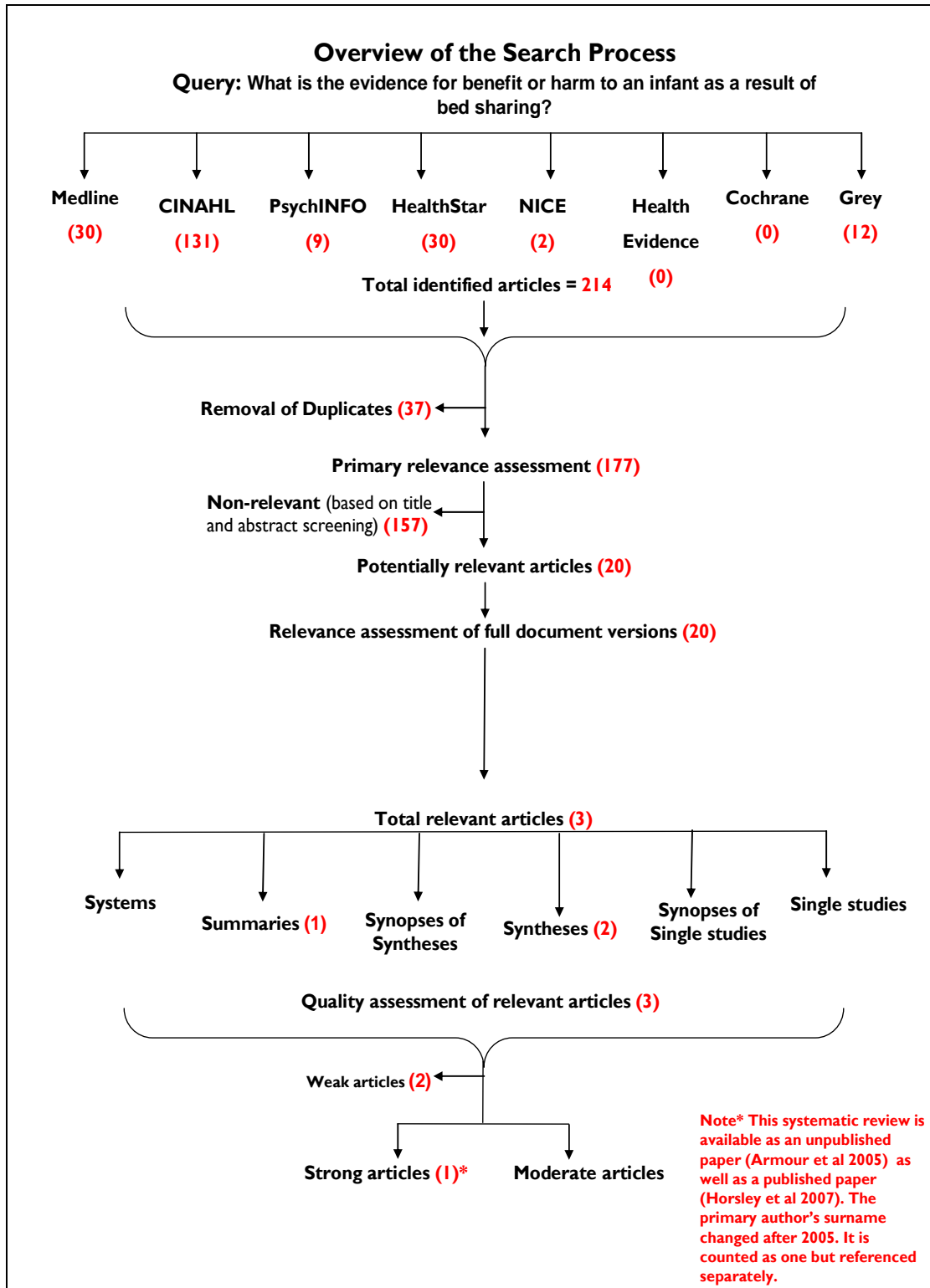
	S13	Boolean/Phrase	Search Screen - Advanced Search Database - CINAHL with Full Text	
S13	TX systematic N1 review	Limiters - English Language Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	40942
S12	TX guideline*	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	137087
S11	TX search	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	79508
S10	TX medline	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	25549
S9	TX meta-analysis	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	31297
S8	S1 or S2 or S3 or S4 or S5	Search modes -	Interface - EBSCOhost	713

	or S6 or S7	Boolean/Phrase	Search Screen - Advanced Search Database - CINAHL with Full Text	
S7	safe N1 infant N1 sleep	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	11
S6	TX safe N1 sleep	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	143
S5	TX co-sleep*	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	146
S4	TX cosleep*	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	61
S3	TX bed-shar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	356
S2	TX bed shar*	Search modes -	Interface - EBSCOhost	484

		Boolean/Phrase	Search Screen - Advanced Search Database - CINAHL with Full Text	
S1	TX bedshar*	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	64



## Appendix C: Literature Search Flowchart



## Appendix D: Data Extraction Tables

General Information And Quality Rating For Each Review	Details Of Each Review	Details Of Interventions Included In Review	Outcome Measurements In Review	Results Of Review
<p>Horsley, T., Clifford, T., Barrowman, N., Bennett, S., Yazdi, F., Sampson, M., Moher, D, Dingwall, O., Schachter, H., Cote, A. (2007) Benefits and harms associated with the practice of bed sharing. Arch Pediatr Adolesc Med. Vol 171 p 237-245.</p> <p>Canada</p> <p>Strong</p> <p>Generalizable – Developed world</p>	<p><b>Number of primary studies included:</b> 40</p> <p><b>Types of studies included:</b> 30 case control and 10 prospective cohort studies. (The search did not limit by study design)</p> <p><b>Search period:</b> 1993-January 2005</p> <p>MEDLINE, CINAHL, Healthstar, PsychINFO, The Cochrane Library, TRIP, SocAbs, and AMED were searched.</p> <p><b>Inclusion:</b> Published and unpublished reports of any study design were included. Any study investigating the practice of bed sharing and</p>	<p><b>Description of interventions:</b> Bed sharing is the exposure that is being examined for this systematic review; however bed sharing was not the intervention of focus in the included studies. The studies examined bed sharing as a risk factors for SIDS.</p> <p>Bed sharing definitions in the primary studies were heterogeneous, classified into two subgroups: 1) <i>Routine</i> sleep locations, and 2) bed sharing on a <i>particular night</i>.</p> <p>“Studies reviewed were usually aimed at identifying the prevalence of known or</p>	<p><b>Primary outcomes:</b> <b>Bed sharing as a risk factor for SIDS.</b></p> <p>Benefits of bed sharing related to breastfeeding, bonding and sleep related issues.</p> <p>Harms of bed sharing related to smoking and age of infant.</p> <p>Secondary</p> <p>Deaths related to SIDS Breastfeeding rates and duration</p>	<p><b>Main results of review:</b></p> <p>1) There may be an association between bed sharing and SIDS among smokers (however defined), particularly in mothers with exposure before or after birth. – This does not mean that non smokers have no risk however.</p> <p>2) Evidence suggests that bed sharing may be more strongly associated with SIDS for infants younger than 11 weeks.</p> <p>3) Evidence suggests that there is a positive association between bed sharing and an increase in the rate and duration of breastfeeding. – This does not however mean</p>

	<p>associated harms and benefits, in children 0-2 years of age was included.</p> <p><b>Exclusion:</b> Conference proceedings, letters to the editor, dissertation abstracts, conference abstracts and non-English studies were excluded.</p>	<p><b>potential risk for SIDS. None were specifically aimed at determining whether bed sharing was a risk factor for SIDS and whether bed sharing interacted with other risk factors.” (Armour, p x) This is a limitation of the review.</b></p> <p>Many countries and regions are represented: Europe, England, Germany, Ireland, Japan, New Zealand, Norway Russia, Scotland , The Netherlands, and the United States.</p> <p>Not sure how to answer these.</p> <p>Most studies included infants up to one year of age.</p>		<p>that breastfeeding does not increase the propensity to bed share.</p> <p>4) There were no relevant studies to determine an association between bed sharing and bonding</p> <p>5) All studies related to infant sleep reveal that there are an increased number of awakenings in bed sharing infants.</p> <p><b>Comments/limitations:</b></p> <p><b>Strengths:</b> This systematic review provides the most thorough review of the evidence related to bed sharing. Most advice and statements related to bed sharing are based on non-systematic evidence. Comparison group studies were included</p> <p><b>Limitations:</b> The study designs of case control and</p>
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				<p>prospective cohort can not determine causation.</p> <p>Heterogeneity between studies, differences in how confounding was controlled, inconsistencies in how interactions were examined and reported, the varying definitions of exposure and overlapping data sets. limited the ability to pool estimates across studies.</p> <p>The primary study subjects are largely a Caucasian sample with specific samples of aboriginal people and African Americans in 2.</p>
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## Appendix E: Applicability & Transferability Worksheet

Note: Where the Questions ask about ‘intervention’ – replace with the word ‘public health message’

Applicability (feasibility)		
Factors	Questions	Notes
Political acceptability or leverage	<ul style="list-style-type: none"> <li>• Will the intervention (<i>evidence</i>) be allowed or supported in current political climate?</li> <li>• What will the public relations impact be for local government?</li> <li>• Will this program (<i>evidence</i>) enhance the stature of the organization?               <ul style="list-style-type: none"> <li>○ <i>For example, are there reasons to do the program that relate to increasing the profile and/or creative a positive image of public health?</i></li> </ul> </li> <li>• Will the public and target groups accept and support the intervention (<i>evidence</i>) in its current format?</li> </ul>	<ul style="list-style-type: none"> <li>• Maybe. There may be some resistance by the Office of the Chief Coroner, Province of Ontario, and other groups who have taken a hard stand against bed sharing under any circumstances. (Example, Children’s Aid Society, _____ other orgs)</li> <li>• Peel Health wishes to be seen by its clients as a credible source of high quality health information.</li> <li>• Peel Public Health is critical in their review of the evidence and can explain our position to those who are opposed – the stature of the organization may or may not be enhanced.</li> <li>• Front line staff state that the public is bed sharing. A more neutral position will support their current practice and allow parents to make decisions based on research evidence. Others in the public may be concerned that our message is contrary to other influential groups so we could be seen as lacking credibility.</li> </ul>
Social acceptability	<ul style="list-style-type: none"> <li>• Will the target population find the intervention (<i>evidence</i>) socially acceptable? Is it ethical?               <ul style="list-style-type: none"> <li>○ <i>Consider how the program</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• The target population is parents who are deciding where to put their baby to sleep.</li> <li>• Given that the practice is widespread based on anecdotal and research evidence, (40% bed share at</li> </ul>

	<p><i>would be perceived by the population.</i></p> <ul style="list-style-type: none"> <li>○ <i>Consider the language and tone of the key messages.</i></li> <li>○ <i>Consider any assumptions you might have made about the population. Are they supported by the literature?</i></li> <li>○ <i>Consider the impact of your program and key messages on non-target groups.</i></li> </ul>	<p>some time) the population will find the messaging acceptable. It is empowering to parents to have accurate information by which to make health decisions.</p> <ul style="list-style-type: none"> <li>● It is ethical to provide parents with information from the evidence, the information from various sources and let them make an informed decision.</li> <li>● Messaging related to bed sharing will be similar to our current practice with some new information provided to smoking parents and parents of babies less than 11 weeks.</li> </ul>
<p>Available essential resources (personnel and financial)</p>	<ul style="list-style-type: none"> <li>● Who/what is available/essential for the local implementation?</li> <li>● Are they adequately trained? If not, is training available and affordable?</li> <li>● What is needed to tailor the intervention locally?</li> <li>● What are the full costs? <ul style="list-style-type: none"> <li>○ <i>Consider: in-kind staffing, supplies, systems, space requirements for staff, training, and technology/administrative supports.</i></li> </ul> </li> <li>● Are the incremental health benefits worth the costs of the intervention (<i>evidence</i>)? <ul style="list-style-type: none"> <li>○ <i>Consider any available cost-benefit analyses that could help gauge the health benefits of the intervention.</i></li> <li>○ <i>Consider the cost of the program relative to the number of people</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● The reference group that was convened to consult on this issue will be consulted to create a knowledge translation plan for the findings of this review.</li> <li>● The Manager and RPA will guide the process led by a PHN from the reference group if possible.</li> <li>● To tailor the messaging locally, the ‘Co-sleeping Policy’ will need to be revised to reflect the more appropriate terms ‘bed sharing’ and the evidence related to smoking and young age reflected in it.</li> <li>● Nearly all staff have had some background in EIDM so presenting the findings of the paper along with the key messages should suffice for training.</li> <li>● There are very few costs as the current policy is up for review and the staff practice will not change substantially from the current practice related to bed sharing.</li> </ul>

	<i>that benefit/receive the intervention.</i>	
Organizational expertise and capacity	<ul style="list-style-type: none"> <li>• Is the intervention (<i>evidence</i>) to be offered in line with Peel Public Health’s 10-Year Strategic Plan (i.e., 2009-2019, ‘Staying Ahead of the Curve’)?</li> <li>• Does the intervention (<i>evidence</i>) conform to existing legislation or regulations (either local or provincial)?</li> <li>• Does the intervention (<i>evidence</i>) overlap with existing programs or is it symbiotic (i.e., both internally and externally)?</li> <li>• Does the intervention (<i>evidence</i>) lend itself to cross-departmental/divisional collaboration?</li> <li>• Any organizational barriers/structural issues or approval processes to be addressed?</li> <li>• Is the organization motivated (learning organization)? <ul style="list-style-type: none"> <li>○ <i>Consider organizational capacity/readiness and internal supports for staff learning.</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• The intervention is in line with the EIDM goals of the department, the Nurturing the Next Generation strategic priority and the goals of the Breastfeeding Teams.</li> <li>• There are no existing legislation or regulations related to bed sharing.</li> <li>• The messaging is consistent with our current practice and will be acceptable to the front line staff. At this time however, there is a Best Practice Guideline being developed by the Registered Nurses’ Association of Ontario on Safe Sleep for young children. This will be a systematically prepared document that will be a good resource in 1-2 years time.</li> <li>• Staff across the Family Health Division will be provided with the results of the review. Staff on the Injury Prevention team will also be interested.</li> <li>• Messaging will need to be approved from the Medical Officer of Health.</li> </ul>
<b>Transferability (generalizability)</b>		
<b>Factors</b>	<b>Questions</b>	<b>Notes</b>
Magnitude of health issue in local setting	<ul style="list-style-type: none"> <li>• What is the baseline prevalence of the health issue locally?</li> <li>• What is the difference in prevalence of the health issue (risk status) between study and local settings?</li> </ul>	<ul style="list-style-type: none"> <li>• There are no Peel stats available related to deaths from bed sharing. According to the Perinatal Health Status Report (2011) the infant mortality rate in Peel in 2005 was 6 per 1,000 live births. The infant mortality rate for Ontario was 5.5 per 1000. Note: Peel Stats from ICD codes have now been added into</li> </ul>

	<ul style="list-style-type: none"> <li>○ <i>Consider the Comprehensive Health Status Report, and related epidemiological reports.</i></li> </ul>	<p>the context section.</p> <ul style="list-style-type: none"> <li>● For the period 2003-2008 there were 24 deaths related to bed sharing in Ontario. This includes bed sharing in an adult bed, on a mattress, couch and futon. This translates to 4 deaths per year in Ontario as a result of sharing a sleep surface of different kinds. These deaths would not be considered SIDS deaths, but deaths classified as Sudden Unexpected Death in Infancy (SUDI). (2010 Ontario Coroner’s Report)</li> <li>● Deaths in Peel would be extremely uncommon based on 4 per year in the province.</li> <li>● There are no SIDS rates available for Peel. The rate in Ontario in 2004 is about 22 per 100, 000 (Perinatal Health Status Report, 2011). The 2004 rate in Canada is 24 which is consistent with some of the lowest rates worldwide (Australia, 22; Sweden, 23; Japan, 16; Netherlands, 10 – Argentina, England/Wales, Germany, Ireland, New Zealand, Norway, Scotland, and the United states all have rates greater than 30 per 100 000).</li> <li>● There was discussion about finding out whether bed sharing is common place in our community. This could possibly be done alongside some of the work of Nurturing the Next Generation.</li> <li>● Epidemiology will be consulted to see if there is any Peel data.</li> </ul>
<p>Magnitude of the “reach” and cost effectiveness of the intervention above</p>	<ul style="list-style-type: none"> <li>● Will the intervention (<i>evidence</i>) appropriately reach the priority population(s)? <ul style="list-style-type: none"> <li>○ What will be the coverage of the priority population(s)?</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Nurses will work with clients to promote the safest sleep environments for their babies. Bed sharing among smokers and for infants less than 11 weeks will be discouraged.</li> <li>● A knowledge translation plan will be developed to inform staff about key messages.</li> </ul>



<p>Target population characteristics</p>	<ul style="list-style-type: none"> <li>• Are they comparable to the study population?</li> <li>• Will any difference in characteristics (e.g., ethnicity, socio-demographic variables, number of persons affected) impact intervention effectiveness (<i>evidence</i>) locally? <ul style="list-style-type: none"> <li>○ <i>Consider if there are any important differences between the studies and the population in Peel (i.e., consider demographic, behavioural and other contextual factors).</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• While the study populations were primarily Caucasian, they included samples from a variety of countries.</li> <li>• The Coroner’s report does not identify one group as at greater risk than others.</li> </ul>
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**Proposed Direction (after considering the factors outlined above):** There is sufficient high quality evidence from one systematic review supporting neither a ban nor the promotion of bed sharing. This evidence supports our current practice of providing clients with information and empowering them to make an informed decision. Clients who smoke or have very young (<11 week old) babies will be discouraged from bed sharing.

**Form Completed by:** Claudine Bennett, RPA and Mary Connell, Manager, Child Health

**Worksheet adapted from:** Buffet C., Ciliska D., and Thomas H. National Collaborating Centre for Methods and Tools. November 2007. *Can I Use this Evidence in my Program Decision? - Assessing Applicability and Transferability of Evidence.*