

## Table of Contents

<b>Executive summary</b>	<b>6</b>
<b>Part 1 Background</b>	<b>13</b>
<b>A. Glossary of terms</b>	<b>13</b>
<b>B. Introduction</b>	<b>15</b>
<b>C. Burden of illness</b>	<b>16</b>
a. Global	16
b. National (Canada)	16
c. Provincial (Ontario)	16
d. Local (Toronto)	17
<b>D. Data accuracy</b>	<b>18</b>
<b>E. Objectives of the review</b>	<b>19</b>
<b>F. Method of review</b>	<b>19</b>
<b>G. Format of the report</b>	<b>23</b>
<b>Part 2 Determinants and primary prevention</b>	<b>24</b>
<b>A. Maternal factors</b>	<b>24</b>
1. History	24
a. Parity	24
b. Birth interval	24
c. History of previous preterm/LBW/IUGR birth	26
2. Demographic factors	27
a. Race/Ethnicity	27
b. Maternal age	31
c. Marital status	33
3. Nutritional factors/Interventions	34
a. Measures to improve fetal nutrition/growth	35
b. Measures to improve maternal nutrition	36
1. Nutritional advice	36
2. Nutrient supplementation	36
i. High protein diet	36
ii. Isocaloric balanced protein diet	37
iii. Iron	38
iv. Folic acid	40
v. Calcium	40
vi. Magnesium	41
vii. Vitamin D	42
viii. Zinc	42
ix. Multivitamins	43
x. Salt intake	43
xi. Thiamine	44
xii. Vitamin B <sub>6</sub>	44
xiii. Vitamin B <sub>12</sub>	44
xiv. Vitamin C	44
xv. Vitamin E	44
xvi. Copper and Selenium	45
xvii. Vitamin A	45
xviii. Fish oil	45
xix. Interaction of micronutrients	46
4. Anthropometric factors	48

a. Gestational weight gain	48
b. Maternal height	49
c. Maternal prepregnancy weight	50
5. Medical factors	51
a. Maternal general medical conditions	51
b. Pregnancy associated conditions	51
c. Infections	52
1. Bacterial vaginosis	53
2. Trichomoniasis	55
3. Chlamydia infection	55
4. Syphilis	56
5. Urinary tract infection	56
6. Threatened preterm labor	57
7. HIV (human immunodeficiency virus) infection	58
8. Periodontal infections	59
<b>B. Environmental factors</b>	<b>60</b>
1. Psychosocial factors/Stress/Socioeconomic factors	60
2. Life style	65
a. Tobacco use	65
b. Alcohol use	71
c. Caffeine use	73
d. Cocaine use	75
e. Marijuana use	77
f. Alternative medicine	78
g. Herbal medicine	78
h. Exercise	78
3. Environmental toxins	79
a. Passive smoking or environmental tobacco smoke exposure	79
b. Environmental pollutants	80
c. Noise	82
4. Occupational hazards	83
5. Violence/abuse	86
6. Antenatal care	88
<b>C. Uterine factors</b>	<b>90</b>
<b>D. Placental factors</b>	<b>90</b>
<b>E. Pharmacological factors</b>	<b>90</b>
<b>F. Paternal factors</b>	<b>91</b>
<b>G. Fetal factors</b>	<b>91</b>
1. Sex	91
2. Genetic factors	92
<b>H. Multiple births</b>	<b>93</b>
<b>I. Miscellaneous factors</b>	<b>94</b>
1. Electromagnetic beds	94
2. Licorice ingestion	94
<b>Part 3 Secondary prevention</b>	<b>96</b>
<b>A. Early diagnosis</b>	<b>96</b>
1. Education	96
2. Clinical markers	96
a. Risk factors	96
b. Cervical changes	96
3. Biochemical markers	97

a. Fetal fibronectin	97
b. Estriol	98
c. Corticotrophin releasing hormone (CRH)	98
d. Metalloproteinases (MMP)	98
e. Cytokines	99
f. Others	99
4. Ultrasound markers	99
5. Home uterine activity monitoring (HUAM)	100
6. Future possibilities	101
<b>B. Treatment</b>	<b>101</b>
1. Bed rest	101
2. Hydration	102
3. Sedation	102
4. Tocolytics	102
5. Antibiotics	104
6. Cervical cerclage	104
7. Calcium channel blockers	104
8. Betamimetics	105
9. Antiplatelet agents	105
<b>C. Multicomponent preterm birth prevention programs</b>	<b>106</b>
<b>Part 4 Tertiary prevention</b>	<b>109</b>
1. Maternal transport	109
2. Corticosteroids	109
3. Maternal therapy	110
<b>Part 5 Conclusions</b>	<b>111</b>
<b>Part 6 Appendices</b>	<b>112</b>
1. Table of search results	112
2. Assessment of reviews and meta-analyses included in this report	113
3. List of excluded reviews	117
4. Criteria for assessment of systematic reviews and meta-analyses	118
5. Placental causes of IUGR	119
6. Pharmacological substances affecting fetal growth	120
7. Genetic causes of IUGR	121
<b>Part 7 References</b>	<b>122</b>