Parenting Matters: Helping parents of young children with sleep and discipline problems

Final Report for The Provincial Centre of Excellence for Child and Youth Mental Health at CHEO

September 1, 2007

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SUMMARY

About 1 in 5 young children (age 2 to 5 years) has a significant psychosocial problem. Sleep and discipline problems are the most common concerns for parents of young children. In our previous studies we found up to 1/3 of parents have concerns about both their children’s sleep and discipline. Family physicians are trusted sources for health information, and the first professional that most parents turn to when they have psychosocial concerns about their children. In Ontario, most children see a Family Physician at least once a year. No other agency or group sees such a high proportion of children under age 6. However, given other competing demands, physicians struggle to address children’s psychosocial problems. When physicians do refer parents for specialized mental health services, parents must wait many months for services.

Our Parenting Matters program combines treatment booklets and telephone support to help parents seen by family physicians deal with sleep or discipline problems among young children. This research tests the effects of the treatment program for children whose parents have concerns about both their children’s sleep and discipline. It also tests if helping parents with their child’s sleep problems is also beneficial for discipline problems, and vice versa.

This research addresses the urgent need for new ways of providing programs that (a) reach the large number of families in need of help, are (b) cost effective, and (c) time efficient. Parenting Matters may be a model program of one way to partner with family physicians, who are typically the first point of contact for families seeking specialized mental health services, and it may be a catalyst for building similar interventions for other problems.

Recruitment for the Randomized Clinical Trials testing in the Parenting Matters program is now complete. We have recruited patients from 26 family medical centres in London, Ontario, and the surrounding area. Recruitment ended August 31, 2007. When all participants have completed all phases of the study (around April 2008), data analysis can begin. Results are expected by the end of 2008.
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1.0) INTRODUCTION and BACKGROUND INFORMATION

1.A) Purpose of evaluation and evaluation questions. About 1 in 5 children has a clinically significant psychosocial problem (i.e., problems cognitive/academic, behavioural, emotional, or social functioning) (1,2). Over 80% of children with psychosocial problems do not receive treatment (1,3,4). Without treatment, about ½ of young children continue to have problems into childhood and adolescence (5-8). New methods of treating and preventing children’s psychosocial problems are needed. The most common problems for parents of young children relate to sleep and discipline (9-11). Discipline problems (or child non-compliance) are related to future child behaviour problems (5,12,13). Sleep problems are related concurrently and prospectively to behavioural problems, and problems with discipline can contribute to sleep problems (14-19). In our pilot and feasibility studies we found about 1/3 of parents had concerns about both sleep and discipline problems. The present study is an extension of a Randomized Controlled Trial (RCT) funded by the CIHR (Canadian Institutes of Health Research). We are testing the effects of interventions designed to improve parents’ abilities to handle problems with their children’s sleep or discipline for children with both sleep and discipline problems. This intervention was not part of the trial funded by CIHR.

1.B) Description of the program. The Parenting Matters program combines treatment booklets and telephone support to help parents seen by Family Physicians (FPs) deal with sleep and discipline problems among young children (2-5 years). Telephone support helps maintain parents’ motivation and facilitates problem solving in implementing the strategies in the treatment booklets; these critical factors are frequently overlooked in psychoeducational interventions (20,21). Figure 1 shows the conceptual model for the Parenting Matters program. Parenting Matters addresses: (a) The two most common and stable problems among young children (see 2.1.A). (b) The need for new methods of early intervention. It capitalizes on parental concerns (see 2.3.B) and addresses challenges in identifying who should receive interventions (see 2.3.A). (c) Problems with accessing care (see 2.4). (d) The need for simple written materials (see 2.5). (e) The need to understand how treatment of sleep problems affects behaviour problems, and vice versa (see 2.2).

1.C) Identification of target population for the program. The purpose of this trial was to determine the effects of Parenting Matters program for children with sleep and discipline problems. These data, combined with those of the previously funded trials, will provide an understanding of the effects of the Parenting Matters program on children with single or multiple problems. In addition, by testing the relative effects of treating sleep or discipline problems it will help inform our understanding of the relation between these two common problems of parents of young children.
2.0) METHODOLOGY

2. A) Design of the evaluation, including sample sizes and timing of data collection

2. A.1) Recruitment  We have completed recruitment at 26 centres. At each site, family medical centre staff (reception/nurses) handed our forms to eligible parents. In appreciation for their effort staff received gift cards each month approximately equal to four hours of their pay. In addition, at a subset of our centres where it was requested, we also provided a research assistant to approach patients in the waiting area. Recruitment ended August 31, 2007.

2. A.1.a) Inclusion Criteria  (a) parent (primary caregiver) of 2- to 5-year-old; (b) attending a medical appointment at one of our participating family medical centres; (c) phone in home; (d) parent’s concern about child’s sleep/bedtime behaviour and discipline; and (e) parent interested in participating in a treatment study. Criteria (d) and (e) are assessed using a psychosocial concerns checklist. Parents are asked "Do you have any specific concerns about..." your child’s sleep patterns or bedtime behaviour, and/or disciplining your child. Item and response formats are based on the Parent’s Evaluation of Developmental Status checklist (22). Figure 2 shows participant recruitment flow.

2. A.1.b) Exclusion Criteria  (a) parent non-English speaking; (b) child with significant physical (e.g., cerebral palsy) or developmental disability (e.g., Down syndrome); (c) Parents whose only sleep related concerns are in regards to physiological sleep problems (i.e., sleep apnea, snoring) and/or their child’s bedwetting.

2. A.2) Loss to Follow Up  Our current attrition rates are as follows: 12% loss between baseline and post-treatment assessment, 18% loss between post-treatment and 3-months, and 17% loss between 3- and 6-month follow-ups (See Table 1). We use several methods to minimize loss (i.e., reminder calls and letters, participant payments). For each completed questionnaire parents are sent the following: Baseline=$15; Post-Treatment=$20; 3-months=$25; 6-months=$30.

2. A.3) Participant Demographics  Table 2a-b shows the demographics for participants in this trial. The majority of children (72%) are age 2 or 3 years. Both genders are represented approximately equally in our sample. The majority of the children in this trial have at least one sibling, and live in two-parent households with the mother as the primary caregiver (mean age 31.5 years). The modal annual family income reported is $40,000-$59,999, with 60% of the families in our study reporting an annual income below $80,000. This is comparable to Statistics Canada data for London and Middlesex County (median family income = $77,000). In addition, 57% of the spouses/partners from the two-parent families have also provided baseline data, which will be included in secondary data analyses.
2.A.4) Randomization

Parents are identified who are (a) concerned about both their child’s sleep and discipline, and (b) interested in treatment and participating in the study. Parents are randomly assigned to: Group 1 – Sleep treatment (i.e., sleep treatment booklet and telephone support addressing sleep and bedtime behavior problems); Group 2 – Discipline treatment (i.e., discipline treatment booklet and telephone support addressing discipline problems); or Group 3 – Usual medical care, using block randomization (23,24). A computer-generated block randomization schedule using blocks of 6 parents stratified by FMC was prepared, prior to the start of the trial, by a staff person in the Department of Epidemiology and Biostatistics at The University of Western Ontario (UWO) who was not affiliated with the research project. After the baseline assessment is completed, the RA forwards the parent’s contact information and FMC affiliation to the staff at Centre for Studies in Family Medicine (CSFM) at the UWO. The staff determines the parent’s group assignment and forwards that information to a randomly determined telephone coach. The telephone coach then mails parents either the appropriate treatment booklet (Group 1 or Group 2) or letter (Usual care; Group 3). Stratification by FMC controls for variation in usual care and other sociodemographic differences among the centres.

2.B) Methods of data collection
2.B.1) Baseline Assessments. Parents are mailed the baseline assessment questionnaires. Parents are called to address any questions they may have.

2.B.2) Follow Up Assessments. Parents are mailed post-treatment assessment questionnaires 7 weeks after they complete the baseline. Three (Week 19) and 6 months (Week 31) after the post-treatment assessment, parents repeat the post-treatment assessments.

2.B.3) Satisfaction Assessments. The telephone coach mails parents the satisfaction questionnaire at the end of treatment. Satisfaction questionnaires are returned to a secretary at the CSFM. (Parents may be more honest if forms are not returned to the telephone coach.)

2.B.4) Primary Outcomes. The primary outcomes measured at post-treatment (7 weeks after baseline) are based on the parent who is the primary caregiver. Report by spouse/partner, when available, is also obtained. The primary outcome for Group 1 (sleep treatment) is ratings on the Children’s Sleep Habits Questionnaire (CSHQ) (25). The primary outcome for Group 2 (discipline treatment) is the total problem score of the Eyberg Child Behavior Inventory (ECBI) (26). (Table 3 lists all questionnaires completed by primary caregivers and spouses/partners.)

2.B.4.a) Sleep and bedtime problems is being assessed by the Children’s Sleep Habits Questionnaire (CSHQ) (25) which has good internal consistency and test-retest reliability (0.62-0.79), and differentiates community and sleep-disordered groups. It has better psychometric properties than questionnaires [i.e., sleep subscale of the CBCL (27) or Sleep Behavior Scale (28)] used in other treatment studies with children (29,30). Parent reported sleep problems are highly related (r = .80+) to objective measures such as actigraphs (31).
2.B.5.b) **Discipline problems** is measured using total problem score of the Eyberg Child Behavior Inventory (ECBI) (26,32-35). The ECBI has established psychometrics and is widely used in parenting treatment outcome studies, particularly with young children [e.g. (36-38)]. There is some evidence it is more sensitive to treatment than the CBCL (39).

2.B.5) **Secondary Outcomes: Composite Sleep Problem Score.** A composite sleep problems score will be a secondary outcome. This composite sleep problems score was originally based on a sleep diary (40) and has been used in other RCTs for young children’s sleep problems [e.g., (41)]. It was recently converted to a questionnaire (42,43). Items assess children’s difficulty in falling asleep (e.g., number of times child gets out of bed, parent lying with child) and difficulty staying asleep (e.g., night waking, duration of night waking).

2.B.6) **Secondary Outcomes: Parenting Practices.** Parents may acquire general parenting skills through the application of new parenting approaches to specific problems and this can have ongoing effects in sustaining positive parent-child relationships and in turn preventing development of child psychopathology. Parenting practices are measured using the total score on Parenting Scale (44). The measure has established psychometrics and is widely used in parenting studies (30,44,45).

2.B.7) **Secondary Outcomes: General Child Behaviour Problems.** Improvements in child behaviour problems in general are a third outcome as areas not directly addressed by the treatment booklets would be expected to change, in part as a result of improved parenting practices, but likely less strongly than those directly targeted by the intervention. General child behaviour problems are measured using Total problem score from the 1 ½ to 5-year-old version of the Child Behavior Checklist [CBCL (46)]. The psychometric properties of CBCL are well documented (46) and it is widely used in parenting studies (38,47,48).

2.B.8) **Secondary Outcomes: Daily recall ratings.** Daily recalls assess sleep and discipline problems. Parents are contacted in the evening and rate their child’s sleep during the previous night and general behaviour during the current day. Items are based on the CSHQ and ECBI described above and the Home Situations Questionnaire (49). Some sleep items are from a measure used in an intervention by Sadeh (50). Use of daily recall will provide information to inform the rate of change during the course of the intervention (51).

2.B.9) **Predictor Variables.** We selected variables, based on the developmental psychopathology (13,52-74) and treatment outcome literatures (75-79), that we expect to predict treatment outcomes. Parents complete measures of: (a) socio-economic status, (b) child's temperament (80), (c) family functioning (81,82), and parent’s (d) social support (81,83), (e) parenting stress (84), (f) substance use (85), (g) marital relationship quality (86,87), and (h) depression (88-90). Short-forms are used when possible. When available, measures with Canadian and/or Ontario norms were used.

2.C) **Sources of information and data.** A randomized clinical trial design is used. (See section 2.A.4 for details of randomization.) Figure 2 is a flow chart of the study. A 6-week treatment period was
selected based on previous interventions for sleep (30,91,92) and behaviour problems (45,93-95).

2.C.1) **Experimental Intervention.** In the Parenting Matters condition, the parent who is the primary caregiver [hereafter parent unless otherwise specified] is mailed the relevant treatment booklet and receives telephone support.

2.C.1.a) **Treatment Booklets.** The booklets address specific problem areas (Sleep or Discipline) and aim to enhance parenting skills. Booklets follow a similar format, covering elements known to impact on child outcomes and parent-child interactions. (1) **Family Rituals, Routines and Structure** are created through positive daily routines (96-100). (2) **Parent-Child Relations** are addressed as they are predictors of adverse outcomes in childhood (13,60,96,101-106) by enhancing parents’ (a) positive appraisal of their child, (b) developmentally-appropriate expectations (107,108), and through (c) parent-child play times (109,110). (3) **Parenting Practices** are behavioural techniques with consistently demonstrated results to improve child behaviour [e.g., (111,112)]: (a) providing clear expectations, (b) enhancing positive behaviours, and (c) reducing negative behaviours. Content was determined from best practice recommendations [e.g., (113,114)]. Booklets include vignettes, cartoons, exercises for parents to work on in the booklet, tear out sheets etc. to engage readers.

2.C.1.b) **Telephone Support.** Parents receive three calls from a paraprofessional telephone coach at Weeks 0, 2 and 5 of the program. Support is a factor that is often neglected in psychoeducational health promotion interventions (20,21). The coach has two roles: motivation and problem solving. The first call ensures parents receive the booklet. At weeks 2 and 5, the telephone coach guides parents in applying the information in the booklets; additional treatment beyond what is contained in the booklets is not provided. A manual guides the coaches’ responses. Calls are audiotaped for supervision and treatment integrity. Telephone coaches attend weekly supervision meetings with the PI.

2.C.2) **Usual Care Control.** Parents in the Usual care condition are mailed a letter reminding them that a Research Assistant (RA) will be contacting them for assessments, and that they should continue with usual care from their FP. Usual care is an appropriate first step in evaluating a brief treatment (95,115). We are addressing problems of parents seen in primary care. The standard treatment for psychosocial problems in this population is care by FPs (116,117). In other words, our program is being evaluated against the current practice for this population.

2.C.3) **Treatment Implementation.** (a) Parents’ implementation of the treatment booklet is assessed by parents’ reports of: (i) how well they read the booklet, and (ii) use of strategies in booklets. (b) The telephone coaches’ compliance is assessed by ratings of randomly selected 5-minute segments of randomly selected interviews. (c) **Confounding factors** affecting parents’ ability to implement treatment are assessed using a standardised measure of critical events (e.g., hospitalisation of a family member, moving) (118).

3.0) **RESULTS**
As this is a randomized clinical trial, data analyses can only be completed at the end of the trial. Below the data analysis plan is outlined.
3.A) Analysis Plan. Recruitment ended August 31, 2007. Approximately 7 to 9 months later all participants will have made their way through the 6-month follow-up phase of the study. At that point (about April 2008) we will begin to analyze the data. Descriptive statistics will be calculated for each group for all variables. Comparisons between groups will be done using ANOVAs for continuous variables (using a posthoc Scheffe test).

3.B) Primary Analysis: Changes in Problem-Specific Outcomes. Using an intention-to-treat approach (119), two mixed effect General Linear Models [GLM; PROC MIXED in the Statistical Analysis System (SAS)] will be fit to the data to test if the each treatment group demonstrates improved outcomes compared to the usual care group (120). The dependent variable is primary caregivers’ post-treatment scores on CSHQ (Group 1 sleep treatment) or the ECBI (Group 2 discipline treatment). Participants will be modelled as random effects; group (Parenting Matters vs Usual care) and baseline covariates (FMC, and children’s FP) will also be modelled as random. A significant interaction effect between time (baseline and post-treatment) and group will indicate an intervention effect for treatment. We will examine models that consider FMC and children’s FP as random or fixed effects, to take into account potential variation in both the patient characteristics across sites, and variation in Usual care across FPs. This approach is equivalent to a randomized block design with participants treated as blocks (121). One model will be run comparing Group 1 (Sleep treatment) and Usual care (Group 3). A second model will be run comparing Group 2 (Discipline treatment) and Usual care (Group 3).

3.C) Secondary Analyses: Changes in Parenting Practices and Child Behaviour Problems. An identical analytic approach as above will be used to test for treatment effects on parenting practices and general child behaviour problems.

3.D) Secondary Analyses: Predictors of Treatment Success. A path analytic approach will be used to examine predictors of treatment improvement as presented in Figure 1 (122). Three sets of models will be analyzed predicting: (a) problem-specific outcomes (ECBI, CSHQ), (b) parenting practices and (c) child behaviour problems. These analyses are exploratory.

3.E) Secondary Analyses: Clinical Significance. A reliable change index (RCI) (123) will be used to determine clinical significance for changes in sleep and discipline outcomes. The RCI has been used in other parenting (36) and prevention studies (124). A shift from clinical to normal ranges on an outcome is typically used to indicate clinical significance (125,126). This method is problematic for preventive interventions where a proportion of the study population is in the sub-clinical range at baseline (124).

3.F) Economic analysis. Data for economic assessments are collected. However, these are viewed a supplementary given the nature of the trial.

4.0) KNOWLEDGE DISSEMINATION

Our goal is to disseminate the results to the public by the end of 2008. Preliminary results will be available by mid 2008 on the study website for viewing by the general population (http://www.ssc.uwo.ca/psychology/faculty/reid_bio.htm). In addition, results will be publicized in peer-reviewed journals and at conferences. Results will also be presented in a supplement of our FOCUS newsletter for FPs. FOCUS is published.
by the Thames Valley Family Practice Research Unit (M. Stewart, PI; G. Reid, J.B.Brown are CIs). We will work collaboratively with the CoE for knowledge translation and mobilization.

This project has generated interest in the community and the following presentations were made. These are based either directly or indirectly on this grant.

Reid, G.J. *Parenting Matters: Helping parents with young children – Methods for Randomized Clinical Trials*. Research and Evaluation in Child and Youth Mental Health in the South West Region. CPRI, London, ON.

Table 1: Questionnaire return rates and participant attrition.

<table>
<thead>
<tr>
<th>Trial 3: Sleep and Discipline Concerns</th>
<th>N</th>
<th>% Loss</th>
<th>Projections</th>
</tr>
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<tbody>
<tr>
<td>Parents completing concerns checklists</td>
<td>293</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baselines Returned (Pending return)</td>
<td>203</td>
<td>28%</td>
<td>211</td>
</tr>
<tr>
<td>Post Treatment Returned</td>
<td>162</td>
<td>12%</td>
<td>186</td>
</tr>
<tr>
<td>3 Month Returned</td>
<td>119</td>
<td>18%</td>
<td>152</td>
</tr>
<tr>
<td>6 Month Returned</td>
<td>96</td>
<td>17%</td>
<td>126</td>
</tr>
</tbody>
</table>

Note: Recruitment as of September 1, 2007. Shaded areas indicate not applicable. Projections are based on our attrition to date.
Table 2a-b: Patient demographics for families who returned baselines in Trial 3 (Parents with sleep and discipline concerns).

### Table 2a - Child Characteristics

<table>
<thead>
<tr>
<th>Child age (mode = 2 yrs)</th>
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<tbody>
<tr>
<td>2 years</td>
<td>39%</td>
</tr>
<tr>
<td>3 years</td>
<td>33%</td>
</tr>
<tr>
<td>4 years</td>
<td>21%</td>
</tr>
<tr>
<td>5 years</td>
<td>7%</td>
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<table>
<thead>
<tr>
<th>Child gender</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Boys</td>
<td>53%</td>
</tr>
<tr>
<td>Girls</td>
<td>47%</td>
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</table>

| Only child in family  | 22%   |

### Table 2b - Parent & Family Characteristics

<table>
<thead>
<tr>
<th>Parent age</th>
<th>M = 31.5 yrs (SD = 5.79)</th>
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<tbody>
<tr>
<td></td>
<td>Range 19 – 46 yrs</td>
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<table>
<thead>
<tr>
<th>Primary caregiver</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td>99%</td>
</tr>
<tr>
<td>Father</td>
<td>1%</td>
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| Single parent         | 17%   |

<table>
<thead>
<tr>
<th>Number of children in home</th>
<th>M = 2 (SD = 0.78)</th>
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</table>

<table>
<thead>
<tr>
<th>Family income</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(median range)</td>
<td>$60,000 – $79,999</td>
</tr>
<tr>
<td>&lt; $40,000;</td>
<td>26%</td>
</tr>
<tr>
<td>&gt; $80,000</td>
<td>36%</td>
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Table 3. List of all questionnaires and variables measured in relation to the conceptual model for the Parenting Matters program.

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Variable(s) measured</th>
<th>Relation to Model</th>
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<tbody>
<tr>
<td><strong>Primary outcome</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children's Sleep Habits Questionnaire</td>
<td>sleep problems (Sleep Trial)</td>
<td>Child Outcomes</td>
</tr>
<tr>
<td>Eyberg Child Behavior Inventory</td>
<td>discipline problems (Discipline Trial)</td>
<td>Child Outcomes</td>
</tr>
<tr>
<td><strong>Secondary outcomes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composite Sleep Problem Score</td>
<td>bedtime resistance, night waking</td>
<td>Child Outcomes</td>
</tr>
<tr>
<td>Parenting Scale</td>
<td>parenting</td>
<td>Addressed in Treatment Booklets: Parenting practices</td>
</tr>
<tr>
<td>Child Behavior Checklist</td>
<td>general child behaviour problems</td>
<td>Child Outcomes</td>
</tr>
<tr>
<td>Daily Recall</td>
<td>sleep and discipline problems</td>
<td>Child Outcomes</td>
</tr>
<tr>
<td><strong>Variables Targeted in the Booklets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Routines Questionnaire</td>
<td>family routines (daily living routines and household responsibility subscales)</td>
<td>Addressed in Treatment Booklets: Parenting practices</td>
</tr>
<tr>
<td>Parental Acceptance-Rejection Questionnaire-Short Form</td>
<td>warmth/affection and indifference/neglect subscale</td>
<td>Addressed in Treatment Booklets: Positive appraisal of child</td>
</tr>
<tr>
<td>Parental Stress Scale</td>
<td>enjoyment of child</td>
<td>Addressed in Treatment Booklets: Positive Appraisal of Child</td>
</tr>
<tr>
<td>Parenting Stress Scale</td>
<td>parent-child dysfunctional Interaction subscale</td>
<td>Addressed in Treatment Booklets: Positive Relationship Quality</td>
</tr>
<tr>
<td>Parenting Scale</td>
<td>parenting practices</td>
<td>Addressed in Treatment Booklets</td>
</tr>
<tr>
<td><strong>Telephone coach</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Satisfaction Questionnaire</td>
<td>support, motivation, problem solving</td>
<td>Addressed in Telephone Coaching</td>
</tr>
<tr>
<td><strong>Variables affecting implementation and outcome</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being a Parent Scale</td>
<td>parenting efficacy</td>
<td>Parenting Efficacy</td>
</tr>
<tr>
<td>Ratings of Use of Treatment Booklets</td>
<td>use of booklet</td>
<td>Treatment Integrity</td>
</tr>
<tr>
<td>Critical Events Scale</td>
<td>recent life events</td>
<td>Confounding Factors</td>
</tr>
<tr>
<td>Questionnaire</td>
<td>Variable(s) measured</td>
<td>Relation to Model</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Help from Health Professionals And Agencies</td>
<td>health care utilization &amp; co-interventions - includes help (usual care) by family physician</td>
<td>Co-Intervention</td>
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<tr>
<td><strong>Factors that Affect Child Outcomes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Demographics</td>
<td>age, sex</td>
<td>Child Characteristics</td>
</tr>
<tr>
<td>Emotional-Activity-Sociability</td>
<td>child's temperament</td>
<td>Child Characteristics</td>
</tr>
<tr>
<td>Parenting Stress Index-Short Form (2 subscales)</td>
<td>parenting stress</td>
<td>Parent Characteristics</td>
</tr>
<tr>
<td>Two-Item Conjoint Screening</td>
<td>substance use</td>
<td>Parent Characteristics</td>
</tr>
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<td>Centre for Epidemiology Depression Scale short form</td>
<td>depression</td>
<td>Parental Functioning</td>
</tr>
<tr>
<td>Diagnostic Interview Schedule depression screener</td>
<td>depression</td>
<td>Parental Functioning</td>
</tr>
<tr>
<td>Parenting Stress Scale</td>
<td>parenting distress subscale</td>
<td>Parental Functioning</td>
</tr>
<tr>
<td>Two-item Screening Test for Alcohol and Other Drug Problems</td>
<td>alcohol and drug use</td>
<td>Parental Functioning</td>
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<tr>
<td>Epworth Sleepiness Scale</td>
<td>fatigue</td>
<td>Parental Functioning</td>
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<td>Social Provisions Scale</td>
<td>social support</td>
<td>Parental Protective Factors</td>
</tr>
<tr>
<td>Family Demographics</td>
<td>e.g., socio-economic status</td>
<td>Family Characteristics</td>
</tr>
<tr>
<td>Single Parent Status</td>
<td></td>
<td>Family Characteristics</td>
</tr>
<tr>
<td>Family Income</td>
<td></td>
<td>Family Characteristics</td>
</tr>
<tr>
<td>Abbreviated Dyadic Adjustment Scale</td>
<td>marital relationship quality</td>
<td>Parental Protective Factors</td>
</tr>
<tr>
<td>Woman Abuse Screening Tool</td>
<td>marital relationship quality</td>
<td>Parental Protective Factors</td>
</tr>
<tr>
<td><strong>Family Functioning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Assessment Device-Short Form</td>
<td>family functioning</td>
<td>Family Functioning</td>
</tr>
<tr>
<td><strong>Other Measures</strong></td>
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<tr>
<td>Costs Related to Program Participation</td>
<td>for health economics calculations</td>
<td>Health Service Utilization and Associated Costs</td>
</tr>
<tr>
<td>Parent Satisfaction Questionnaire</td>
<td>treatment satisfaction</td>
<td>Satisfaction with the Treatment Booklets and Telephone Coaching</td>
</tr>
</tbody>
</table>
Figure 1. Conceptual Model for the Parenting Matters Program. Variables within the bold, shadowed rectangles are targeted in the program. Treatment takes place within the context of ongoing usual care by the family physician. Child, parent and family characteristics, and parental functioning, parental protective factors, and family functioning are variables that are expected to predict treatment outcomes. Treatment integrity, confounding factors, and co-interventions may also impact on treatment outcomes.
Patient Recruitment

2537 Total Forms filled out by parents

2509 Eligible parents recruited

1659 (66%) Parents with no concerns and/or not interested in treatment

850 Parents completed psychosocial concerns checklist at visit with FP

272 (32%) Sleep problems only
To separate CIHR funded trial

285 (34%) Discipline problems only
To separate CIHR funded trial

293 (34%) Sleep & Discipline concerns

78 (28%) Parents did not return baseline questionnaires

203 Baseline Questionnaires Completed

12 Baselines pending return

Note: FP = Family Physician, FMC = Family Medical Centre. Percents for loss of participants at various stages of the protocol are actual to September 14, 2007.
Figure 2  Flow diagram of Parenting Matters Study Protocol (CONTINUED)

Sleep AND Discipline Problems

Randomization by telephone coach

Treatment of Children with Sleep/Bedtime AND Discipline Problems

Research Assistant

SLEEP Treatment Booklet and Usual Care

Daily Recall

Telephone Support

Daily Recall

Telephone Support

Daily Recall

Telephone Support

Post-Treatment Outcome Assessment

Parent Satisfaction

3-month Follow-up

6-month Follow-up

Research Assistant

DISCIPLINE Treatment Booklet and Usual Care

Daily Recall

Telephone Support

Daily Recall

Telephone Support

Daily Recall

Telephone Support

Post-Treatment Outcome Assessment

Parent Satisfaction

3-month Follow-up

6-month Follow-up

Telephone Coach

Usual Care

Daily Recall

Telephone Support

Daily Recall

Telephone Support

Daily Recall

Telephone Support

Post-Treatment Outcome Assessment

Parent Satisfaction

3-month Follow-up

6-month Follow-up

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 19

Week 31

Note: Due to blinding, loss at follow-up in each condition can not be disclosed.
5.0) REFERENCES


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