BMJ open

Evaluating Workforce Developments to Support Children of Mentally Ill Parents: Implementing new interventions in the Adult Mental Health Care in Northern Norway.

Journal:	*BMJ Open*
Manuscript ID:	bmjopen-2011-000709
Article Type:	Protocol
Date Submitted by the Author:	30-Nov-2011
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Primary Subject Heading:	Health services research
Secondary Subject Heading:	Mental health, Public health
Keywords:	Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, MENTAL HEALTH, Adult psychiatry < PSYCHIATRY, Child protection < PAEDIATRICS

Evaluating Workforce Developments to Support Children of Mentally Ill Parents: Implementing new interventions in the Adult Mental Health Care in Northern Norway.

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Abstract

Introduction: This article describes the study protocol of implementing the interventions Family Assessment and Child Talks for children of patients in the adult psychiatry of the University Hospital of Northern Norway. **Methods/Design:** There are two groups of participants in this study; a) mental health workers in the clinic (N = 220), and b) patients who are parents (N = 200) receiving treatment in the clinic. **Analysis:** a) In the evaluation of clinical practice, we will use a pre-test post-test one-year follow-up design. At pre-test we will evaluate status quo among mental health workers in the clinic regarding knowledge, attitudes, collaborative routines and clinical practice related to families with parental mental illness. After the pre-test is finished the project will move on to implement the interventions *Family Assessment Form* and *Child Talks* in the clinic. At post-test and one year follow-up we will evaluate the impact of implementing the *Family Assessment Form* in terms of how many children were identified and offered Child Talks in the clinic or referred to other services for additional support. b) In the evaluation of parents/patients experience with the interventions, we will use a pre-test post-test design. To identify children of mentally ill patients we collect data on demographical variables for the patient and the child at pre measures, as well as data on parental competence and parental concerns about their children. At post measures we evaluate the impact of the intervention in terms of user satisfaction, as well as changes between pre- and post measures on parental competence and parental concerns about their children.

Ethics and dissemination: The study is approved by relevant ethic committees. The research group has planned five publications from the project, resulting in one PhD degree.

Background

This article describes the study protocol of implementing the interventions Family Assessment and Child Talks for children of patients in the adult psychiatry of the University Hospital of Northern Norway (UNN).

Children of parents with a mental illness (COPMI) are recognized as a large risk group. The Norwegian Institute of Public Health has estimated the number of children in this group, based on prevalence studies of how many of the entire adult population qualify for a diagnosis of mental disorder or alcohol abuse disorder [1]. They estimated that as much as 410 000 children in Norway (37.3%) had either one or two parents with a mental illness, and 90 000 children (8.3%) had at least one alcohol abusing parent. Many studies have indicated that children with mentally ill parents or parents with substance abuse disorder are at risk of developing mental health problems themselves [2, 3, 4, 5]. More than one third of these children develop serious and long-lasting problems. Early in life, these children run a higher risk of abuse and neglect, depression, eating disorders, conduct problems and academic failure. Later in life, they are at a higher risk of depression, anxiety disorders, substance abuse, eating problems and personality disorders [6, 7, 8, 1]. A study by Clark and colleagues [9] among 6-14-year-old children of parents with substance abuse disorder showed that these children have increased rates of conduct disorders, ADHD, and depressive and anxiety disorder.

Though the preventive role of protective factors and resiliency in the socio-emotional development of children has been studied extensively and are recognized in developmental psychology, little research has been conducted to evaluate their role in the transmission of parental psychopathology. However, research has documented that the

trans generational transmission of psychiatric risk is significantly mediated by the way parents interact with their children and by lack of core parenting skills. Numerous studies have revealed that dysfunctional family interaction, insensitive responsiveness, low involvement with the child, low monitoring and hostility as well as child maltreatment, may result from parental psychopathology [10, 11, 12, 13]. It is especially when these behavioural patterns are present during the early years of life that they trigger dysregulated emotion patterns, negative emotionality, insecure attachment and decreased perceived competence in children [14, 15, 16, 17, 18, 19, 20].

In order to develop preventive interventions for these children we have to focus on the malleability of psychological and social risk and to improve protective factors, for instance parenting behaviour, social support and coping skills. Internationally there are already various examples of intervention programs available and there is now an expanding evidence base to demonstrate the effectiveness of a number of interventions focused at children of mentally ill parents [e.g., 21, 22, 23, 24]. A number of empirical articles published in the course of the past decade have emphasized that parenting programs are among the most powerful and cost-effective interventions available to prevent child maltreatment and socio-emotional and behavioral problems in children [11, 25].

In spite of the fact that the risk factors for these children are known, there is a consensus among professionals in the field and the Norwegian government that health professionals have not yet been able to establish a change of practice so that children of mentally ill parents are identified and offered preventive support and adequate help. A Norwegian study has indicated that the services available to these children are

insufficient [26]. Furthermore, research on the outcomes of different interventions for this group of children and youngsters is scarce. However, before researchers are in a position to evaluate the different interventions to prevent the trans generational transference of mental health problems, these interventions have to be put into wider use. In order to conduct research to evaluate the health promoting and preventing effects of interventions in the COPMI field, it is a prerequisite that relevant changes in clinical practice to identify and offer children adequate support have been implemented. The challenges with such an effort are threefold. Firstly, there is a lack of awareness in adult mental health services that their clients may have children. Many wards have no routine recording of whether or not the client has children. Secondly, adult mental health workers are not educated to discuss parenting skills and to involve children in the treatment of the patient. Thirdly, the funding of the health services is based on client contacts and the children are not clients in the adult health care service. Children will only come to the attention of the health care system when they have already developed problems and need child mental health care [27].The commission documents for the Norwegian regional public health care, state that children with mentally ill parents or parents with substance abuse disorder are entitled to adequate help. Furthermore, several changes in relevant laws [28] have been made in order to meet these children's needs in the adult mental health care. One of the changes implied that all wards in the adult health care should have personnel responsible for the children (child contact persons) of the patients in the unit/ward. The new legislation became effective in January 2010. Therefore, important challenges in the Norwegian adult mental health service is to make sure that these children are identified, and that they get the support to which they are entitled.

In order to meet the challenges related to patients who are parents and their children, and to meet the requirements of the law, it is crucial that new routines are established and new interventions utilized in the field of practice. The most efficient way for establishing new routines and interventions in an organization is by introducing and implementing interventions that are well described [29], even if the outcomes of the interventions might not yet be evaluated. In this particular project, RKBU North focuses attention on an intervention for children of mentally ill parents; Child Talks, which has been adopted for Norway by the organization Adults for Children. Child Talks involves 2-3 sessions with parents and children and aims at supporting parents in their parenting role and thereby supporting the children. Experiences and outcomes of implementation processes have yet to be studied in a systematic way in Norway, and still little is known about the contextual factors that may promote or hinder the sustainability of the implementation of new interventions [30, 31].

In brief, the current study aims to establish a change of practice in mental health care services for adults through implementing a family focused assessment form and the intervention Child Talks as a routine service in adult mental health care. The family focused assessment form will be used as a tool to identify the children and families who are in need of more support and help, and the intervention will provide support for the patients and their children. Both the implementation process and parent's experiences with the intervention will be assessed. This will be the first large scale implementation study on this topic in Norway.

Objective of the study and research questions

The project will evaluate the process of changes in clinical practice, as well as which impact the implemented intervention has on parental competence and parental concerns.

Research questions for the process evaluation of clinical practice:

1. Will implementation of the Family Assessment Form lead to identification of children of parents with mental illness?
2. Will implementation of the intervention *Child Talks* lead to changes among mental health workers in the clinic in terms of knowledge, attitudes, collaborative routines and clinical practice?
3. Is the intervention delivered according to the protocol?
4. What do mental health workers in the clinic expect from the interventions, and do they believe it will be effective?

Research questions for the evaluation of the interventions impact on parents

1. Which experiences do patients who are parents have with the intervention *Child Talks* in terms of user satisfaction?
2. Will the intervention *Child Talks* have an impact on patients who are parents in terms of parental competence?
3. Will the intervention *Child Talks* have an impact on patients who are parents in terms of and parental concerns?

Methods

Participants

There are two main groups of participants in this study. The first group is mental health workers in the clinic ($N = 220$), ranging from psychiatric nurses, psychologists, psychiatrists, social workers and different assistants. The second group of participants patients who are parents ($N = 200$) receiving treatment in the clinic.

Recruitment

The mental health workers in the clinic are recruited by the formal inclusion of the clinic in the research project. The management in the clinic has signed a contract for the collaboration with the research group, and all mental health workers are encouraged to answer the web-based questionnaires.

Regarding the first intervention, parts of the *Family Assessment Form* for patients/parents is mandatory according to the law. The scales implemented in addition to that are made obligatory for all patients as part of the clinics quality assurance evaluation of clinical practice. Regarding the second intervention, *Child Talks*, parents receiving treatment in the clinic are recruited to receive the intervention by the mental health worker who assess the patient using the *Family Assessment Form*.

Procedure

Process evaluation. This study will use a pre-test post-test with a one-year follow-up design. At pre-test we will evaluate status quo among mental health workers in the clinic

regarding knowledge, attitudes, collaborative routines and clinical practice related to families with parental mental illness. The expectations of the mental health workers regarding the interventions will also be evaluated. This will be accomplished by web-based questionnaires for all staff.

After the pre-test is finished the project will move on to implement the interventions *Family Assessment Form* and *Child Talks* in the clinic. The implementation starts with training mental health workers in the interventions. The organisation Adults for Children will be responsible for training and supervision of personnel in the clinic.

At post-test and one year follow-up we will evaluate the impact of implementing the *Family Assessment Form* in terms of how many children were identified and offered Child Talks in the clinic or referred to other services for additional support. This will be elicited by analyzing the content of *Family Assessment Form* for all patients in the clinic. The impact of the intervention *Child Talks* will be evaluated in terms of changes of clinical practice among mental health workers in the clinic, as well as expectations regarding the interventions. This will be accomplished by web-based questionnaires. At one year follow-up we will evaluate if changes in clinical practice are sustained.

Evaluation of the interventions impact on patients who are parents. The design for this group is a pre-post design. Patients will complete the family assessment form once they are admitted to treatment in the clinic. Questions about Parental concern (PEDS) [32] and parental competence (PSOC) [33] will be included in the family assessment questionnaire at pre-test. The rationale for including the two latter scales is that information from parents relatively correctly describes the emotional, social and behavioral development of their children. Researchers have demonstrated that most children with significant socio-emotional and

behavior problems are shown to have parents with concerns, and that parents' concerns are often as accurate as quality screening [34]. Furthermore, parent satisfaction (i.e. parents' enjoyment of the parenting role) is negatively related to externalizing child behavior [35].

When the intervention is implemented, all patients receiving the intervention will be asked to fill out an evaluation form after the final session, addressing user-satisfaction, parental competence (PSOC) and Parental concern (PEDS). Patients experience with the interventions will be analyzed in terms of user satisfaction. Furthermore, changes between pre- and post measures on the PEDS and PSOC will be analyzed to evaluate the impact of the intervention in terms of parental competence and parental concerns about their children.

Measures

The selection of questionnaires consists of several different assessment instruments for the two different target groups.

Process evaluation

Questions about status quo in regular practice, changes in clinical practice one year after implementation and at one-year follow-up. Materials are based on the Keeping Families and Children in Mind Online Resource – Evaluation, pre-training survey [36]. The questionnaire is adapted to the Norwegian context to assess the regular practice in the organization regarding how it deals with children of mentally ill and substance abusing parents before the implementation of new interventions, and changes in clinical practice after implementing the new interventions. Examples of topics to be explored are knowledge and attitudes about responsibilities for the children of patients, routines in the

organization, staff's practice, and the collaborative process between the services in the municipalities and at UNN.

Evaluating training and supervision of staff. Every member of the staff who participates in training and supervision related to the new interventions, will evaluate the quality and quantity of training using a standardized questionnaire. These data will be used to evaluate relationship between the quality of the training and whether the intervention was delivered according to the protocol.

Evaluating the content of the logbook from Child Talks [37]. Staff delivering the intervention will report on the manualized issues covered in the sessions with parents/patients and children, addressing who participated, concerns discussed, opportunities for support for the family, and needs for further activities/interventions to support the family. These data will be used to evaluate if the intervention was delivered according to the protocol.

Evaluation of the interventions impact on parents

Family assessment questionnaire. To identify children of mentally ill patients a standardized questionnaire about the demographical variables about the patient and the child is presented to patients who are parents. Information about the psychiatric history and diagnosis of the patient is also collected in order to examine relationships between demographic and patient variables and intervention user satisfaction.

Parents' Evaluations of Developmental Status (PEDS) [32]. Parents' concerns will be elicited via a short form of a standardized questionnaire called PEDS. Glascoe and her colleagues demonstrated that most children with significant socio-emotional and behavior problems are shown to have parents with concerns, and that parents' concerns are often as

accurate as quality screening of the children [34]. The PEDS will indicate the level of problems in child development, and changes in development.

Parents Sense of Competence (PSOC) [33]. Parental competence will be elicited via a standardized questionnaire called PSOC. Experiences of being a parent are related to the developmental outcomes for children [38], and parents' experience of efficacy and satisfaction in their role as a parent is evaluated to get information about these issues. Two subscales measure efficacy (7 items, $\alpha = 0.69$) and satisfaction (9 items, $\alpha = 0.77$) in parenting, and are computed by summing the scores within each scale.

Evaluating patient user satisfaction with the interventions. Every patient who gives their consent to participate in the Child Talk intervention will be asked to evaluate their experience with the intervention and the broader services they have been offered, via a user satisfaction questionnaire.

Intervention

The interventions to be implemented are a standardized *Family Assessment Form* and the intervention called *Child Talks* developed and manualized in the Netherlands by Van Doesum and Koster [37]. The family assessment form is an intervention to identify children of mentally ill parents, and their needs. The intervention *Child Talks* is a health-promoting and preventive intervention where the mental health workers talk with the family about the situation of the children and their needs. This intervention is developed in the Netherlands [39], and has been part of regular practice for two decades there. The intervention comes with a manual that describes the process of carrying out three separate family conversations; one initial conversation with the patient and possibly his/her partner, followed by two

conversations with the patient (and partner) and the children involved. The intervention allows the parents/patients to describe their children's resources and vulnerability, and to participate in planning how they want their child to be informed of the family situation. The intervention includes the children through questions about their understanding and experiences of the family situation, and the children's view of what may improve their situation. Adults for children has translated and adapted the intervention for use in Norway, and has published a pamphlet called "How do I help my child", which is used as a tool for staff, parents and children in the conversations.

Intervention integrity. The professionals will follow the manual for the intervention, and will complete standard check-lists (logbook) for each session to ensure this.

Power analysis

Two separate power analyses were conducted, one for the Process evaluation part, and one for the Evaluation of the intervention's impact on patients.

Process evaluation: In this case we based the power analysis on a t-test (paired samples) of the pre-post change in clinical practice among the health care workers. The effect size is expected to be small, but even a small change in clinical practice might be clinically valuable for the families meeting the health care service. Expecting an effect size of Cohen's d = 0.2, (two-tailed test and a significance level of .05), would result in a power of 0.80 with a sample of 199 participants.

Evaluation of the interventions impact on patients who are parents: Target variables for the power analysis were Parental concern, and Parental efficacy and satisfaction.

A small to medium intervention effect from pre to post is expected for these variables,

and we want to be able to detect an effect of d = 0.25 with power = 0.80 (two-tailed test and significance level of .05). In order to achieve this goal a sample of 128 participants is needed. Since a relatively large dropout from pre- to post test is expected, we aim to recruit at least 200 patients for this part of the study.

Ethics

The study is considered by the Regional Committees for Ethics in Medical Research. Their view is that it is a quality evaluation project aimed at improving diagnostic and therapeutic practices, and hence it is not applicable for the committee. The project is approved by the data protection officer (DPO) who has approved of the total protocol for this project

Scientific and practical implications of the project

It is widely accepted that parenting behaviors influence the development of socio-emotional and behavioral problems in children [40], and the quality of parenting a child receives is considered to be the most potent but also the most modifiable risk factor contributing to the development of behavioral and emotional problems in children [41]. Interventions to improve parenting and the developmental path of children in families where one or both parents are struggling with mental illness is much needed

The new Norwegian legislation regarding support for children of mentally ill parents challenge all Norwegian psychiatric wards to change their practice related to patients who are parents and their children. The mental health care service for adults is obligated to assess all patients who are parents, and to act on their needs as parents. Results from this study will represent

an important, new and much needed contribution to the mental health services for children with mentally ill and/or substance abusing parents. Furthermore, the effects of the implementation of the screening and the Child Talks intervention will be evaluated in terms of changes in personnel's practice and collaboration between services, as well as patient's user satisfaction, parental competence and parental concerns. Implementing the intervention Child Talks in the clinic may lead to clear identification and more referrals of children in need of more extensive interventions, and this study will lay the foundation for later evaluations of intervention effect for the children in such families.

Author's contributions

All authors participated in describing the design of this study. Reedtz and Lauritzen obtained funding for this study. All authors drafted this manuscript. All authors read and approved this manuscript.

Competing interest

The authors declare that they have no competing interests.

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BMJ open

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Journal:	*BMJ Open*
Manuscript ID:	bmjopen-2011-000709.R1
Article Type:	Protocol
Date Submitted by the Author:	21-Feb-2012
Complete List of Authors:	Reedtz, Charlotte; University of Tromso, Regional Centre for Child and Youth Mental Health and Child Welfare Lauritzen, Camilla; University of Tromso, Regional Centre for Child and Youth Mental Health and Child Welfare Doesum, Karin; University of Tromso, Regional Centre for Child and Youth Mental Health and Child Welfare
Primary Subject Heading:	Health services research
Secondary Subject Heading:	Mental health, Public health
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Abstract

Background: According to new Norwegian laws, mental health care for adults are obligated to assess all patients who are parents, and to act on their children's needs. This article describes the study protocol of implementing the interventions Family Assessment and Child Talks for children of patients in the adult psychiatry of the University Hospital of Northern Norway. The project is designed to evaluate the process of changes in clinical practice, ~~as well as which impact the implemented interventions has on parental competence and parental concerns.~~due to the implementation of two interventions. The interventions to be implemented are a standardized *Family Assessment Form* and the intervention called *Child Talks*. The family assessment form is an intervention to identify children of mentally ill parents, and their needs. The intervention *Child Talks* is a health-promoting and preventive intervention where the mental health workers talk with the family about the situation of the children and their needs.

Methods/Design: There are two groups of participants in this study; a) mental health workers in the clinic (N = 220), and b) patients who are parents (N = 200) receiving treatment in the clinic. a) In the evaluation of clinical practice, we will use a pre-test post-test one-year follow-up design. At pre-test we will evaluate status quo among mental health workers in the clinic regarding knowledge, attitudes, collaborative routines and clinical practice related to families with parental mental illness. After the pre-test is finished the project will move on to implement the interventions *Family Assessment Form* and *Child Talks* in the clinic. At post-test and one year follow-up we will evaluate the impact of implementing the *Family Assessment Form* in terms of how many children were identified and offered Child Talks in the clinic or referred to other services for additional support. b) In the evaluation of parents/patients experience with the interventions, we will use a pre-test post-test design. To

identify children of mentally ill patients we collect data on demographical variables for the patient and the child at pre measures, as well as data on parental competence (PSOC) and parental concerns (PEDS) about their children. At post measures we evaluate the impact of the intervention in terms of user satisfaction, as well as changes between pre- and post measures on parental competence (PSOC) and parental concerns (PEDS) about their children.

Discussion: The implication of implementing new interventions to safeguard children of mentally ill patients, and the limitation of not measuring child development directly is discussed. ~~Results from this study will represent an important, new and much needed contribution to the mental health services for children with mentally ill and/or substance abusing parents.~~

Background

This article describes the study protocol of implementing the interventions Family Assessment and Child Talks for children of patients in the General psychiatric clinic~~adult psychiatry~~ of the University Hospital of Northern Norway (UNN).

Children of parents with a mental illness (COPMI) are recognized as a large risk group. The Norwegian Institute of Public Health has estimated the number of children in this group, based on prevalence studies of how many of the entire adult population qualify for a diagnosis of mental disorder or alcohol abuse disorder [1]. They estimated that as much as 410 000 children in Norway (37.3%) had either one or two parents with a mental illness~~, and 90 000 children (8.3%) had at least one alcohol abusing parent~~. Many studies have indicated that children with mentally ill parents ~~or parents with substance abuse disorder~~ are at risk of developing mental health problems themselves [2, 3, 4, 5].

More than one third of these children develop serious and long-lasting problems. Early in life, these children run a higher risk of abuse and neglect, depression, eating disorders, conduct problems and academic failure. Later in life, they are at a higher risk of depression, anxiety disorders, substance abuse, eating problems and personality disorders [6, 7, 8, 1]. ~~A study by Clark and colleagues [9] among 6-14 year-old children of parents with substance abuse disorder showed that these children have increased rates of conduct disorders, ADHD, and depressive and anxiety disorder.~~

Though the preventive role of protective factors and resiliency in the socio-emotional development of children has been studied extensively and are recognized in developmental psychology, little research has been conducted to evaluate their role in the transmission of parental psychopathology. However, research has documented that the trans generational transmission of psychiatric risk is significantly mediated by the way parents interact with their children and by lack of core parenting skills. Numerous studies have revealed that dysfunctional family interaction, insensitive responsiveness, low involvement with the child, low monitoring and hostility as well as child maltreatment, may result from parental psychopathology [9, 10, 11, 12~~, 13~~]. It is especially when these behavioural patterns are present during the early years of life that they trigger dysregulated emotion patterns, negative emotionality, insecure attachment and decreased perceived competence in children [13, 14, 15, 16, 17, 18, 19~~, 20~~].

In order to develop preventive interventions for these children we have to focus on the malleability of psychological and social risk and to improve protective factors, for instance parenting behaviour, social support and coping skills. Internationally there are already various examples of intervention programs available and there is now an

expanding evidence base to demonstrate the effectiveness of a number of interventions focused at children of mentally ill parents [e.g., 20, 21, 22, 23, 24]. A number of empirical articles published in the course of the past decade have emphasized that parenting programs are among the most powerful and cost-effective interventions available to prevent child maltreatment and socio-emotional and behavioral problems in children [10, 25].

In spite of the fact that the risk factors for these children are known, there is a consensus among professionals in the field and the Norwegian government that health professionals have not yet been able to establish a change of practice so that children of mentally ill parents are identified and offered preventive support and adequate help. A Norwegian study has indicated that the services available to these children are insufficient [26]. Furthermore, research on the outcomes of different interventions for this group of children and youngsters is scarce. However, before researchers are in a position to evaluate the different interventions to prevent the trans generational transference of mental health problems, these interventions have to be put into wider use. In order to conduct research to evaluate the health promoting and preventing effects of interventions in the COPMI field, it is a prerequisite that relevant changes in clinical practice to identify and offer children adequate support have been implemented. The challenges with such an effort are threefold. Firstly, there is a lack of awareness in adult mental health services that their clients may have children. Many wards have no routine recording of whether or not the client has children. Secondly, adult mental health workers are not educated to discuss parenting skills and to involve children in the treatment of the patient. Thirdly, the funding of the health services is based on client contacts and the

children are not clients in the adult health care service. Children will only come to the attention of the health care system when they have already developed problems and need child mental health care [26~~7~~].The commission documents for the Norwegian regional public health care, state that children with mentally ill parents ~~or parents with substance abuse disorder~~ are entitled to adequate help. Furthermore, several changes in relevant laws [27~~8~~] have been made in order to meet these children's needs in the adult mental health care. One of the changes implied that all wards in the adult health care should have personnel responsible for the children (child contact persons) of the patients in the unit/ward. The new legislation became effective in January 2010. Therefore, important challenges in the Norwegian adult mental health service is to make sure that these children are identified, and that they get the support to which they are entitled.

In order to meet the challenges related to patients who are parents and their children, and to meet the requirements of the law, it is crucial that new routines are established and new interventions utilized in the field of practice. The most efficient way for establishing new routines and interventions in an organization is by introducing and implementing interventions that are well described [28~~9~~], even if the outcomes of the interventions might not yet be evaluated. In this particular project, RKBU North focuses attention on an intervention for children of mentally ill parents; Child Talks, which has been adopted for Norway by the organization Adults for Children. Child Talks involves 2-3 sessions with parents and children and aims at supporting parents in their parenting role and thereby supporting the children. Experiences and outcomes of implementation processes have yet to be studied in a systematic way in Norway, and still little is known

about the contextual factors that may promote or hinder the sustainability of the implementation of new interventions [29, 30~~, 31~~].

In brief, the current study aims to establish a change of practice in mental health care services for adults through implementing a family focused assessment form and the intervention Child Talks as a routine service in adult mental health care. The family focused assessment form will be used as a tool to identify the children and families who are in need of more support and help, and the intervention will provide support for the patients and their children. Children's needs will be measured indirectly by assessing parental concerns and parents' sense of competence. The rationale for this is twofold. Firstly, health professionals are not required to assess children, as children are referred to other services in case of specific needs. Secondly, researchers have demonstrated that most children with significant socio-emotional and behavior problems are shown to have parents with concerns, and that parents' concerns are often as accurate as quality screening [31]. Both the implementation process and parent's experiences with the intervention will be assessed. This will be the first large scale implementation study on this topic in Norway.

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Objective of the study and research questions

The project will evaluate the process of changes in clinical practice, as well as which impact the implemented intervention has on parental competence and parental concerns.

Research questions for the process evaluation of clinical practice:

1. Will implementation of the Family Assessment Form lead to identification of children of parents with mental illness?

2. Will implementation of the intervention *Child Talks* lead to changes among mental health workers in the clinic in terms of knowledge, attitudes, collaborative routines and clinical practice?
3. Is the intervention delivered according to the protocol?
4. ~~What do mental health workers in the clinic expect from the interventions, and do they believe it will be effective?~~

Research questions for the evaluation of the interventions impact on parents

1. Are~~Which experiences do~~ patients who are parents ~~have~~ satisfied with the intervention *Child Talks* ~~in terms of user satisfaction~~?
2. Will the intervention *Child Talks* have an impact on patients who are parents in terms of parental competence?
3. Will the intervention *Child Talks* have an impact on patients who are parents in terms of and parental concerns?

Methods

Participants

There are two main groups of participants in this study. The first group is mental health workers in the clinic ($N = 220$), ranging from psychiatric nurses, psychologists, psychiatrists, social workers and different assistants. The second group of participants patients who are parents ($N = 200$) receiving treatment in the clinic.

Recruitment

The mental health workers in the clinic are recruited by the formal inclusion of the clinic in the research project. The management in the clinic has signed a contract for the collaboration with the research group, and all mental health workers are encouraged to answer the web-based questionnaires.

~~Regarding t~~The ~~first~~ intervention~~, parts of the~~ *Family Assessment Form* for patients/parents is mandatory for all mental health workers according to the law. The scales (PSOC and PEDS) are implemented in addition to this mandatory practice, but are included in the research project which the clinic has consented to participate in. ~~that are made obligatory for all patients as part of the clinics quality assurance evaluation of clinical practice. Regarding the~~ Parents receiving treatment in the clinic are recruited to receive the second intervention, *Child Talks*~~, parents receiving treatment in the clinic are recruited to receive the intervention~~ by the mental health ~~worker who assess~~worker who assesses the patient using the *Family Assessment Form*.

Procedure

Process evaluation. This study will use a pre-test post-test with a one-year follow-up design. At pre-test we will evaluate status quo among mental health workers in the clinic regarding knowledge, attitudes, collaborative routines and clinical practice related to families with parental mental illness. The expectations of the mental health workers regarding the interventions will also be evaluated. This will be accomplished by web-based questionnaires for all staff.

After the pre-test is finished the project will move on to implement the interventions *Family Assessment Form* and *Child Talks* in the clinic. The implementation starts with training mental health workers in the interventions. The organisation Adults for Children will be responsible for training and supervision of personnel in the clinic.

At post-test and one year follow-up we will evaluate the impact of implementing the *Family Assessment Form* in terms of how many children were identified and offered Child Talks in the clinic or referred to other services for additional support. This will be elicited by analyzing the content of *Family Assessment Form* for all patients in the clinic. The impact of the intervention *Child Talks* will be evaluated in terms of actual changes of clinical practice among mental health workers in the clinic, as well as expectations regarding the interventions. Changes regarding health professionals' knowledge, attitude, collaborative routine and clinical practices will also be assessed by post-measures using~~This will be accomplished by~~ web-based questionnaires to all staff. At one year follow-up we will evaluate if changes in clinical practice are sustained.

Evaluation of the interventions impact on patients who are parents. The design for this group is a pre-post design. Patients will complete the *Ff~~f~~amily A~~a~~ssessment F~~f~~orm* once they are admitted to treatment in the clinic. Questions about Parental concern (PEDS) [32] and parental competence (PSOC) [33] will be included in the F~~f~~amily A~~a~~ssessment ~~questionnaire~~ Form at pre-test. The rationale for including the two latter scales is that information from parents relatively correctly describes the emotional, social and behavioral development of their children. Researchers have demonstrated that most children with significant socio-emotional and behavior problems are shown to have parents with concerns, and that parents' concerns are

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often as accurate as quality screening [34]. Furthermore, parent satisfaction (i.e. parents' enjoyment of the parenting role) is negatively related to externalizing child behavior [35].

When the intervention is implemented, all patients receiving the intervention will be asked to fill out an evaluation form after the final session, addressing user-satisfaction, parental competence (PSOC) and Parental concern (PEDS). Patients experience with the interventions will be analyzed in terms of user satisfaction. Furthermore, changes between pre- and post measures on the PEDS and PSOC will be analyzed to evaluate the impact of the intervention in terms of parental competence and parental concerns about their children.

Health professionals register the contents of each *Child Talk* session with the family. Whether the intervention is delivered according to the protocol or not, is analyzed to assess intervention integrity as well as to qualify the relationship between dose and response for all participating families. This is vital to understand the variability of the impact on different families.

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Measures

The selection of questionnaires consists of several different assessment instruments for the two different target groups.

Process evaluation

Questions about status quo in regular practice, changes in clinical practice one year after implementation and at one-year follow-up. Materials are based on the Keeping Families and Children in Mind Online Resource – Evaluation, pre-training survey [36]. The questionnaire is adapted to the Norwegian context to assess the regular practice in the organization regarding how it deals with children of mentally ill ~~and substance~~

~~abusing~~ parents before the implementation of new interventions, and changes in clinical practice after implementing the new interventions. Examples of topics to be explored are knowledge and attitudes about responsibilities for the children of patients, routines in the organization, staff's practice, and the collaborative process between the services in the municipalities and ~~at UNN~~in the hospital.

Evaluating training and supervision of staff. Every member of the staff who participates in training and supervision related to the new interventions, will evaluate the quality and quantity of training using a standardized questionnaire. These data will be used to evaluate relationship between the quality of the training and whether the intervention was delivered according to the protocol.

Evaluating the content of the logbook from Child Talks [37]. Staff delivering the intervention will report on the manualized issues covered in the sessions with parents/patients and children, addressing who participated, concerns discussed, opportunities for support for the family, and needs for further activities/interventions to support the family. These data will be used to evaluate if the intervention was delivered according to the protocol.

Evaluation of the interventions impact on parents

Family A~~a~~ssessment Form~~questionnaire~~. To identify children of mentally ill patients a standardized questionnaire about the demographical variables about the patient and the child is presented to patients who are parents. Information about child age, gender, siblings, parental custody, others carers for the child, and which information the child has received about the situation with the parents collected. Furthermore, demographic data about the parents, the psychiatric history and diagnosis of the patient is also collected in order to examine

relationships between demographic child and patient variables and intervention user satisfaction.

Parents' Evaluations of Developmental Status (PEDS) [32]. Parents' concerns will be elicited via a short form of a standardized questionnaire called PEDS. Glascoe and her colleagues demonstrated that most children with significant socio-emotional and behavior problems are shown to have parents with concerns, and that parents' concerns are often as accurate as quality screening of the children [34]. The PEDS will indicate the level of problems in child development, and changes in development.

Parents Sense of Competence (PSOC) [33]. Parental competence will be elicited via a standardized questionnaire called PSOC. Experiences of being a parent are related to the developmental outcomes for children [38], and parents' experience of efficacy and satisfaction in their role as a parent is evaluated to get information about these issues. Two subscales measure efficacy (7 items, $\alpha = 0.69$) and satisfaction (9 items, $\alpha = 0.77$) in parenting, and are computed by summing the scores within each scale.

Evaluating patient user satisfaction with the interventions. Every patient who gives their consent to participate in the Child Talks intervention will be asked to evaluate their experience with the interventions ~~and the broader services they have been offered,~~ via a user satisfaction questionnaire. There are 12 items exclusively related to satisfaction. An example is "The Child Talk intervention was useful to me as a parent", and all items was answered using a five point Likert scale ranging from 1 "I totally disagree" to 5 " I totally agree".

Intervention

The interventions to be implemented are a standardized *Family Assessment Form* and the intervention called *Child Talks* developed and manualized in the Netherlands by Van Doesum and Koster [37]. The family assessment form is an intervention to identify children of mentally ill parents, and their needs. The intervention *Child Talks* is a health-promoting and preventive intervention where the mental health workers talk with the family about the situation of the children and their needs. This intervention is developed in the Netherlands [39], and has been part of regular practice for two decades there. The intervention comes with a manual that describes the process of carrying out three separate family conversations; one initial conversation with the patient and possibly his/her partner, followed by two conversations with the patient (and partner) and the children involved. The intervention allows the parents/patients to describe their children's resources and vulnerability, and to participate in planning how they want their child to be informed of the family situation. The intervention includes the children through questions about their understanding and experiences of the family situation, and the children's view of what may improve their situation. Adults for children has translated and adapted the intervention for use in Norway, and has published a pamphlet called "How do I help my child", which is used as a tool for staff, parents and children in the conversations.

Intervention integrity. The professionals will follow the manual for the intervention, and will complete standard check-lists (logbook) for each session to ensure this.

Power analysis

Two separate power analyses were conducted, one for the Process evaluation part, and one for the Evaluation of the intervention's impact on patients.

Process evaluation: In this case we based the power analysis on a t-test (paired samples) of the pre-post change in clinical practice among the health care workers. The effect size is expected to be small, but even a small change in clinical practice might be clinically valuable for the families meeting the health care service. Expecting an effect size of Cohen's d = 0.2, (two-tailed test and a significance level of .05), would result in a power of 0.80 with a sample of 199 participants.

Evaluation of the interventions impact on patients who are parents: Target variables for the power analysis were Parental concern, and Parental efficacy and satisfaction.

A small to medium intervention effect from pre to post is expected for these variables, and we want to be able to detect an effect of d = 0.25 with power = 0.80 (two-tailed test and significance level of .05). In order to achieve this goal a sample of 128 participants is needed. Since a relatively large dropout from pre- to post test is expected, we aim to recruit at least 200 patients for this part of the study.

Ethics

The study is considered by the Regional Committees for Ethics in Medical Research. Their view is that it is a quality evaluation project aimed at improving diagnostic and therapeutic practices, and hence it is not applicable for the committee. The project is approved by the data protection officer (DPO) who has approved of the total protocol for this project

Scientific and practical implications of the project

It is widely accepted that parenting behaviors influence the development of socio-emotional and behavioral problems in children [40], and the quality of parenting a child receives is considered to be the most potent but also the most modifiable risk factor contributing to the development of behavioral and emotional problems in children [41]. Interventions to improve parenting and the developmental path of children in families where one or both parents are struggling with mental illness ~~is~~ are much needed.

The new Norwegian legislation regarding support for children of mentally ill parents challenge all Norwegian psychiatric wards to change their practice related to patients who are parents and their children. The mental health care service for adults is obligated to assess all patients who are parents, and to act on their needs as parents. Results from this study will represent an important, new and much needed contribution to the mental health services for children with mentally ill parents ~~and/or substance abusing parents~~. Furthermore, the effects of the implementation of the ~~screening~~ Family Assessment and ~~the~~ Child Talks interventions will be evaluated in terms of changes in personnel's practice and collaboration between services, as well as patient's user satisfaction, parental competence and parental concerns. An important limitation is this study only examines child well-being based on parents' perceptions, excluding other informants. There is evidence to suggest a correlation between self-report measures of parents and that of observers [42]. These correlations are by no means perfect, but they do give us a certain degree of confidence in parents self-reports. Direct measures of child development and observations of parent-child interactions are needed to further increase the confidence in the results. However, ~~I~~ implementing the intervention Child Talks in the clinic may lead to clear identification and more referrals of children in need of more extensive interventions, and this study will lay the foundation for later evaluations of intervention effect for the children in such families.

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Acknowledgements

The study funded by the Norwegian Health Directorate and Regional centre for child and youth mental health and child welfare, Faculty of Health Sciences, University of Tromsø.

Author's contributions

All authors participated in describing the design of this study. Reedtz and Lauritzen obtained funding for this study. All authors drafted this manuscript. All authors read and approved this manuscript.

Competing interest

The authors declare that they have no competing interests.

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Evaluating Workforce Developments to Support Children of Mentally Ill Parents: Implementing new interventions in the Adult Mental Health Care in Northern Norway.

Journal:	*BMJ Open*
Manuscript ID:	bmjopen-2011-000709.R2
Article Type:	Protocol
Date Submitted by the Author:	13-Mar-2012
Complete List of Authors:	Reedtz, Charlotte; University of Tromso, Regional Centre for Child and Youth Mental Health and Child Welfare Lauritzen, Camilla; University of Tromso, Regional Centre for Child and Youth Mental Health and Child Welfare Doesum, Karin; University of Tromso, Regional Centre for Child and Youth Mental Health and Child Welfare
Primary Subject Heading:	Health services research
Secondary Subject Heading:	Mental health, Public health
Keywords:	Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, MENTAL HEALTH, Adult psychiatry < PSYCHIATRY, Child protection < PAEDIATRICS

Evaluating Workforce Developments to Support Children of Mentally Ill Parents: Implementing new interventions in the Adult Mental Health Care in Northern Norway.

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Abstract

Background: According to new Norwegian laws, mental health care for adults are obligated to assess all patients who are parents, and to act on their children's needs. This article describes the study protocol of implementing the interventions Family Assessment and Child Talks for children of patients in the adult psychiatry of the University Hospital of Northern Norway. The project is designed to evaluate the process of changes in clinical practice, due to the implementation of two interventions. The interventions to be implemented are a standardized *Family Assessment Form* and the intervention called *Child Talks*. The family assessment form is an intervention to identify children of mentally ill parents, and their needs. The intervention *Child Talks* is a health-promoting and preventive intervention where the mental health workers talk with the family about the situation of the children and their needs. **Methods/Design:** There are two groups of participants in this study; a) mental health workers in the clinic (N = 220), and b) patients who are parents (N = 200) receiving treatment in the clinic. a) In the evaluation of clinical practice, we will use a pre-test post-test one-year follow-up design. At pre-test we will evaluate status quo among mental health workers in the clinic regarding knowledge, attitudes, collaborative routines and clinical practice related to families with parental mental illness. After the pre-test is finished the project will move on to implement the interventions *Family Assessment Form* and *Child Talks* in the clinic. At post-test and one year follow-up we will evaluate the impact of implementing the *Family Assessment Form* in terms of how many children were identified and offered Child Talks in the clinic or referred to other services for additional support. b) In the evaluation of parents/patients experience with the interventions, we will use a pre-test post-test design. To identify children of mentally ill patients we collect data on demographical variables for the patient and the child at pre measures, as well as data

on parental competence (PSOC) and parental concerns (PEDS) about their children. At post measures we evaluate the impact of the intervention in terms of user satisfaction, as well as changes between pre- and post measures on parental competence (PSOC) and parental concerns (PEDS) about their children. **Discussion:** The implication of implementing new interventions to safeguard children of mentally ill patients, and the limitation of not measuring child development directly is discussed.

Background

This article describes the study protocol of implementing the interventions Family Assessment and Child Talks for children of patients in the General psychiatric clinic of the University Hospital of Northern Norway (UNN).

Children of parents with a mental illness (COPMI) are recognized as a large risk group. The Norwegian Institute of Public Health has estimated the number of children in this group, based on prevalence studies of how many of the entire adult population qualify for a diagnosis of mental disorder or alcohol abuse disorder [1]. They estimated that as much as 410 000 children in Norway (37.3%) had either one or two parents with a mental illness. Many studies have indicated that children with mentally ill parents are at risk of developing mental health problems themselves [2, 3, 4, 5]. More than one third of these children develop serious and long-lasting problems. Early in life, these children run a higher risk of abuse and neglect, depression, eating disorders, conduct problems and academic failure. Later in life, they are at a higher risk of depression, anxiety disorders, substance abuse, eating problems and personality disorders [6, 7, 8, 1].

Though the preventive role of protective factors and resiliency in the socio-emotional development of children has been studied extensively and are recognized in developmental psychology, little research has been conducted to evaluate their role in the transmission of parental psychopathology. However, research has documented that the trans generational transmission of psychiatric risk is significantly mediated by the way parents interact with their children and by lack of core parenting skills. Numerous studies have revealed that dysfunctional family interaction, insensitive responsiveness, low involvement with the child, low monitoring and hostility as well as child maltreatment, may result from parental psychopathology [9, 10, 11, 12]. It is especially when these behavioural patterns are present during the early years of life that they trigger dysregulated emotion patterns, negative emotionality, insecure attachment and decreased perceived competence in children [13, 14, 15, 16, 17, 18, 19].

In order to develop preventive interventions for these children we have to focus on the malleability of psychological and social risk and to improve protective factors, for instance parenting behaviour, social support and coping skills. Internationally there are already various examples of intervention programs available and there is now an expanding evidence base to demonstrate the effectiveness of a number of interventions focused at children of mentally ill parents [e.g., 20, 21, 22, 23]. A number of empirical articles published in the course of the past decade have emphasized that parenting programs are among the most powerful and cost-effective interventions available to prevent child maltreatment and socio-emotional and behavioral problems in children [10, 24].

In spite of the fact that the risk factors for these children are known, there is a consensus among professionals in the field and the Norwegian government that health professionals have not yet been able to establish a change of practice so that children of mentally ill parents are identified and offered preventive support and adequate help. A Norwegian study has indicated that the services available to these children are insufficient [25]. Furthermore, research on the outcomes of different interventions for this group of children and youngsters is scarce. However, before researchers are in a position to evaluate the different interventions to prevent the trans generational transference of mental health problems, these interventions have to be put into wider use. In order to conduct research to evaluate the health promoting and preventing effects of interventions in the COPMI field, it is a prerequisite that relevant changes in clinical practice to identify and offer children adequate support have been implemented. The challenges with such an effort are threefold. Firstly, there is a lack of awareness in adult mental health services that their clients may have children. Many wards have no routine recording of whether or not the client has children. Secondly, adult mental health workers are not educated to discuss parenting skills and to involve children in the treatment of the patient. Thirdly, the funding of the health services is based on client contacts and the children are not clients in the adult health care service. Children will only come to the attention of the health care system when they have already developed problems and need child mental health care [26].The commission documents for the Norwegian regional public health care, state that children with mentally ill parents are entitled to adequate help. Furthermore, several changes in relevant laws [27] have been made in order to meet these children's needs in the adult mental health care. One of the changes implied that all wards

in the adult health care should have personnel responsible for the children (child contact persons) of the patients in the unit/ward. The new legislation became effective in January 2010. Therefore, important challenges in the Norwegian adult mental health service is to make sure that these children are identified, and that they get the support to which they are entitled.

In order to meet the challenges related to patients who are parents and their children, and to meet the requirements of the law, it is crucial that new routines are established and new interventions utilized in the field of practice. The most efficient way for establishing new routines and interventions in an organization is by introducing and implementing interventions that are well described [28], even if the outcomes of the interventions might not yet be evaluated. In this particular project, RKBU North focuses attention on an intervention for children of mentally ill parents; Child Talks, which has been adopted for Norway by the organization Adults for Children. Child Talks involves 2-3 sessions with parents and children and aims at supporting parents in their parenting role and thereby supporting the children. Experiences and outcomes of implementation processes have yet to be studied in a systematic way in Norway, and still little is known about the contextual factors that may promote or hinder the sustainability of the implementation of new interventions [29, 30].

In brief, the current study aims to establish a change of practice in mental health care services for adults through implementing a family focused assessment form and the intervention Child Talks as a routine service in adult mental health care. The family focused assessment form will be used as a tool to identify the children and families who are in need of more support and help, and the intervention will provide support for the patients and their

children. Children's needs will be measured indirectly by assessing parental concerns and parents' sense of competence. Children in need of support or treatment themselves, will be referred to other services in collaboration with the parent/patient. The rationale for this is twofold. Firstly, health professionals are not required to assess children, as children are referred to other services in case of specific needs. Secondly, researchers have demonstrated that most children with significant socio-emotional and behavior problems are shown to have parents with concerns, and that parents' concerns are often as accurate as quality screening [31]. Both the implementation process and parent's experiences with the intervention will be assessed. This will be the first large scale implementation study on this topic in Norway.

Objective of the study and research questions

The project will evaluate the process of changes in clinical practice, as well as which impact the implemented intervention has on parental competence and parental concerns.

Research questions for the process evaluation of clinical practice:

1. Will implementation of the Family Assessment Form lead to identification of children of parents with mental illness?
2. Will implementation of the intervention *Child Talks* lead to changes among mental health workers in the clinic in terms of knowledge, attitudes, collaborative routines and clinical practice?
3. Is the intervention delivered according to the protocol?

Research questions for the evaluation of the interventions impact on parents

1. Are patients who are parents satisfied with the intervention *Child Talks*?
2. Will the intervention *Child Talks* have an impact on patients who are parents in terms of parental competence?
3. Will the intervention *Child Talks* have an impact on patients who are parents in terms of and parental concerns?

Methods

Participants

There are two main groups of participants in this study. The first group is mental health workers in the clinic ($N = 220$), ranging from psychiatric nurses, psychologists, psychiatrists, social workers and different assistants. The second group of participants patients who are parents ($N = 200$) receiving treatment in the clinic. Patients admitted to this clinic typically have symptoms consistent with diagnoses such as mild, moderate and severe depression, anxiety disorders and psychoses.

Recruitment

The mental health workers in the clinic are recruited by the formal inclusion of the clinic in the research project. The management in the clinic has signed a contract for the collaboration with the research group, and all mental health workers are encouraged to answer the web-based questionnaires.

The intervention *Family Assessment Form* for patients/parents is mandatory for all mental health workers according to the law. The scales (PSOC and PEDS) are implemented in addition to this mandatory practice, but are included in the research project which the clinic has

consented to participate in. Parents receiving treatment in the clinic are recruited to receive the second intervention, *Child Talks* by the mental health worker who assesses the patient using the *Family Assessment Form*.

Procedure

Process evaluation. This study will use a pre-test post-test with a one-year follow-up design. At pre-test we will evaluate status quo among mental health workers in the clinic regarding knowledge, attitudes, collaborative routines and clinical practice related to families with parental mental illness. The expectations of the mental health workers regarding the interventions will also be evaluated. This will be accomplished by web-based questionnaires for all staff.

After the pre-test is finished the project will move on to implement the interventions *Family Assessment Form* and *Child Talks* in the clinic. The implementation starts with training mental health workers in the interventions. The organisation Adults for Children will be responsible for training and supervision of personnel in the clinic.

At post-test and one year follow-up we will evaluate the impact of implementing the *Family Assessment Form* in terms of how many children were identified and offered Child Talks in the clinic or referred to other services for additional support. This will be elicited by analyzing the content of *Family Assessment Form* for all patients in the clinic. The impact of the intervention *Child Talks* will be evaluated in terms of actual changes of clinical practice among mental health workers in the clinic, as well as expectations regarding the interventions. Changes regarding health professionals' knowledge, attitude, collaborative routine and clinical

practices will also be assessed by post-measures using web-based questionnaires to all staff. At one year follow-up we will evaluate if changes in clinical practice are sustained.

Evaluation of the interventions impact on patients who are parents. The design for this group is a pre-post design. Patients will complete the *Family Assessment Form* once they are admitted to treatment in the clinic. Questions about Parental concern (PEDS) [32] and parental competence (PSOC) [33] will be included in the Family Assessment Form at pre-test. The rationale for including the two latter scales is that information from parents relatively correctly describes the emotional, social and behavioral development of their children. Researchers have demonstrated that most children with significant socio-emotional and behavior problems are shown to have parents with concerns, and that parents' concerns are often as accurate as quality screening [34]. Furthermore, parent satisfaction (i.e. parents' enjoyment of the parenting role) is negatively related to externalizing child behavior [35].

When the intervention is implemented, all patients receiving the intervention will be asked to fill out an evaluation form after the final session, addressing user-satisfaction, parental competence (PSOC) and Parental concern (PEDS). Patients experience with the interventions will be analyzed in terms of user satisfaction. Furthermore, changes between pre- and post measures on the PEDS and PSOC will be analyzed to evaluate the impact of the intervention in terms of parental competence and parental concerns about their children.

Health professionals register the contents of each *Child Talk* session with the family. Whether the intervention is delivered according to the protocol or not, is analyzed to assess intervention integrity as well as to qualify the relationship between dose and response for all participating families. This is vital to understand the variability of the impact on different families.

Measures

The selection of questionnaires consists of several different assessment instruments for the two different target groups.

Process evaluation

Questions about status quo in regular practice, changes in clinical practice one year after implementation and at one-year follow-up. Materials are based on the Keeping Families and Children in Mind Online Resource – Evaluation, pre-training survey [36]. The questionnaire is adapted to the Norwegian context to assess the regular practice in the organization regarding how it deals with children of mentally ill parents before the implementation of new interventions, and changes in clinical practice after implementing the new interventions. Examples of topics to be explored are knowledge and attitudes about responsibilities for the children of patients, routines in the organization, staff's practice, and the collaborative process between the services in the municipalities and in the hospital.

Evaluating training and supervision of staff. Every member of the staff who participates in training and supervision related to the new interventions, will evaluate the quality and quantity of training using a standardized questionnaire. These data will be used to evaluate relationship between the quality of the training and whether the intervention was delivered according to the protocol.

Evaluating the content of the logbook from Child Talks [37]. Staff delivering the intervention will report on the manualized issues covered in the sessions with parents/patients and children, addressing who participated, concerns discussed, opportunities for support for the

family, and needs for further activities/interventions to support the family. These data will be used to evaluate if the intervention was delivered according to the protocol.

Evaluation of the interventions impact on parents

Family Assessment Form. To identify children of mentally ill patients a standardized questionnaire about the demographical variables about the patient and the child is presented to patients who are parents. Information about child age, gender, siblings, parental custody, others carers for the child, and which information the child has received about the situation with the parents collected. Furthermore, demographic data about the parents, the psychiatric history and diagnosis of the patient is also collected in order to examine relationships between demographic child and patient variables and intervention user satisfaction.

Parents' Evaluations of Developmental Status (PEDS) [32]. Parents' concerns will be elicited via a short form of a standardized questionnaire called PEDS. Glascoe and her colleagues demonstrated that most children with significant socio-emotional and behavior problems are shown to have parents with concerns, and that parents' concerns are often as accurate as quality screening of the children [34]. The PEDS will indicate the level of problems in child development, and changes in development.

Parents Sense of Competence (PSOC) [33]. Parental competence will be elicited via a standardized questionnaire called PSOC. Experiences of being a parent are related to the developmental outcomes for children [38], and parents' experience of efficacy and satisfaction in their role as a parent is evaluated to get information about these issues. Two subscales measure efficacy (7 items, $\alpha = 0.69$) and satisfaction (9 items, $\alpha = 0.77$) in parenting, and are computed by summing the scores within each scale.

Evaluating patient user satisfaction with the interventions. Every patient who gives their consent to participate in the Child Talks intervention will be asked to evaluate their experience with the interventions via a user satisfaction questionnaire. There are 12 items exclusively related to satisfaction. An example is "The Child Talk intervention was useful to me as a parent", and all items was answered using a five point Likert scale ranging from 1 "I totally disagree" to 5 " I totally agree".

Intervention

The interventions to be implemented are a standardized *Family Assessment Form* and the intervention called *Child Talks* developed and manualized in the Netherlands by Van Doesum and Koster [37]. The family assessment form is an intervention to identify children of mentally ill parents, and their needs. The intervention *Child Talks* is a health-promoting and preventive intervention where the mental health workers talk with the family about the situation of the children and their needs. This intervention is developed in the Netherlands [39], and has been part of regular practice for two decades there. The intervention comes with a manual that describes the process of carrying out three separate family conversations; one initial conversation with the patient and possibly his/her partner, followed by two conversations with the patient (and partner) and the children involved. The intervention allows the parents/patients to describe their children's resources and vulnerability, and to participate in planning how they want their child to be informed of the family situation. The intervention includes the children through questions about their understanding and experiences of the family situation, and the children's view of what may improve their situation. Adults for children has translated and adapted the intervention for use in Norway, and has published a

pamphlet called “How do I help my child”, which is used as a tool for staff, parents and children in the conversations.

Intervention integrity. The professionals will follow the manual for the intervention, and will complete standard check-lists (logbook) for each session to ensure this.

Power analysis

Two separate power analyses were conducted, one for the Process evaluation part, and one for the Evaluation of the intervention’s impact on patients.

Process evaluation: In this case we based the power analysis on a t-test (paired samples) of the pre-post change in clinical practice among the health care workers. The effect size is expected to be small, but even a small change in clinical practice might be clinically valuable for the families meeting the health care service. Expecting an effect size of Cohen's d = 0.2, (two-tailed test and a significance level of .05), would result in a power of 0.80 with a sample of 199 participants.

Evaluation of the interventions impact on patients who are parents: Target variables for the power analysis were Parental concern, and Parental efficacy and satisfaction.

A small to medium intervention effect from pre to post is expected for these variables, and we want to be able to detect an effect of d = 0.25 with power = 0.80 (two-tailed test and significance level of .05). In order to achieve this goal a sample of 128 participants is needed. Since a relatively large dropout from pre- to post test is expected, we aim to recruit at least 200 patients for this part of the study.

Ethics

The study is considered by the Regional Committees for Ethics in Medical Research. Their view is that it is a quality evaluation project aimed at improving diagnostic and therapeutic practices, and hence it is not applicable for the committee. The project is approved by the data protection officer (DPO) who has approved of the total protocol for this project

Scientific and practical implications of the project

It is widely accepted that parenting behaviors influence the development of socio-emotional and behavioral problems in children [40], and the quality of parenting a child receives is considered to be the most potent but also the most modifiable risk factor contributing to the development of behavioral and emotional problems in children [41]. Interventions to improve parenting and the developmental path of children in families where one or both parents are struggling with mental illness are much needed.

The new Norwegian legislation regarding support for children of mentally ill parents challenge all Norwegian psychiatric wards to change their practice related to patients who are parents and their children. The mental health care service for adults is obligated to assess all patients who are parents, and to act on their needs as parents. Results from this study will represent an important, new and much needed contribution to the mental health services for children with mentally ill parents. Furthermore, the effects of the implementation of the Family Assessment and Child Talks interventions will be evaluated in terms of changes in personnel's practice and collaboration between services, as well as patient's user satisfaction, parental competence and parental concerns.

An important limitation is that this study only examines child well-being based on parents' perceptions, excluding other informants (i.e. preschool teachers, school teachers, public health

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nurses, relatives). There is evidence to suggest a correlation between self-report measures of parents and that of observers [42]. These correlations are by no means perfect, but they do give us a certain degree of confidence in parents self-reports. Direct measures of child development and observations of parent-child interactions are needed to further increase the confidence in the results.

In conclusion; ~~However,~~ implementing the intervention Child Talks in the clinic may lead to clear identification and more referrals of children in need of more extensive interventions. ~~, and t~~This study will lay the foundation for later evaluations of intervention effect for ~~the~~ children with mentally ill parents~~in such families~~.

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Acknowledgements

The study funded by the Norwegian Health Directorate and Regional centre for child and youth mental health and child welfare, Faculty of Health Sciences, University of Tromsø.

Author's contributions

All authors participated in describing the design of this study. Reedtz and Lauritzen obtained funding for this study. All authors drafted this manuscript. All authors read and approved this manuscript.

Competing interest

The authors declare that they have no competing interests.

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