


The Norwegian Center for Child Behavioral Development



Implementing and evaluating evidence-based programs targeting conduct problems in Norwegian children and youth.

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Terje Ogden
Kristine Amlund-Hagen
Mari-Anne Sørli

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Implementing and evaluating evidence-based programs targeting conduct problems in Norwegian children and youth.

- Terje Ogden: Large Scale Implementation of Evidence Based Programs**
A case study describing how large scale implementation of evidence-based programs (EBPs) developed in the US were transported across geographical and language borders, implemented nationwide in Norway and tested for effectiveness and sustainability in regular practice.
- Mari-Anne Sørli: Implementing the PALS School-Wide Intervention Model**
An overview of the stepwise implementation and evaluation of the school-wide intervention program PALS, a model based on the positive behavior support model (PBS). School based interventions are combined with direct treatment by offering PMTO to the parents of the high risk children.
- Kristine Amlund-Hagen: Evaluation of Program Effectiveness and Sustainability**
A summary of the randomized controlled trials of two family and community based programs that have been implemented across Norway. These are Multisystemic Therapy (MST) and Parent Management Training (PMT). The overview also shows how treatment adherence was assessed in order to investigate the role treatment fidelity plays for treatment outcomes.

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A national implementation strategy

- A national initiative by the ministries to fund and implement evidence-based programs across Norway ('top-down'),
- Increased professional interest and demand for evidence based treatment methods ('bottom-up'),
- Collaborative implementation of programs at the national, regional and municipal level,
- Establishing The Norwegian Center for Child Behavioral Development in order to promote implementation, process and outcome research,
- Establishing national comprehensive therapist/practitioner training, supervision and maintenance programs,
- An extensive national system of quality assurance, including the monitoring of treatment and program adherence, productivity and outcomes.

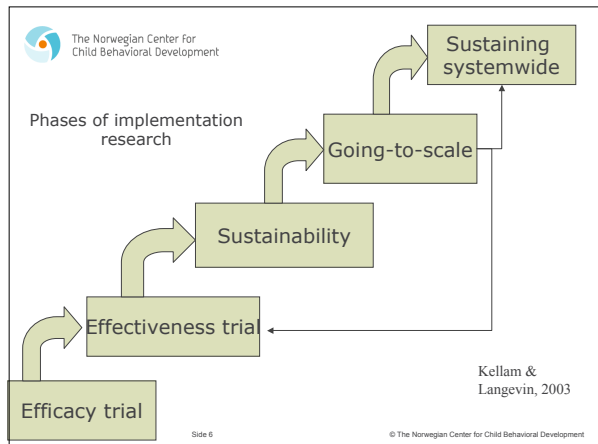
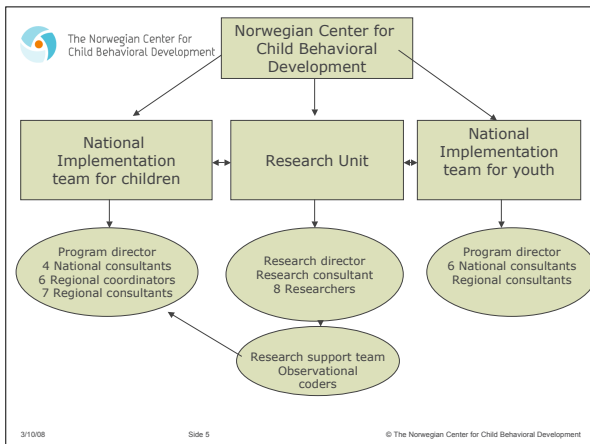
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Combining 'top down' and 'bottom up' strategies


- Combining a centralized dissemination ('top down') and a local implementation (bottom up) model of implementation,
- Examining indicators of long term sustainability clearly reveals the shortcomings of the decentralized implementation approach and highlights the importance of a national strategy for the implementation of evidence based practices.

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Anne Arnesen • Terje Ogdan • Mari-Anne Sørli



Positiv atferd og støttende læringsmiljø i skolen

Implementing the PALS School-Wide Intervention Model

Mari-Anne Sørli
m.a.sorlie@atferdssenteret.no

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Characteristics of PALS

- PALS is a school-wide, multi-level, and multi-component 3-year intervention model.
- Main goal is to effectively prevent and cope with student problem behavior and to promote social competence in schools.
- PALS is a culturally adapted & extended model of the PBIS program, developed in US¹
- Priority given to pro-active, inclusive, and universal approaches.

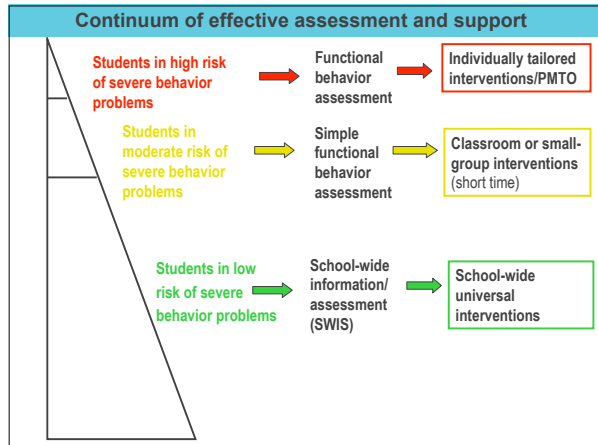
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Characteristics of PALS^{2,3}

- Pre-defined core components are implemented in a step-wise manner at universal, selected, indicated level, and adjusted to each school's culture.
- Evidence based interventions are implemented according to the PALS assessment system, and matched to student risk level.
- Parent Management Training (PMTO) is included as an intervention component in the PALS model
- That is; If needed PMTO is offered to parents of high-risk students (indicated level).

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Implementation strategies - PALS

- Formal support from the chief municipal education officer, committed participation from at least 80% of the school staff and from the principal. Willingness to contribute to research is required prior to implementation.
- Each school is trained & supported by a local PALS consultant for at least 3 years.
- One-year PALS consultant training & supervision program
 - Certification based on video-taped sessions in minimum 3 schools (coding system in progress).

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Implementation strategies - PALS

- Team-based implementation;
 - A representative PALS-team per school
 - Major team tasks: Attend monthly program training & supervision sessions, plan and implement interventions, develop the schools own handbook, introduce PALS to parents and staff, responsible for training of school staff on a weekly basis, organize the system of assessment, monitor progress and outcomes on monthly basis.
- Program fidelity is routinely evaluated once a year in each school.
- All PALS training and supervision are free.

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Evaluation design

- The PALS pilot study based on a quasi-experimental pre-post design³
 - T1- at the beginning of year 1 of the three-year implementation period
 - T2 at the end of year 2 (20 months after baseline).
- Participants:**
 - Intervention group: 4 elementary schools with high level of teacher-reported problem behavior (P-schools)
 - Comparison group: 4 neighboring schools (C-schools) with self-initiated interventions to promote positive student behavior or positive learning conditions.
- Informants:** 704 students in 3.–7. grade (8-12 years) and 78 teachers working at least half time made up 92% of the sample.
- Baseline comparisons:** No sign. group differences found, except (as expected) in prevalence of behavior problems (more in P-schools).

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The PALS Total Implementation Quality Scale^{3,5}

- TIQS - a program dependent measure rated by school personnel in the experiment group (PALS schools).
- Measures integrity of interventions implemented at;
 - school-wide level
 - classroom (student group) level
 - individual level (i.e. high-risk students)
- Item example: "In our school we have a few and clearly formulated school-wide rules (3 - 5 rules)".

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The Teacher Collective Efficacy Scale^{3,6}

- Used as program independent indicator of implementation quality*
- Developed by Goodard and colleagues (2000) to assess the extent to which a faculty believes in its conjoint capability to positively influence student learning.
- 12-items revised version (Goddard 2002) of the original 21-items scale used.
- Item example: "Teachers in this school are able to get through to difficult students".

i.e. how successful each school was in its effort to establish consistent school-wide academic and behavior policy and practice.

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Problem Behavior in School Environment & Classroom³

Teacher observations in school environment

Teacher observations in classrooms

- Significant decrease in teacher observed problem behavior over time in all schools. The reduction was, however, greater in the P-schools than in the C-schools.
- The decrease was statistically and practically significant both in the school environment (hallways, stairs, schoolyard etc.) and in the classroom context.
- Intervention effects in the modest range (ES=.59 & 49)

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Severely behavior problematic students³

- Significant and large difference between P- and C-schools at post-test in number of severely behavioral problematic students in class.
- Reduction most evident in number of students with externalizing problems. In fact, the number increased over time in the C-schools (ES = .71).
- Also number of students with internalizing problems increased in the C-schools, while the number slightly decreased in the P-schools.

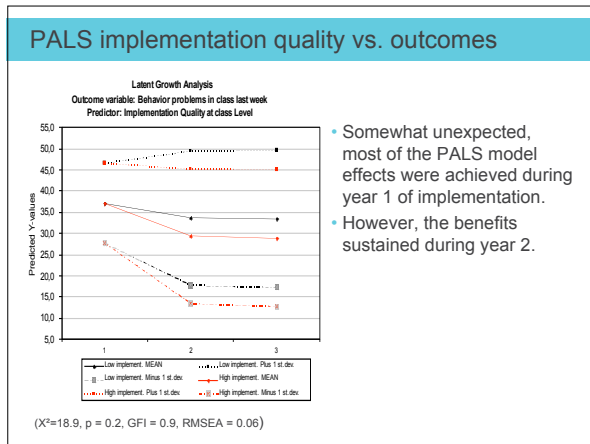
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PALS implementation quality vs. outcomes³

- A significant and inverse relationship between teacher-rated PALS total implementation quality (TIQS) and teacher-reported problem behavior in classrooms and in the school environment at post-test
 - $r = -.30$ (classroom) and $-.51$ (school), $p < .01$
- Regression analyses showed that high PALS program implementation quality was significantly associated with the largest reduction in problem behavior over time.
- Better outcomes in the P-schools than in the C-schools were also systematically related to higher collective efficacy.

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Evaluation of Program Effectiveness and Sustainability

Multisystemic Treatment (MST) Parent Management Training (PMT-O)

Kristine Amlund Hagen, Ph.D.
Norwegian Center for Child Behavioral Development
University of Oslo

The 21st Annual Research Conference: A system of care for children's mental health: Expanding the research base.

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Multisystemic Therapy – (MST)

- MST is an evidence-based treatment for families with adolescents (aged 12 – 18 years) with serious behavioral problems. Method is theoretically anchored in social ecological principles.
- MST is a home and community-based treatment.
- MST therapists are available to the families 24/7.
- Treatment seeks to change the ecology of the youth which is believed to be the processes responsible for maintaining or exacerbating the antisocial behavior of the youth.
- Families are treated individually.
- Therapeutic approach consists of 9 principles.
- Specific goals are delineated at treatment start.

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Design and sample characteristics of the Norwegian MST study

- A randomized controlled trial (RCT), with pre- and post assessments.
- An effectiveness study in which treatment was delivered via 4 existing child protective services agencies.
- Weighted randomization was carried out locally

Sample:

- 100 families at intake: 62 MST/38 RS families, Mean age = 15.07 at intake
- 63 boys and 37 girls
- Retention rate of 96% at post assessment
- Retention rate of 92% at follow-up (69/75, one site was excluded)

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Results of MST in Norway

- The Norwegian findings generally support the effectiveness of MST relative to the regular services (RS).
- MST prevented placement out of home to a greater extent than did regular services.
- MST was associated with decreased internalising and externalising problem behavior in youths.
- Parents in the MST condition were more satisfied with treatment received than were RS parents ($p = .07$).

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Measuring fidelity in MST

- Implementation quality is measured with a questionnaire administered to families, the Therapist Adherence measure (TAM, Henggeler & Borduin, 1992).
- The TAM measure consists of 26 items that assess the degree to which therapists adhere to the MST principles and use appropriate therapeutic skills.
- The site with the poorest MST outcomes reported having been unable to collect adherence measures, making it impossible to evaluate its treatment integrity.
- Results indicated that TAM scores differed significantly across the 3 remaining sites; The site with the lowest TAM score reported the least favourable treatment outcomes. Conversely, the site with the highest TAM score demonstrated the best treatment outcomes.

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Parent Management Training – (PMTO)

- PMTO is an empirically supported treatment for families with children (aged 4 – 12 years) with serious behavioral problems. The method is based on a social interaction learning (SIL) model and draws on transactional principles.
- Parents are the primary intervention targets as they are considered the agents of change in child outcomes and they are treated individually.
- Parents are trained in five parenting dimensions (positive involvement, skills encouragement, problem solving, monitoring, and discipline). These are practiced extensively during therapy sessions, with the use of PMTO treatment techniques (e.g., role play, home practice assignments, troubleshooting, etc.).

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PMTO: Design and sample characteristics

- A randomized controlled trial (RCT), with pre- and post assessments.
- An effectiveness study in which treatment was delivered via existing children's mental health agencies.
- Randomization was pair-wise and carried out locally.
- Sample:
 - 112 families at intake: 59 PMTO and 53 (RS) families, Mean age = 8.44*
 - 90 boys and 22 girls
 - Retention rate: 87%

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Main results of PMTO in Norway

Main effect of treatment:
Externalizing composite:
Children in the PMTO-group scored significantly lower on externalizing problems at treatment termination than did children in the RS group, after controlling for pre-scores. Age, gender, and dosage were also controlled for in all analyses.

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Main results of PMTO in Norway

Main effect of treatment:
Social competence composite:
Children in the PMTO-group were rated as significantly more socially competent at treatment termination than did children in the RS-group.

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Main results of PMTO in Norway

Interaction effect of treatment:
Compliance (observed by coders): Younger children (< 8) in the PMTO-group were rated as significantly more compliant at treatment termination than did younger children in the RS-group. There was no significant difference between treatment conditions for older children.

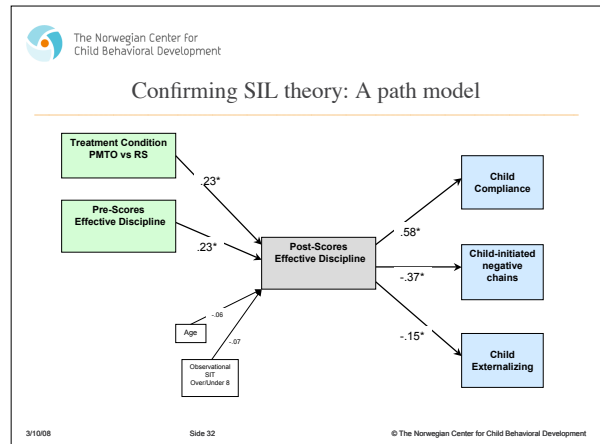
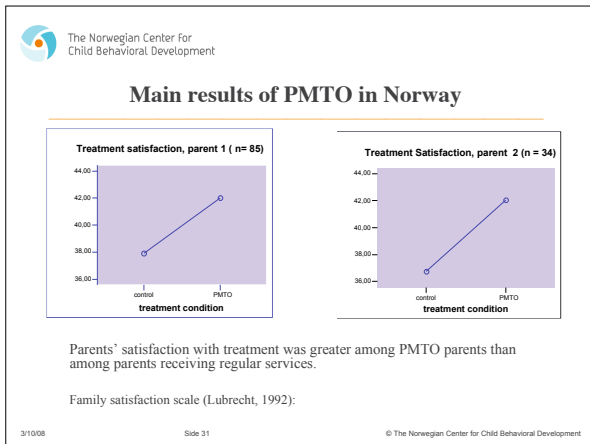
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Main results of PMTO in Norway

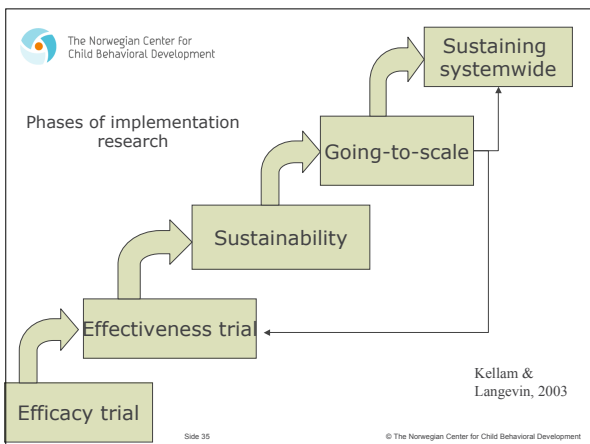
Main effect of treatment:
Parental Effective Discipline:
Parents who received PMTO scored significantly higher on effective discipline than did parents in the RS-group as rated by coders who were blind to the treatment condition of the families.

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- ### Measuring fidelity in PMTO
- Fidelity of implementation (FIMP) is measured with the use of observational methods (Knutson, Forgatch & Rains, 2003).
 - 10-minute segments of 4 therapy sessions are videotaped.
 - FIMP coders are PMTO specialists trained to reliability in the rating system. They view the tapes and rate each PMTO therapist on five core therapy components on a 1–9 scale
 - PMTO knowledge
 - Teaching
 - Structure
 - Process
 - Overall quality
 - Approximately 20% of the videotapes were checked for inter-rater reliability.
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- ### Relationship between results and treatment fidelity
- Greater treatment satisfaction reported by parents was associated with higher FIMP scores: $r(21) = .43, p = .05$.
 - Higher levels of parent positive involvement correlated with greater FIMP scores: $r(24) .41, p = .05$.
 - FIMP scores also correlated positively with parental effective discipline: $r(24) = .44, p = .03$.
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- ### MST 'going to scale' and sustainability systemwide
- (Henggeler, Schoenwald, Borduin, Rowland & Cunningham, 1998)
- MST implemented from 1999: 23 MST teams in all 5 regions of Norway (86 therapists and 25 team leaders)
 - National support for Multisystemic Therapy (MST network partners)
 - Regular site assessments.
 - Introductory training (5 days), weekly telephone consultations
 - Booster sessions (4 times each year)
 - Treatment adherence measurement (TAM)
 - Outcome monitoring system
 - Productivity: In 2006, 482 treatments were initiated, among which 86,5% were successful, 6,5% resulted in placement out of home and 7,1% dropped out of treatment.
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PMT-O 'going to scale' and sustainability systemwide

(Forgatch, 1994, Patterson, Reid & Dishion, 1992)

- Parent Management Training (PMTO) implemented from 1999:
 - 208 qualified therapist trained in 3 generations,
 - Introductory training (18 months – 5 therapies) – certification,
 - Supervision groups on a regular basis,
 - Monthly PMTO network meetings,
 - Re-certification of therapists every 3rd year,
 - Treatment adherence measured by FIMP coding of video recordings of therapies (Knutson, Forgatch & Rains, 2003),
 - Clinical outcomes and implementation studies,
 - Productivity: approximately 1500 cases treated in 2006.

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Step-wise implementation of PALS

- PALS first tested and evaluated with promising outcomes in 4 primary schools during 2002-2005^{3,4}.
- 2006: 51 schools implementing PALS, 21 PALS consultants trained (whereof 4 regional & 2 national coordinators).
 - Schools located in 3 of 5 national school regions, and with access to a local PMTO-therapist.
 - Consultants recruited from the local school psychological services.
- 2007: 91 schools implementing PALS, 30 PALS consultants trained.
- 2008: Recruitment of new schools & consultants ongoing in all 5 regions.

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Facilitators contributing to implementation quality (1)

- A genuine interest and commitment at the political and administrative level for national implementation of evidence based methods,
- Establishing a national center for training, implementation and research on evidence-based programs,
- Research on outcomes, implementation and the intervention processes,
- Therapist and practitioner recruitment strategy through the service systems.

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Facilitators contributing to implementation quality (2)

- Comprehensive training programs, and systems for monitoring of program sustainability and treatment adherence,
- Permanent professional networks for booster training, supervision and consultation,
- The ability of the program developers and stakeholders to motivate and inspire Norwegian practitioners,
- Positive feedback from families and from the media.

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