AVSTANDSBEHANDLING FOR PSYKISKE LIDELSER

Litteraturliste FIA mars 2020.

Dette er en samling referanser på feltet innhentet fra miljøer i Forsknings- og innovasjonsavdelingen ved Klinikk psykisk helse og avhengighet ved Oslo universitetssykehus. Listen er ikke basert på systematiske litteratursøk, men det er implisitt en primær seleksjon på relevans og kvalitet.

Publikasjonene er ordnet tematisk etter følgende kategorier: **Telepsykiatri generelt, Angstlidelser, Depresjon, PTSD, Barn og unge, Psykose hos ung, Bipolar lidelse, Psykose hos voksne, Voldsrisiko og fengsel, Alderspsykiatri, Psykosomatikk, Spesielle demografiske grupper, Ruslidelser.**

Innen hver kategori er publikasjonene ordnet etter publiseringsdato (nyeste først). Abstracts er tatt med der det er tilgjengelig.

TELEPSYKIATRI GENERELT

Gardner, J. S., Plaven, B. E., Yellowlees, P., & Shore, J. H. (2020). Remote telepsychiatry workforce: A solution to psychiatry's workforce issues. *Current Psychiatry Reports*, 22(2), 8. doi: 10.1007/s11920-020-1128-7

PURPOSE OF REVIEW: The purpose of this paper is to demonstrate how a remote workforce may increase access to care while reducing physician burnout. We review workforce issues and organizational and individual obstacles for implementing a telepsychiatry workforce including administrative, logistical, and clinical considerations and offer resources for how to overcome barriers that may arise in implementing a remote workforce. RECENT FINDINGS: There is an increasingly unmet demand for mental health services and a shortage in psychiatrists. Burnout may be a key factor contributing to psychiatrists working less, pursuing less acute cases, and leading to worsened outcomes for patients and the psychiatrists themselves. Telepsychiatry provides comparable patient and provider satisfaction and equal outcomes when compared with face-to-face encounters. We provided 3 case examples to demonstrate psychiatrists demonstrating successful delivery of care in a range of clinic settings and workplace configurations while optimizing their quality of life and reducing their risk of burnout.

Ignatowicz, A., et al. (2019). Internet videoconferencing for patient-clinician consultations in long-term conditions: A review of reviews and applications in line with guidelines and recommendations. *Digital Health, 5*:2055207619845831.

Background: The use of internet videoconferencing in healthcare settings is widespread, reflecting the normalisation of this mode of communication in society and current healthcare policy. As the use of internet videoconferencing is growing, increasing numbers of reviews of literature are published. Methods: The authors conducted a review of the existing reviews of literature relating to the use of internet videoconferencing for consultations between healthcare professionals and patients with long-term conditions in their own home. The review was followed with an assessment of United Kingdom National Institute for Health and Clinical Excellence guidelines for patient care in the context of common long-term illnesses to examine where videoconferencing could be implemented in line with these recommendations. Results: The review of reviews found no formal evidence in favour of or against the use of internet videoconferencing. Patients were satisfied with the use of videoconferencing but there was limited evidence that it led to a change in health outcomes.

Evidence of healthcare professional satisfaction when using this mode of communication with patients was limited. The review of guidelines suggested a number of opportunities for adoption and expansion of internet videoconferencing. Implementing videoconferencing in line with current evidence for patient care could offer support and provide information on using a communication channel that suits individual patient needs and circumstances. The evidence base for videoconferencing is growing, but there is still a lack of data relating to cost, ethics and safety. Conclusions: While the current evidence base for internet videoconferencing is equivocal, it is likely to change as more research is undertaken and evidence published. With more videoconferencing services added in more contexts, research needs to explore how internet videoconferencing can be implemented in ways that it is valued by patients and clinicians, and how it can fit within organisational and technical infrastructure of the healthcare services.

Fletcher, T. L., Hogan, J. B., Keegan, F., Davis, M. L., Wassef, M., Day, S., & Lindsay, J. A. (2018). Recent advances in delivering mental health treatment via video to home. *Current Psychiatry Reports, 20*(8), 56. doi: 10.1007/s11920-018-0922-y

PURPOSE OF REVIEW: Telemental health has rapidly evolved as technology and policy advances have allowed new and innovative approaches, including the remote delivery of services directly to patients' homes. This review examined the literature on video to home (VTH) delivery of mental health services to synthesize information regarding (1) the comparative clinical effectiveness of VTH to in-person mental health treatment, (2) impact of VTH on treatment adherence, (3) patient and provider satisfaction with VTH, (4) cost effectiveness of VTH, and (5) clinical considerations for VTH use. RECENT FINDINGS: Clinical effectiveness, treatment adherence, and patient satisfaction outcomes are comparable for VTH and in-person delivery of psychotherapy and psychiatric consultation services. Clinical applications for VTH have expanded in an effort to provide mental health care to difficult to reach, underserved populations. VTH is less costly than in-person care when assuming that patients could employ existing personal technologies. VTH delivery offers a safe and effective option for increasing access to mental health care for patients who face logistical and stigma-related barriers to receiving in-person treatment. VTH should be routinely offered to patients as an option for receiving care, maximizing patient choice, and coordination of care.

Ratzliff, A. & Sunderji, N. (2018). Tele-behavioral health, collaborative care, and integrated care: Learning to leverage scarce psychiatric resources over distance, populations, and time. *Academic Psychiatry, 42*(6), 834-840.

Torous, J., et al. (2018). Mental health mobile phone app usage, concerns, and benefits among psychiatric outpatients: Comparative survey study. *JMIR Mental Health, 5*(4), e11715.

BACKGROUND: Despite the popularity of mental health apps, it is unknown if they are actually used by those with mental illness. This study assessed whether differences in clinic setting may influence the use of mental health apps and which factors influence patient perception of apps. OBJECTIVE: The objective of this study was to gain an understanding of how individuals with mental illness use their mobile phones by exploring their access to mobile phones and their use of mental health apps. METHODS: A single time point survey study was conducted over a 2-week period in February 2018 at two nearby outpatient psychiatry clinics: one serving largely mood and anxiety disorder patients with private insurance staffed by both faculty and residents and the other serving largely psychotic disorder patients in a state Department of Mental Health (DMH) setting. A total of 25 patients at the state DMH clinic also consented for a single time point observation of apps currently installed on their personal mobile phone. RESULTS: A total of 113 patients at the private insurance clinic and 73 at the state DMH clinic completed the survey. Those in the private insurance clinic were more likely to download a mental health app compared to the state DMH clinic, but actual rates of reported current app usage were comparable at each clinic, approximately 10%. Verifying current apps on patients' mobile phones at

the state DMH clinic confirmed that approximately 10% had mental health apps installed. Patients at both clinics were most concerned about privacy of mental health apps, although those at the state DMH clinic viewed cost savings as the greatest benefit while those at the private clinic reported time as the greatest benefit. CONCLUSIONS: High interest in mental health apps does not automatically translate into high use. Our results of low but similar rates of mental health app use at diverse clinics suggests DMH patients with largely psychotic disorders are as interested and engaged with apps as those in a private insurance clinic treating largely mood and anxiety disorders. Results from our study also highlight the importance of understanding how actual patients are using apps instead of relying on internet-based samples, which often yield higher results due to their likelihood of being selected.

Adaji, A., & Fortney, J. (2017). Telepsychiatry in integrated care settings. *Focus, 15*(3), 257-263. doi: 10.1176/appi.focus.20170007

The objective of this article is to inform psychiatrists and other mental health professionals and primary care providers about the role of telepsychiatry in facilitating integrated care models, particularly in remote primary care practices. A narrative literature review was conducted to highlight the evidence and challenges of using telepsychiatry for integrated care. Telepsychiatry uses communication technologies to facilitate audiovisual interaction between patients and care teams to deliver services and expertise across distances and practice settings. It is particularly suited for integrated care settings, if business model innovations such as collaborative care models are implemented alongside to improve the access and delivery of care to patients. Telepsychiatry has been shown to be equivalent to face-to-face evaluations and, in certain instances, may lead to better outcomes in integrated care settings. Several challenges of adopting telepsychiatry in real practice are highlighted, including reimbursement and licensing across states, which continue to be an important barrier. It is critical to use an established framework to understand the potential users of telepsychiatry and develop and promote competency-based telepsychiatry training for novice, competent, and expert users. Psychiatrists who want to extend their expertise to distant sites, improve access to care, and partake in the new business models of collaborative care will need to consider these benefits and challenges.

Beiwinkel, T., et al. (2017). Supportive mental health self-monitoring among smartphone users with psychological distress: Protocol for a fully mobile randomized controlled trial. *Frontiers in Public Health, 5*, 249.

Mobile health (mHealth) could be widely used in the population to improve access to psychological treatment. In this paper, we describe the development of a mHealth intervention on the basis of supportive self-monitoring and describe the protocol for a randomized controlled trial to evaluate its effectiveness among smartphone users with psychological distress. Based on power analysis, a representative quota sample of *N* = 186 smartphone users will be recruited, with an over-sampling of persons with moderate to high distress. Over a 4-week period, the intervention will be compared to a self-monitoring without intervention group and a passive control group. Telephone interviews will be conducted at baseline, post-intervention (4 weeks), and 12-week follow-up to assess study outcomes. The primary outcome will be improvement of mental health. Secondary outcomes will include well-being, intentions toward help-seeking and help-seeking behavior, user activation, attitudes toward mental-health services, perceived stigmatization, smartphone app quality, user satisfaction, engagement, and adherence with the intervention. Additionally, data from the user's daily life as collected during self-monitoring will be used to investigate risk and protective factors of mental health in real-world settings. Therefore, this study will allow us to demonstrate the effectiveness of a smartphone application as a widely accessible and low-cost intervention to improve mental health on a population level. It also allows to identify new assessment approaches in the field of psychiatric epidemiology.

Biagianti, B., Hidalgo-Mazzei, D., & Meyer, N. (2017). Developing digital interventions for people living with serious mental illness: Perspectives from three mHealth studies. *Evidence-Based Mental Health, 20*(4), 98-101. doi: 10.1136/eb-2017-102765

The rapidly expanding field of mobile health (mHealth) seeks to harness increasingly affordable and ubiquitous mobile digital technologies including smartphones, tablets, apps and wearable devices to enhance clinical care. Accumulating evidence suggests that mHealth interventions are increasingly being adopted and valued by people living with serious mental illnesses such as schizophrenia and bipolar disorder, as a means of better understanding and managing their condition. We draw on experiences from three geographically and methodologically distinct mHealth studies to provide a pragmatic overview of the key challenges and considerations relating to the process of developing digital interventions for this population.

Chan, S., Godwin, H., Gonzalez, A., Yellowlees, P. M., & Hilty, D. M. (2017). Review of use and integration of mobile apps into psychiatric treatments. *Current Psychiatry Reports, 19*(12), 96. doi: 10.1007/s11920-017-0848-9

PURPOSE OF REVIEW: Mental health practitioners should understand the features of current, publicly available apps; the features of novel, research apps; and issues behind the integration of mobile apps and digital health services into clinical workflows. RECENT FINDINGS: The review is based on a research literature and the authors' clinical and healthcare administration experiences. Articles searched-on telepsychiatry, telemental health, mobile mental health, informatics, cellular phone, ambulatory monitoring, telemetry, and algorithms-were restricted to 2016 and 2017. Technologies are used in a variety of clinical settings, including patients with varying mental illness severity, social supports, and technological literacy. Good practices for evaluating apps, understanding user needs, and training and educating users can increase success rates. Ethics and risk management should be considered. Mobile apps are versatile. Integrating apps into psychiatric treatment requires addressing both patient and clinical workflows, design and usability principles, accessibility, social concerns, and digital health literacy.

Serhal, E., et al. (2017). Implementation and utilisation of telepsychiatry in Ontario: A population-based study. *Canadian Journal of Psychiatry - Revue Canadienne de Psychiatrie ,62*(10), 716-725.

OBJECTIVE: Rural areas in Ontario have fewer psychiatrists, making access to specialist mental health care challenging. Our objective was to characterise psychiatrists delivering and patients receiving telepsychiatry in Ontario and to determine the number of patients who accessed a psychiatrist via telepsychiatry following discharge from psychiatric hospitalisation. METHOD: We conducted a serial panel study to evaluate the characteristics of psychiatrists providing telepsychiatry from April 2007 to March 2013. In addition, we conducted a cross-sectional study for fiscal year 2012-2013 to examine telepsychiatry patient characteristics and create an in-need patient cohort of individuals with a recent psychiatric hospitalisation that assessed if they had follow-up with a psychiatrist in person or through telepsychiatry within 1 year of discharge. RESULTS: In fiscal year 2012-2013, a total of 3801 people had 5635 telepsychiatry visits, and 7% (n = 138) of Ontario psychiatrists provided telepsychiatry. Of the 48,381 people identified as in need of psychiatric care, 60% saw a local psychiatrist, 39% saw no psychiatrist, and less than 1% saw a psychiatrist through telepsychiatry only or telepsychiatry in addition to local psychiatry within a year. Three northern regions had more than 50% of in-need patients fail to access psychiatry within 1 year. CONCLUSIONS: Currently, relatively few patients and psychiatrists use telepsychiatry. In addition, patients scarcely access telepsychiatry for posthospitalisation follow-up. This study, which serves as a preliminary baseline for telepsychiatry in Ontario, demonstrates that telepsychiatry has not evolved systematically to address need and highlights the importance of system-level planning when implementing telepsychiatry to optimise access to care.

Turvey, C., & Fortney, J. (2017). The use of telemedicine and mobile technology to promote population health and population management for psychiatric disorders. *Current Psychiatry Reports, 19*(11), 88. doi: 10.1007/s11920-017-0844-0

PURPOSE OF REVIEW: This article discusses recent applications in telemedicine to promote the goals of population health and population management for people suffering psychiatric disorders. RECENT FINDINGS: The use of telemedicine to promote collaborative care, self-monitoring and chronic disease management, and population screening has demonstrated broad applicability and effectiveness. Collaborative care using videoconferencing to facilitate mental health specialty consults has demonstrated effectiveness in the treatment of depression, PTSD, and also ADHD in pediatric populations. Mobile health is currently being harnessed to monitor patient symptom trajectories with the goal of using machine learning algorithms to predict illness relapse. Patient portals serve as a bridge between patients and providers. They provide an electronically secure shared space for providers and patients to collaborate and optimize care. To date, research has supported the effectiveness of telemedicine in promoting population health. Future endeavors should focus on developing the most effective clinical protocols for using these technologies to ensure long-term use and maximum effectiveness in reducing population burden of mental health.

Drago, A., et al. (2016). Videoconferencing in psychiatry: A meta-analysis of assessment and treatment. *European Psychiatry: the Journal of the Association of European Psychiatrists ,36,* 29-37.

CONTEXT: Videoconferencing in psychiatry allows psychiatric counseling to be dealt remotely. A number of human randomised clinical trials (RCTs) on this topic were conducted but not systematically analysed since 2005. OBJECTS: A meta-analysis was undertaken to test the hypothesis of non-inferiority of remote psychiatric counseling, including both assessment and treatment, compared to face-to-face setting. Focus of research was the general psychiatric approach, which includes pharmacotherapy, counseling and some not specific psychotherapeutic techniques such as listening, reformulation and clarification among others. Specific forms of psychotherapies were not included in this analysis. DESIGN: RCTs including>=10 subjects per arm were identified in Medline, the Cochrane Library, Embase and the reference list of single papers. A random-effect and a mixed-effect model served for test the hypothesis under analysis. RESULTS: Twenty-six RCTs were included in the analysis, involving 765 (assessment) and 1585 patients (efficacy). The non-inferiority of remote psychiatric counseling was reported both for assessment and treatment. Heterogeneity could not be excluded for assessment, but was excluded for treatment while taking into account clinical and study related variables (P-values=0.003 and 0.06, respectively). CONCLUSION: High levels of consistency between remote and in vivo psychiatric assessment is reported. Efficacy of remote psychiatric counseling was shown to be not inferior compared to in vivo settings. Heterogeneity could not be excluded for assessment, and further analyses are mandatory. The presence of multiple diagnoses included in the analysis was a limit of the present investigation.

Ben-Zeev, D., et al. (2015). Next-generation psychiatric assessment: Using smartphone sensors to monitor behavior and mental health. *Psychiatric Rehabilitation Journal, 38*(3), 218-226.

OBJECTIVE: Optimal mental health care is dependent upon sensitive and early detection of mental health problems. We have introduced a state-of-the-art method for the current study for remote behavioral monitoring that transports assessment out of the clinic and into the environments in which individuals negotiate their daily lives. The objective of this study was to examine whether the information captured with multimodal smartphone sensors can serve as behavioral markers for one's mental health. We hypothesized that (a) unobtrusively collected smartphone sensor data would be associated with individuals' daily levels of stress, and (b) sensor data would be associated with changes in depression, stress, and subjective loneliness over time. METHOD: A total of 47 young adults (age range: 19-30 years) were recruited for the study.

Individuals were enrolled as a single cohort and participated in the study over a 10-week period. Participants were provided with smartphones embedded with a range of sensors and software that enabled continuous tracking of their geospatial activity (using the Global Positioning System and wireless fidelity), kinesthetic activity (using multiaxial accelerometers), sleep duration (modeled using device-usage data, accelerometer inferences, ambient sound features, and ambient light levels), and time spent proximal to human speech (i.e., speech duration using microphone and speech detection algorithms). Participants completed daily ratings of stress, as well as pre- and postmeasures of depression (Patient Health Questionnaire-9; Spitzer, Kroenke, & Williams, 1999), stress (Perceived Stress Scale; Cohen et al., 1983), and loneliness (Revised UCLA Loneliness Scale; Russell, Peplau, & Cutrona, 1980). RESULTS: Mixed-effects linear modeling showed that sensor-derived geospatial activity ($p < .05$), sleep duration ($p < .05$), and variability in geospatial activity ($p < .05$), were associated with daily stress levels. Penalized functional regression showed associations between changes in depression and sensor-derived speech duration ($p < .05$), geospatial activity ($p < .05$), and sleep duration ($p < .05$). Changes in loneliness were associated with sensor-derived kinesthetic activity ($p < .01$). CONCLUSIONS AND IMPLICATIONS FOR PRACTICE: Smartphones can be harnessed as instruments for unobtrusive monitoring of several behavioral indicators of mental health. Creative leveraging of smartphone sensing could provide novel opportunities for close-to-invisible psychiatric assessment at a scale and efficiency that far exceeds what is currently feasible with existing assessment technologies.

Luz da, P. L., et al. (2015). Distance psychotherapy-new reality. *Arquivos Brasileiros de Cardiologia, 104*(6), 431-432.

Cartwright, M., et al. (2013). Effect of telehealth on quality of life and psychological outcomes over 12 months (Whole Systems Demonstrator telehealth questionnaire study): Nested study of patient reported outcomes in a pragmatic, cluster randomised controlled trial. *BMJ ,346*, f653.

OBJECTIVE: To assess the effect of second generation, home based telehealth on health related quality of life, anxiety, and depressive symptoms over 12 months in patients with long term conditions. DESIGN: A study of patient reported outcomes (the Whole Systems Demonstrator telehealth questionnaire study; baseline n=1573) was nested in a pragmatic, cluster randomised trial of telehealth (the Whole Systems Demonstrator telehealth trial, n=3230). General practice was the unit of randomisation, and telehealth was compared with usual care. Data were collected at baseline, four months (short term), and 12 months (long term). Primary intention to treat analyses tested treatment effectiveness; multilevel models controlled for clustering by general practice and a range of covariates. Analyses were conducted for 759 participants who completed questionnaire measures at all three time points (complete case cohort) and 1201 who completed the baseline assessment plus at least one other assessment (available case cohort). Secondary per protocol analyses tested treatment efficacy and included 633 and 1108 participants in the complete case and available case cohorts, respectively. SETTING: Provision of primary and secondary care via general practices, specialist nurses, and hospital clinics in three diverse regions of England (Cornwall, Kent, and Newham), with established integrated health and social care systems. PARTICIPANTS: Patients with chronic obstructive pulmonary disease (COPD), diabetes, or heart failure recruited between May 2008 and December 2009. MAIN OUTCOME MEASURES: Generic, health related quality of life (assessed by physical and mental health component scores of the SF-12, and the EQ-5D), anxiety (assessed by the six item Brief State-Trait Anxiety Inventory), and depressive symptoms (assessed by the 10 item Centre for Epidemiological Studies Depression Scale). RESULTS: In the intention to treat analyses, differences between treatment groups were small and non-significant for all outcomes in the complete case ($0.480 <= P <= 0.904$) or available case ($0.181 <= P <= 0.905$) cohorts. The magnitude of differences between trial arms did not reach the trial defined, minimal clinically important difference (0.3 standardised mean difference) for any outcome in either cohort at four or 12 months. Per protocol analyses replicated the primary analyses; the main effect of trial arm (telehealth v usual care) was non-significant for any outcome (complete case cohort $0.273 <= P <= 0.761$; available case cohort $0.145 <= P <= 0.696$). CONCLUSIONS: Second generation, home based telehealth as implemented in the Whole Systems

Demonstrator Evaluation was not effective or efficacious compared with usual care only. Telehealth did not improve quality of life or psychological outcomes for patients with chronic obstructive pulmonary disease, diabetes, or heart failure over 12 months. The findings suggest that concerns about potentially deleterious effect of telehealth are unfounded for most patients.

Bauer, S. and M. Moessner (2012). Technology-enhanced monitoring in psychotherapy and e-mental health. *Journal of Mental Health, 21*(4), 355-363.

Advances in technology increasingly facilitate data collection in the context of psychosocial and psychotherapeutic care. Such technology-enhanced assessments (e.g. via Internet-based systems and mobile devices) open new perspectives for research into processes related to mental health and well-being. The use of this knowledge for the development and refinement of (online and face-to-face) therapeutic interventions promises to contribute to an optimization of care. The aim of this paper is to provide an overview on how information and communication technologies may be used (a) to improve our understanding of illness development and recovery through longitudinal technology-enhanced assessment of symptoms and behaviors (e.g. outcome monitoring and ecological momentary assessment) and (b) to optimize care for mental disorders by integrating such monitoring assessments in specific interventions (e.g. ecological momentary interventions and supportive monitoring) in face-to-face or e-mental health settings.

ANGSTLIDELSER

Dagoo, J., et al. (2014). Cognitive behavior therapy versus interpersonal psychotherapy for social anxiety disorder delivered via smartphone and computer: A randomized controlled trial. *Journal of Anxiety Disorders, 28*(4), 410-417.

In this study, a previously evaluated guided Internet-based cognitive behavior therapy for social anxiety disorder (SAD) was adapted for mobile phone administration (mCBT). The treatment was compared with a guided self-help treatment based on interpersonal psychotherapy (mIPT). The treatment platform could be accessed through smartphones, tablet computers, and standard computers. A total of 52 participants were diagnosed with SAD and randomized to either mCBT (n=27) or mIPT (n=25). Measures were collected at pre-treatment, during the treatment, post-treatment and 3-month follow-up. On the primary outcome measure, the Liebowitz Social Anxiety Scale - self-rated, both groups showed statistically significant improvements. However, mCBT performed significantly better than mIPT (between group Cohen's d=0.64 in favor of mCBT). A larger proportion of the mCBT group was classified as responders at post-treatment (55.6% versus 8.0% in the mIPT group). We conclude that CBT for SAD can be delivered using modern information technology. IPT delivered as a guided self-help treatment may be less effective in this format.

DEPRESJON

Gorges, F., et al. (2019). GET.HAPPY2 – User perspectives on an internet-based self-management positive psychology intervention among persons with and without depression. Results from a retrospective survey . *Journal of Clinical Psychology*, 2019 Nov 12.

OBJECTIVE: Previous research suggests that online positive psychology interventions (PPI) are frequently used by individuals with symptoms of depression. We aimed to investigate differences in the way depressed and nondepressed users react to the content of an existing online PPI, originally designed for the general public.

METHOD: In a retrospective online survey, we assessed discontinuation parameters, aspects of satisfaction with the program, and negative reactions among users of an online PPI. RESULTS: Bivariate and multivariate analyses showed that, overall, reactions between depressed and nondepressed individuals were similar. Differences were observed concerning reasons for using and for discontinuing the program, the perception of exercises, and negative reactions. CONCLUSIONS: Although satisfaction with the program was high, it did not seem to fully meet users' expectations and might be more difficult to complete during episodes of depression. Implications of this study for the adaptation of online PPIs addressing depressed individuals are discussed.

Gorges, F., et al. (2018). GET.HAPPY - Acceptance of an internet-based self-management positive psychology intervention for adult primary care patients with mild and moderate depression or dysthymia: A pilot study. *Internet Interventions, 12*, 26-35.

Introduction: A growing number of internet interventions have been shown to help in alleviating symptoms of depression. So far, only little research has focused on other methods than CBT. The present study aimed to investigate the level of satisfaction with a positive psychology online training among patients with mild and moderate depression or dysthymia. Secondary outcome measures included changes in symptom severity, health related quality of life, and negative effects. Methods: A total of 81 participants were allocated to the intervention. They were asked to complete online questionnaires and were called by one of the study psychologists at baseline, at post-treatment, and at follow-up (3months after completion of the intervention). Shorter questionnaires were administered after each module. Results: Overall satisfaction was promising. While participants seemed to be very satisfied with many aspects of the program itself, they were slightly less satisfied with its impact on the problems they sought to solve. Overall, negative effects attributed to the program were small with one exception. At post-treatment, 22.6% of the participants felt that they or their problems were not taken seriously by the program. Symptom severity decreased over time with mild to moderate effect sizes. There was a moderate increase in satisfaction with mental health at both post-treatment and follow-up. Conclusions: The online program investigated here may be a useful resource-oriented addition to the standard treatment of depression.

Grunzig, S.D., et al. (2018). Effectiveness and acceptance of a web-based depression intervention during waiting time for outpatient psychotherapy: Study protocol for a randomized controlled trial. *Trials* [Electronic Resource], *18*(1), 285.

BACKGROUND: Due to limited resources, waiting periods for psychotherapy are often long and burdening for those in need of treatment and the health care system. In order to bridge the gap between initial contact and the beginning of psychotherapy, web-based interventions can be applied. The implementation of a web-based depression intervention during waiting periods has the potential to reduce depressive symptoms and enhance well-being in depressive individuals waiting for psychotherapy. METHODS: In a two-arm randomized controlled trial, effectiveness and acceptance of a guided web-based intervention for depressive individuals on a waitlist for psychotherapy are evaluated. Participants are recruited in several German outpatient clinics. All those contacting the outpatient clinics with the wish to enter psychotherapy receive study information and a depression screening. Those adults (age >= 18) with depressive symptoms above cut-off (CES-D scale > 22) and internet access are randomized to either intervention condition (treatment as usual and immediate access to the web-based intervention) or waiting control condition (treatment as usual and delayed access to the web-based intervention). At three points of assessment (baseline, post-treatment, 3-months-follow-up) depressive symptoms and secondary outcomes, such as quality of life, attitudes towards psychotherapy and web-based interventions and adverse events are assessed. Additionally, participants' acceptance of the web-based intervention is evaluated, using measures of intervention adherence and satisfaction. DISCUSSION: This study investigates a relevant setting for the implementation of web-based interventions, potentially improving the

provision of psychological health care. The results of this study contribute to the evaluation of innovative and resource-preserving health care models for outpatient psychological treatment.

Adams, N., et al. (2017). Using telemedicine to identify depressive symptomatology rating scale in a home parenteral nutrition population. *Journal of Technology in Behavioral Science, 2*(3-4), 129-139.

PTSD

Acierno, R., et al. (2016). Behavioral activation and therapeutic exposure for posttraumatic stress disorder: A noninferiority trial of treatment delivered in person versus home-based telehealth. *Depression & Anxiety, 33*(5), 415-423.

OBJECTIVE: Combat veterans returning to society with impairing mental health conditions such as PTSD and major depression (MD) report significant barriers to care related to aspects of traditional psychotherapy service delivery (e.g., stigma, travel time, and cost). Hence, alternate treatment delivery methods are needed. Home-based telehealth (HBT) is one such option; however, this delivery mode has not been compared to in person, clinic-based care for PTSD in adequately powered trials. The present study was designed to compare relative noninferiority of evidence-based psychotherapies for PTSD and MD, specifically Behavioral Activation and Therapeutic Exposure (BA-TE), when delivered via HBT versus in person, in clinic delivery. METHOD: A repeated measures (i.e., baseline, posttreatment, 3-, 6-month follow-up) randomized controlled design powered for noninferiority analyses was used to compare PTSD and MD symptom improvement in response to BA-TE delivered via HBT versus in person, in clinic conditions. Participants were 232 veterans diagnosed with full criteria or predefined subthreshold PTSD. RESULTS: PTSD and MD symptom improvement following BA-TE delivered by HBT was comparable to that of BA-TE delivered in person at posttreatment and at 3- and 12-month follow-up. CONCLUSION: Evidence-based psychotherapy for PTSD and depression can be safely and effectively delivered via HBT with clinical outcomes paralleling those of clinic-based care delivered in person. HBT, thereby, addresses barriers to care related to both logistics and stigma.

Lindsay, J. A., et al. (2015). Implementation of video telehealth to improve access to evidence-based psychotherapy for posttraumatic stress disorder. *Telemedicine Journal & E-Health, 21*(6), 467-472.

BACKGROUND: Increasing access to psychotherapy for posttraumatic stress disorder (PTSD) is a primary focus of the Department of Veterans Affairs (VA) healthcare system. Delivery of treatment via video telehealth can expand availability of treatment and be equally effective as in-person treatment. Despite VA efforts, barriers to establishing telehealth services remain, including both provider acceptance and organizational obstacles. Thus, development of specific strategies is needed to implement video telehealth services in complex healthcare systems, like the VA. MATERIALS AND METHODS: This project was guided by the Promoting Action on Research Implementation in Health Services framework and used external facilitation to increase access to psychotherapy via video telehealth. The project was conducted at five VA Medical Centers and their associated community clinics across six states in the South Central United States. RESULTS: Over a 21-month period, 27 video telehealth clinics were established to provide greater access to evidence-based psychotherapies for PTSD. Examination of change scores showed that participating sites averaged a 3.2-fold increase in unique patients and a 6.5-fold increase in psychotherapy sessions via video telehealth for PTSD. Differences between participating and nonparticipating sites in both unique patients and encounters were significant ($p=0.041$ and $p=0.009$, respectively). Two groups emerged, separated by degree of engagement in the facilitation

intervention. Facilitation was perceived as useful by providers. CONCLUSIONS: To our knowledge, this is the first prospective study of external facilitation as an implementation strategy for telehealth. Our findings suggest that external facilitation is an effective and acceptable strategy to support providers as they establish clinics and make complex practice changes, such as implementing video telehealth to deliver psychotherapy.

BARN OG UNGE

Adkins, E. C., et al. (2017). Exploring the potential of technology-based mental health services for homeless youth: A qualitative study. *Psychological Services, 14*(2), 238-245.

Homelessness has serious consequences for youth that heighten the need for mental health services; however, these individuals face significant barriers to access. New models of intervention delivery are required to improve the dissemination of mental health interventions that tailor these services to the unique challenges faced by homeless youth. The purpose of this study was to better understand homeless youths' use of technology, mental health experiences and needs, and willingness to engage with technology-supported mental health interventions to help guide the development of future youth-facing technology-supported interventions. Five focus groups were conducted with 24 homeless youth (62.5% female) in an urban shelter. Youth were 18- to 20-years-old with current periods of homelessness ranging from 6 days to 4 years. Transcripts of these focus groups were coded to identify themes. Homeless youth reported using mobile phones frequently for communication, music, and social media. They indicated a lack of trust and a history of poor relationships with mental health providers despite recognizing the need for general support as well as help for specific mental health problems. Although initial feelings toward technology that share information with a provider were mixed, they reported an acceptance of tracking and sharing information under certain circumstances. Based on these results, we provide recommendations for the development of mental health interventions for this population focusing on technology-based treatment options.

American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Telepsychiatry and AACAP Committee on Quality Issues. (2017). Clinical Update: Telepsychiatry with children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry ,56* (10), 875-893. doi: 10.1016/j.jaac.2017.07.008**.**

This Clinical Update reviews the use of telepsychiatry to deliver psychiatric, mental health, and care coordination services to children and adolescents across settings as direct service and in collaboration with primary care providers or other clinicians. The update defines terms and presents the current status of telepsychiatry as a mode of health service deelivery. The update presents procedures for conducting telepsychiatry services and optimizing the clinical experience.

Archangeli, C., et al. (2017). Mobile health interventions for psychiatric conditions in children: A scoping review. *Child & Adolescent Psychiatric Clinics of North America ,26*(1), 13-31.

A scoping review was performed to determine what evidence exists to support the clinical use of mobile health (mHealth) interventions to address child psychiatric disorders. The review focused on children less than 18 years old who were diagnosed with a mental disorder, used an mHealth intervention, and included novel outcome data. Each study assessed feasibility of the intervention and concluded that the interventions were accepted and/or liked by patients. Of the 2 studies that examined effectiveness using a randomized controlled

trial design, there were no statistically significant differences in clinical outcomes, but results were limited by small sample size.

Powell, A. C., et al. (2017). The economic benefits of mobile apps for mental health and telepsychiatry services when used by adolescents. *Child & Adolescent Psychiatric Clinics of North America, 26*(1), 125-133.

This article describes the benefits resulting from the use of mobile applications for mental health and telepsychiatry. Potential direct benefits include substitution for other forms of care, prevention of higher-acuity illness, higher rate of psychiatrist use, increased competition of services driving lower treatment costs, lower operating costs for psychiatrists, fewer missed appointments, and revenue for application developers. Potential indirect benefits include improved physical health, enhanced current and future productivity, and reduced demands on caregivers. A return on investment analysis framework is then presented as a generalized means for evaluating the return on investment of specific health care interventions.

Aldiss, S., et al. (2015). A critical review of the use of technology to provide psychosocial support for children and young people with long-term conditions. *Journal of Pediatric Nursing, 30*(1), 87-101.

Advances in technology have offered health professionals alternative mediums of providing support to patients with long-term conditions. This critical review evaluated and assessed the benefit of electronic media technologies in supporting children and young people with long-term conditions. Of 664 references identified, 40 met the inclusion criteria. Supportive technology tended to increase disease-related knowledge and improve aspects of psychosocial function. Supportive technology did not improve quality of life, reduce health service use or decrease school absences. The poor methodological quality of current evidence and lack of involvement of users in product development contribute to the uncertainty that supportive technology is beneficial.

Gloff, N. E., LeNoue, S. R., Novins, D. K., & Myers, K. (2015). Telemental health for children and adolescents. *International Review of Psychiatry, 27*(6), 513-524. doi: 10.3109/09540261.2015.1086322

Most children and adolescents across the USA fail to receive adequate mental health services, especially in rural or underserved communities. The supply of child and adolescent psychiatrists is insufficient for the number of children in need of services and is not anticipated to grow. This calls for novel approaches to mental health care. Telemental health (TMH) offers one approach to increase access. TMH programmes serving young people are developing rapidly and available studies demonstrate that these services are feasible, acceptable, sustainable and likely as effective as in-person services. TMH services are utilized in clinical settings to provide direct care and consultation to primary care providers (PCPs), as well as in non-traditional settings, such as schools, correctional facilities and the home. Delivery of services to young people through TMH requires several adjustments to practice with adults regarding the model of care, cultural values, participating adults, rapport-building, pharmacotherapy and psychotherapy. Additional infrastructure accommodations at the patient site include space and staffing to conduct developmentally appropriate evaluations and treatment planning with parents, other providers, and community services. For TMH to optimally impact young people's access to mental health care, collaborative models of care are needed to support PCPs as frontline mental health-care providers, thereby effectively expanding the child and adolescent mental health workforce.

Hilt, R. J., et al. (2015). A statewide child telepsychiatry consult system yields desired health system changes and savings. *Telemedicine Journal & E-Health, 21*(7), 533-537.

BACKGROUND: Telepsychiatry has clinical efficacy with children, but questions remain about cost-effectiveness. State agencies and health systems need to know if a child telepsychiatry consult system can address system concerns and improve care quality while lowering costs. MATERIALS AND METHODS: To assist care in a rural state with few child and adolescent psychiatrists, an academic center coordinated a consult system of (1) televideo consults for high-needs children with Medicaid and state Multidisciplinary Team (MDT)/foster care involvement, (2) remote medication reviews for beyond guidelines prescribing, and (3) elective community provider telephone-based consults. Consult service data were collected and analyzed with Wyoming's Medicaid and Foster Care Divisions between the program start in January 2011 until March 2013. RESULTS: There were 229 televideo MDT/foster care consults, 125 mandatory medication reviews, and 277 elective phone consultations supporting community providers during this period. Following implementation, the number of Medicaid children <=5 years of age using psychotropic medications decreased by 42% (p<0.001), and the number of children using psychotropic doses >150% of the Food and Drug Administration maximum decreased by 52% (p<0.001). Televideo consults redirected 60% of children slated by caseworkers for a psychiatric residential treatment facility admission into alternative community treatment and placements. A financial return on investment was 1.82 to 1 for combined services. CONCLUSIONS: This coordinated child telepsychiatry consult system for a state Medicaid division reduced outlier pediatric psychiatric medication prescribing, supported local community-delivered treatments, and reduced unnecessary hospitalizations in a financially advantageous manner that was well received by the practice community.

Andersson, C., et al. (2014). Evaluation of Interactive Voice Response (IVR) and postal survey in follow-up of children and adolescents discharged from psychiatric outpatient treatment: A randomized controlled trial. *Springerplus, 3,* 77.

Systematic evaluation of child and adolescent psychiatric outpatient treatment is important but time-consuming. The aim of this paper was to study whether Interactive Voice Response (IVR) is a more effective method than a questionnaire sent by post when following up outpatient treatment in child and adolescent psychiatry. Eighty patients were recruited from a child and adolescent psychiatric outpatient unit in Sweden. One parent of each of the patients was randomized to complete the BCFPI follow-up form, using either IVR (n = 40) or postal survey (n = 40) one month after discharge. The response rate for complete answers was 65% in the IVR group and 38% in the postal survey group (p = 0.014). There was less need for reminders in the IVR group (p = 0.000). IVR is a promising and cost-effective method for evaluating evidence-based treatment in child and adolescent psychiatric care.

Goldstein, F. and K. Myers (2014). Telemental health: A new collaboration for pediatricians and child psychiatrists. *Pediatric Annals ,43*(2), 79-84.

PSYKOSE HOS UNGE

Kumar, D., et al. (2018). A mobile health platform for clinical monitoring in early psychosis: Implementation in community-based outpatient early psychosis care. *JMIR Mental Health, 5*(1), e15.

BACKGROUND: A growing body of literature indicates that smartphone technology is a feasible add-on tool in the treatment of individuals with early psychosis (EP) . However, most studies to date have been conducted independent of outpatient care or in a research clinic setting, often with financial incentives to maintain user adherence to the technology. Feasibility of dissemination and implementation of smartphone technology into community mental health centers (CMHCs) has yet to be tested, and whether young adults with EP will use this technology for long periods of time without incentive is unknown. Furthermore, although EP individuals willingly adopt smartphone technology as part of their treatment, it remains unclear whether providers are

amenable to integrating smartphone technology into treatment protocols. OBJECTIVE: This study aimed to establish the feasibility of implementing a smartphone app and affiliated Web-based dashboard in 4 community outpatient EP clinics in Northern California. METHODS: EP individuals in 4 clinics downloaded an app on their smartphone and responded to daily surveys regarding mood and symptoms for up to 5 months. Treatment providers at the affiliated clinics viewed survey responses on a secure Web-based dashboard in sessions with their clients and between appointments. EP clients and treatment providers filled out satisfaction surveys at study end regarding usability of the app. RESULTS: Sixty-one EP clients and 20 treatment providers enrolled in the study for up to 5 months. Forty-one EP clients completed the study, and all treatment providers remained in the study for their duration in the clinic. Survey completion for all 61 EP clients was moderate: 40% and 39% for daily and weekly surveys, respectively. Completion rates were slightly higher in the participants who completed the study: 44% and 41% for daily and weekly surveys, respectively. Twenty-seven of 41 (66%) EP clients who completed the study and 11 of 13 (85%) treatment providers who responded to satisfaction surveys reported they would continue to use the app as part of treatment services. Six (15%; 6/41) clients and 3 providers (23%; 3/13) stated that technological glitches impeded their engagement with the platform. CONCLUSIONS: EP clients and treatment providers in community-based outpatient clinics are responsive to integrating smartphone technology into treatment services. There were logistical and technical challenges associated with enrolling individuals in CMHCs. To be most effective, implementing smartphone technology in CMHC EP care necessitates adequate technical staff and support for utilization of the platform.

Birnbaum, M. L., et al. (2017). Role of social media and the Internet in pathways to care for adolescents and young adults with psychotic disorders and non-psychotic mood disorders. *Early Intervention in Psychiatry, 11*(4), 290-295.

AIMS: Although psychosis often occurs during adolescence, there has been little research on how the ubiquitously used Internet and social media could impact pathways to care. We examined how youth with psychotic spectrum disorders (PSD) versus non-psychotic mood disorders (NPMD) use online resources in the early illness stages. METHODS: Social media use and pathways to care data were collected using a semi-structured interview from 80 youth (PSD = 40 and NPMD = 40) aged 12-21 years within 2 years of symptom onset. RESULTS: A total of 97.5% of participants (mean age = 18.3 years) regularly used social media, spending approximately 2.6 +/- 2.5 h per day online. There were 22.4% of our sample (PSD = 19.4%, NPMD = 25.0%, P = 0.56) who reported waiting to reach out for help believing that symptoms would disappear. A total of 76.5% (PSD = 67.5%, NPMD = 85.0%, P = 0.06) noticed social media habit changes during symptom emergence. Thirty per cent reported discussing their symptoms on social media (PSD = 22.5%, NPMD = 37.5%, P = 0.14). NPMD patients sought information most on how to stop symptoms (40.0% vs. 13.5%, P = 0.01), while PSD youth were more commonly interested in what caused their symptoms (21.6% vs. 15.0%, P = 0.45). More PSD patients (42.9% vs. 25.0%, P = 0.10) would prefer to receive mental health information via the Internet. Altogether, 63.6% (PSD = 64.9%, NPMD = 62.5%, P = 0.83) were amenable to clinicians proactively approaching them via social media during symptom emergence. A total of 74.3% (PSD = 78.4%, NPMD = 70.0%, P = 0.40) liked the idea of obtaining help/advice from professionals via social media. CONCLUSIONS: The Internet and social media provide an unparalleled opportunity to supplement and potentially transform early intervention services, and acceptance of this approach appears to be high.

Birnbaum, M. L., et al. (2016). Impact of online resources and social media on help-seeking behaviour in youth with psychotic symptoms. *Early intervention in psychiatry, 10*(5), 397-403.

AIM: The objective of the study was to explore the content of existing online resources available to information-seeking youth as psychotic symptoms first emerge and determine how these resources may influence initiation of care. METHODS: Using 18 hypothetical search terms, developed by the Early Treatment

Programme (ETP) staff, we searched three of the most popular websites used by the youth (Google, Facebook and Twitter) and extracted the first five hits from each. Sites were categorized into those that encouraged help seeking, those that potentially contribute to treatment delay, those with an undetermined impact and those that were unrelated to treatment. RESULTS: An alarmingly few of the first five hits from the top three online resources encourage potentially psychotic youth to seek professional evaluation. The majority of our search results yielded unmonitored chat forums that lacked a unified message. The remainder promoted stigma, normalized potentially psychotic experiences or were completely unrelated to mental health. CONCLUSION: We must develop innovative, easy-to-access and youth-focused online and social media experiences that encourage symptomatic youth to seek care.

BIPOLAR LIDELSE

Hidalgo-Mazzei, D., et al. (2016). Psychoeducation in bipolar disorder with a SIMPLe smartphone application: Feasibility, acceptability and satisfaction. *Journal of Affective Disorders ,200*, 58-66.

BACKGROUND: During the last fifteen years, the possibility of delivering psychoeducation programs through Internet-based platforms have been explored. Studies evaluating those programs have shown good to acceptable retention rates. In this context, we developed a smartphone application (SIMPLe) collecting information about mood symptoms and offering personalized psychoeducation messages. The main aims of this study were to evaluate the feasibility, acceptability and satisfaction of the smartphone application. METHODS: The study was conducted from March to August 2015. Participation in the study was proposed to a consecutive sample of adult patients attending an outpatient mental health clinic. Sociodemographic data, clinical and functional assessments alongside smartphone ownership and uses were collected at baseline and at 3 months' follow-up. A 5 item Likert-scale satisfaction questionnaire was also employed. RESULTS: 51 participants were initially enrolled in the study, 36 (74%) remained actively using the application after 3 months. The whole sample interacted with the application a mean of 77 days (SD=26.2). During these days they completed 88% of the daily tests. Over 86% of the participants agreed that the experience using the application was satisfactory. LIMITATIONS: The diversity of smartphones operating systems led to a moderate, although representative, sample number. Additionally, the subjective data reporting, narrow time frame of use and stability of the patients could have affected the results. CONCLUSIONS: The results confirm that this particular intervention is feasible and represent a satisfactory and acceptable instrument for the self-management of bipolar disorder as an add-on to the usual treatment but future clinical trials must still probe its efficacy.

Depp, C. A., et al. (2015). Augmenting psychoeducation with a mobile intervention for bipolar disorder: A randomized controlled trial. *Journal of Affective Disorders ,174*, 23-30.

BACKGROUND: Psychosocial interventions for bipolar disorder are frequently unavailable and resource intensive. Mobile technology may improve access to evidence-based interventions and may increase their efficacy. We evaluated the feasibility, acceptability and efficacy of an augmentative mobile ecological momentary intervention targeting self-management of mood symptoms. METHODS: This was a randomized single-blind controlled trial with 82 consumers diagnosed with bipolar disorder who completed a four-session psychoeducational intervention and were assigned to 10 weeks of either: 1) mobile device delivered interactive intervention linking patient-reported mood states with personalized self-management strategies, or 2) paper-and-pencil mood monitoring. Participants were assessed at baseline, 6 weeks (mid-point), 12 weeks (post-treatment), and 24 weeks (follow up) with clinician-rated depression and mania scales and self-reported functioning. RESULTS: Retention at 12 weeks was 93% and both conditions were associated with high satisfaction. Compared to the paper-and-pencil condition, participants in the augmented mobile intervention

condition showed significantly greater reductions in depressive symptoms at 6 and 12 weeks (Cohen's d for both were d=0.48). However, these effects were not maintained at 24-weeks follow up. Conditions did not differ significantly in the impact on manic symptoms or functional impairment. LIMITATIONS: This was not a definitive trial and was not powered to detect moderators and mediators. CONCLUSIONS: Automated mobile-phone intervention is feasible, acceptable, and may enhance the impact of brief psychoeducation on depressive symptoms in bipolar disorder. However, sustainment of gains from symptom self-management mobile interventions, once stopped, may be limited.

PSYKOSE HOS VOKSNE

Beebe, L. H., et al. (2017). Effect of a telephone intervention on measures of psychiatric and nonpsychiatric medication adherence in outpatients with schizophrenia spectrum disorders. *Journal of Psychosocial Nursing & Mental Health Services, 55*(1), 29-36.

Telephone intervention may address the need for problem-solving interventions to improve medication adherence in patients with schizophrenia spectrum disorders (SSDs). The current randomized controlled trial examined the effect of weekly telephone intervention problem solving (TIPS) on quantitative measures of psychiatric and nonpsychiatric medication adherence over 6 months in 105 stable outpatients with SSDs. Independent samples t test revealed no significant differences in psychiatric or nonpsychiatric pill count adherence between groups at 6 months; however, 54.7% of experimental participants versus 32.7% of controls had serum antipsychotic levels within therapeutic range at 6 months (chi^2 = 5.2, df = 1, p = 0.023). The current study extends the literature on adherence in patients with SSDs by describing a clinical sample of stable outpatients over 6 months and examining adherence to psychiatric and nonpsychiatric medications.

Ben-Zeev, D., et al. (2017). CrossCheck: Integrating self-report, behavioral sensing, and smartphone use to identify digital indicators of psychotic relapse. *Psychiatric Rehabilitation Journal, 40*(3), 266-275.

OBJECTIVE: This purpose of this study was to describe and demonstrate CrossCheck, a multimodal data collection system designed to aid in continuous remote monitoring and identification of subjective and objective indicators of psychotic relapse. METHOD: Individuals with schizophrenia-spectrum disorders received a smartphone with the monitoring system installed along with unlimited data plan for 12 months. Participants were instructed to carry the device with them and to complete brief self-reports multiple times a week. Multimodal behavioral sensing (i.e., physical activity, geospatials activity, speech frequency, and duration) and device use data (i.e., call and text activity, app use) were captured automatically. Five individuals who experienced psychiatric hospitalization were selected and described for instructive purposes. RESULTS: Participants had unique digital indicators of their psychotic relapse. For some, self-reports provided clear and potentially actionable description of symptom exacerbation prior to hospitalization. Others had behavioral sensing data trends (e.g., shifts in geolocation patterns, declines in physical activity) or device use patterns (e.g., increased nighttime app use, discontinuation of all smartphone use) that reflected the changes they experienced more effectively. CONCLUSION: Advancements in mobile technology are enabling collection of an abundance of information that until recently was largely inaccessible to clinical research and practice. However, remote monitoring and relapse detection is in its nascence. Development and evaluation of innovative data management, modeling, and signal-detection techniques that can identify changes within an individual over time (i.e., unique relapse signatures) will be essential if we are to capitalize on these data to improve treatment and prevention.

Ben-Zeev, D., et al. (2016). Mobile behavioral sensing for outpatients and inpatients with schizophrenia. *Psychiatric Service, 67*(5), 558-561.

OBJECTIVE: This study examined the feasibility, acceptability, and utility of behavioral sensing among individuals with schizophrenia. METHODS: Nine outpatients and 11 inpatients carried smartphones for two- or one-week periods, respectively. Device-embedded sensors (accelerometers, microphone, global positioning system, WiFi, and Bluetooth) collected behavioral data and ascertained the patients' location, activity, and exposure to human speech as they went about their day. Participants rated this approach by completing usability and acceptability measures. RESULTS: Sensing successfully captured individuals' activity, time spent proximal to human speech, and time spent in various locations. Participants felt comfortable using the sensing system (95%), and most were interested in receiving feedback (65%) and suggestions (65%). Approximately 20% reported that sensing made them upset. One-third of inpatients were concerned about their privacy, but no outpatients expressed this concern. CONCLUSIONS: Mobile behavioral sensing was a feasible, acceptable, and informative approach for data collection among outpatients and inpatients with schizophrenia.

Thomas, N., et al. (2016). Randomised controlled trial of a digitally assisted low intensity intervention to promote personal recovery in persisting psychosis: SMART-Therapy study protocol. *BMC Psychiatry, 16*(1), 312.

BACKGROUND: Psychosocial interventions have an important role in promoting recovery in people with persisting psychotic disorders such as schizophrenia. Readily available, digital technology provides a means of developing therapeutic resources for use together by practitioners and mental health service users. As part of the Self-Management and Recovery Technology (SMART) research program, we have developed an online resource providing materials on illness self-management and personal recovery based on the Connectedness-Hope-Identity-Meaning-Empowerment (CHIME) framework. Content is communicated using videos featuring persons with lived experience of psychosis discussing how they have navigated issues in their own recovery. This was developed to be suitable for use on a tablet computer during sessions with a mental health worker to promote discussion about recovery. METHODS/DESIGN: This is a rater-blinded randomised controlled trial comparing a low intensity recovery intervention of eight one-to-one face-to-face sessions with a mental health worker using the SMART website alongside routine care, versus an eight-session comparison condition, befriending. The recruitment target is 148 participants with a schizophrenia-related disorder or mood disorder with a history of psychosis, recruited from mental health services in Victoria, Australia. Following baseline assessment, participants are randomised to intervention, and complete follow up assessments at 3, 6 and 9 months post-baseline. The primary outcome is personal recovery measured using the Process of Recovery Questionnaire (QPR). Secondary outcomes include positive and negative symptoms assessed with the Positive and Negative Syndrome Scale, subjective experiences of psychosis, emotional symptoms, quality of life and resource use. Mechanisms of change via effects on self-stigma and self-efficacy will be examined. DISCUSSION: This protocol describes a novel intervention which tests new therapeutic methods including in-session tablet computer use and video-based peer modelling. It also informs a possible low intensity intervention model potentially viable for delivery across the mental health workforce.

Ben-Zeev, D., et al. (2014). Remote "hovering" with individuals with psychotic disorders and substance use: Feasibility, engagement, and therapeutic alliance with a text-messaging mobile interventionist. *Journal of Dual Diagnosis, 10*(4), 197-203.

OBJECTIVE: People with serious mental illnesses and substance abuse problems (i.e., dual diagnosis) constitute a particularly challenging and costly clinical group. This study evaluated the feasibility and acceptability of a novel model of care in which a mobile interventionist used mobile phone text messaging to remotely monitor and provide daily support to individuals with psychotic disorders and substance use. METHODS: Seventeen participants with dual diagnosis were enrolled in a 12-week single-arm trial. A clinical social worker served as the mobile interventionist and sent daily text messages to participants' privately owned mobile phones to assess their medication adherence and clinical status. The mobile interventionist provided text-message feedback and support and suggested various coping strategies flexibly, in response to participants' replies to

prompts. At the end of the trial, participants completed a usability and satisfaction measure and two self-rated measures of therapeutic alliance with their clinicians. In one version, participants rated their relationship with their mobile interventionist; in the second version, they rated their relationship with their community-based treatment team. RESULTS: Participants received an average of 139 text messages (SD = 37.5) each from the mobile interventionist over the 12-week trial. On average, participants responded to 87% of the mobile interventionist's messages that required a reply. More than 90% of participants thought the intervention was useful and rewarding and that it helped them be more effective and productive in their lives. Participants ' assessments of their relationship with the mobile interventionist were positive. Paired-sample t-test found that the therapeutic alliance ratings participants provided for their mobile interventionist were significantly higher than those provided for their community-based treatment team clinicians, who they met with regularly. CONCLUSIONS: Our findings suggest that text-message "hovering" can be conducted successfully with individuals with psychotic disorders and substance abuse. Developing a cadre of mobile interventionists who are specifically trained on how to engage patients via mobile devices while adhering to ethical guidelines and regulatory standards may be an effective way to strengthen service delivery models, improve patient outcomes, and reduce costs.

van der Krieke, L., et al. (2014). E-mental health self-management for psychotic disorders: State of the art and future perspectives. *Psychiatric Services ,65*(1), 33-49.

OBJECTIVE: The aim of this review was to investigate to what extent information technology may support self-management among service users with psychotic disorders. The investigation aimed to answer the following questions: What types of e-mental health self-management interventions have been developed and evaluated? What is the current evidence on clinical outcome and cost-effectiveness of the identified interventions? To what extent are e-mental health self-management interventions oriented toward the service user? METHODS: A systematic review of references through July 2012 derived from MEDLINE, PsycINFO, AMED, CINAHL, and the Library, Information Science and Technology database was performed. Studies of e-mental health self-management interventions for persons with psychotic disorders were selected independently by three reviewers. RESULTS: Twenty-eight studies met the inclusion criteria. E-mental health self-management interventions included psychoeducation, medication management, communication and shared decision making, management of daily functioning, lifestyle management, peer support, and real-time self-monitoring by daily measurements (experience sampling monitoring). Summary effect sizes were large for medication management (.92) and small for psychoeducation (.37) and communication and shared decision making (.21). For all other studies, individual effect sizes were calculated. The only economic analysis conducted reported more short-term costs for the e-mental health intervention. CONCLUSIONS: People with psychotic disorders were able and willing to use e-mental health services. Results suggest that e-mental health services are at least as effective as usual care or nontechnological approaches. Larger effects were found for medication management e-mental health services. No studies reported a negative effect. Results must be interpreted cautiously, because they are based on a small number of studies.

Ben-Zeev, D., et al. (2012). Comparing retrospective reports to real-time/real-place mobile assessments in individuals with schizophrenia and a nonclinical comparison group. *Schizophrenia Bulletin, 38*(3), 396-404.

Retrospective reports are often used as the primary source of information for important diagnostic decisions, treatment, and clinical research. Whether such reports accurately represent individuals' past experiences in the context of a serious mental illness such as schizophrenia is unclear. In the current study, 24 individuals with schizophrenia and 26 nonclinical participants used a mobile device to complete multiple real-time/real-place assessments daily, over 7 consecutive days. At the end of the week, participants were also asked to provide a retrospective report summarizing the same period. Comparison of the data captured by the 2 methods showed that participants from both groups retrospectively overestimated the intensity of negative and positive daily experiences. In the clinical group, overestimations for affect were greater than for psychotic symptoms, which

were relatively comparable to their retrospective reports. In both samples, retrospective reports were more closely associated with the week's average than the most intense or most recent ratings captured with a mobile device. Multilevel modeling revealed that much of the variability in weekly assessments was not explained by between-person differences and could not be captured by a single retrospective estimate. Based on the findings of this study, clinicians and researchers should be aware that while retrospective summary reports of the severity of certain symptoms compare relatively well with average momentary ratings, they are limited in their ability to capture variability in one's affective or psychotic experiences over time.

Sharp, I.R., Kobak, K.A. & Osman, D.A. (2011). The use of videoconferencing with patients with psychosis: A review of the literature. *Annals of General Psychiatry, 10*(1), 14.

Videoconferencing has become an increasingly viable tool in psychiatry, with a growing body of literature on its use with a range of patient populations. A number of factors make it particularly well suited for patients with psychosis. For example, patients living in remote or underserved areas can be seen by a specialist without need for travel. However, the hallmark symptoms of psychotic disorders might lead one to question the feasibility of videoconferencing with these patients. For example, does videoconferencing exacerbate delusions, such as paranoia or delusions of reference? Are acutely psychotic patients willing to be interviewed remotely by videoconferencing? To address these and other issues, we conducted an extensive review of Medline, PsychINFO, and the Telemedicine Information Exchange databases for literature on videoconferencing and psychosis. Findings generally indicated that assessment and treatment via videoconferencing is equivalent to in person and is tolerated and well accepted. There is little evidence that patients with psychosis have difficulty with videoconferencing or experience any exacerbation of symptoms; in fact, there is some evidence to suggest that the distance afforded can be a positive factor. The results of two large clinical trials support the reliability and effectiveness of centralized remote assessment of patients with schizophrenia.

Beebe, L. H., et al. (2008). Telenursing intervention increases psychiatric medication adherence in schizophrenia outpatients. *Journal of the American Psychiatric Nurses Association ,14*(3), 217-224.

BACKGROUND: Promoting medication adherence is a critical issue in optimizing both physical and mental health in persons with schizophrenia. Average antipsychotic medication adherence is only 50%; few studies have examined nonpsychiatric medication adherence. Psychosocial interventions with components of problem solving and motivation have shown promise in improving adherence behaviors. OBJECTIVES: This study examines telephone intervention problem solving (TIPS) for outpatients with schizophrenia. TIPS is a weekly, provider-initiated, proactive telenursing intervention designed to help persons with schizophrenia respond to a variety of problems, including adherence problems. STUDY DESIGN: The authors completed objective measures of adherence to psychiatric and nonpsychiatric medications in 29 community-dwelling persons with schizophrenia, monthly for 3 months. STUDY RESULTS: Persons receiving TIPS had significantly higher objective adherence to psychiatric medications throughout the study period, F(1, 20) = 5.47, p = .0298. CONCLUSIONS: Clinicians should consider using TIPS as an adjunct to face-to-face appointments to support adherence in persons at risk.

VOLDSRISIKO OG FENGSEL

Cheng, K. M., et al. (2018). Telepsychiatry for stable Chinese psychiatric out-patients in custody in Hong Kong: A case-control pilot study. *Hong Kong Medical Journal ,24*(4), 378-383.

INTRODUCTION: In Hong Kong, persons in custody receive primary medical care within the institutions of the Correctional Services Department (CSD). However, for psychiatric care, persons in custody must attend specialist out-patient clinics (SOPCs), which may cause embarrassment and stigmatisation. The aim of this interventional pilot study was to compare teleconsultations with face-to-face consultations for a group of stable Chinese psychiatric out-patients in custody. METHODS: A total of 86 stable Chinese male out-patients in custody were recruited for psychiatric teleconsultations. They were compared with 249 age-matched Chinese male out-patients in custody attending standard face-to-face psychiatric consultations at other SOPCs. The two groups had comparable baseline characteristics including age, education level, and 12-item Chinese General Health Questionnaire (C-GHQ-12) score. A satisfaction survey of patients towards the teleconsultation was also carried out. RESULTS: Compared with the face-to-face consultation group, the teleconsultation group showed a significantly better result in the difference in C-GHQ-12 scores before and after consultations (P=0.023). The correlation between the first and second teleconsultations also showed a moderate positive relationship (r=0.309). The satisfaction survey showed a favourable response to teleconsultations. No significant adverse events were identified for the teleconsultation group. CONCLUSIONS: The results suggest that teleconsultations are a sustainable and safe alternative to face-to-face consultations for stable Chinese psychiatric out-patients in custody.

Ben-Zeev, D., et al. (2017). Use of multimodal technology to identify digital correlates of violence among inpatients with serious mental illness: A pilot study. *Psychiatric Services, 68*(10), 1088-1092.

OBJECTIVE: The study examined multimodal technologies to identify correlates of violence among inpatients with serious mental illness. METHODS: Twenty-eight high-risk inpatients were provided with smartphones adapted for data collection. Participants recorded their thoughts and behaviors by using self-report software. Sensors embedded in each device (microphone and accelerometers) and throughout the inpatient unit (Bluetooth beacons) captured patients' activity and location. RESULTS: Self-reported delusions were associated with violent ideation (odds ratio [OR]=3.08), damaging property (OR=8.24), and physical aggression (OR=12.39). Alcohol and cigarette cravings were associated with violent ideation (OR=5.20 and OR=6.08, respectively), damaging property (OR=3.71 and OR=4.26, respectively), threatening others (OR=3.62 and OR=3.04, respectively), and physical aggression (OR=6.26, and OR=8.02, respectively). Drug cravings were associated with violent ideation (OR=2.76) and damaging property (OR=5.09). Decreased variability in physical activity and noisy ward conditions were associated with violent ideation (OR=.71 and OR=2.82, respectively). CONCLUSIONS: Identifiable digital correlates may serve as indicators of increased risk of violence.

Deslich, S. A., et al. (2013). Telepsychiatry in correctional facilities: Using technology to improve access and decrease costs of mental health care in underserved populations. *Permanente Journal, 17*(3), 80-86.

OBJECTIVE: It is unclear if telepsychiatry, a subset of telemedicine, increases access to mental health care for inmates in correctional facilities or decreases costs for clinicians or facility administrators. The purpose of this investigation was to determine how utilization of telepsychiatry affected access to care and costs of providing mental health care in correctional facilities. METHODS: A literature review complemented by a semistructured interview with a telepsychiatry practitioner. Five electronic databases, the National Bureau of Justice, and the American Psychiatric Association Web sites were searched for this research, and 49 sources were referenced. The literature review examined implementation of telepsychiatry in correctional facilities in Arizona, California, Georgia, Kansas, Ohio, Texas, and West Virginia to determine the effect of telepsychiatry on inmate access to mental health services and the costs of providing mental health care in correctional facilities. RESULTS: Telepsychiatry provided improved access to mental health services for inmates, and this increase in access is through the continuum of mental health care, which has been instrumental in increasing quality of care for inmates. Use of telepsychiatry saved correctional facilities from $12,000 to more than $1 million. The semistructured interview with the telepsychiatry practitioner supported utilization of telepsychiatry to increase

access and lower costs of providing mental health care in correctional facilities. CONCLUSIONS: Increasing access to mental health care for this underserved group through telepsychiatry may improve living conditions and safety inside correctional facilities. Providers, facilities, and state and federal governments can expect increased savings with utilization of telepsychiatry.

ALDERSPSYKIATRI

Whiteman, K. L., et al. (2017). Adapting a psychosocial intervention for smartphone delivery to middle-aged and older adults with serious mental illness. *American Journal of Geriatric Psychiatry, 25*(8), 819-828.

Objective: To describe the process of adapting an integrated medical and psychiatric self-management intervention to a smartphone application for middle-aged and older adults with serious mental illness using an adaptive systems engineering framework and user-centered design. Methods: First, we determined the technical abilities and needs of middle-aged and older adults with serious mental illnesses using smartphones. Then, we developed smartphone content through principles of user-centered design and modified an existing smartphone platform. Finally, we conducted a usability test using "think aloud" and verbal probing. Results: We adapted a psychosocial self-management intervention to a smartphone application and tested its usability. Ten participants (mean age: 55.3 years, SD: 6.2 years) with serious mental illness and comorbid chronic health conditions reported a high level of usability and satisfaction with the smartphone application. Conclusions: Middle-aged and older adults with serious mental illness and limited technical abilities were able to participate in a process involving user-centered design and adaptation of a self-management intervention to be delivered by a smartphone. High usability ratings suggest that middle-aged and older adults with serious mental illness have the potential to use tailored smartphone interventions. Future research is indicated to establish effectiveness and to determine the type and intensity of clinical support needed to successfully implement smartphone applications as a component of community-based services for older adults with psychiatric and medical conditions.

Egede, L. E., et al. (2016). Psychotherapy for depression in older veterans via telemedicine: Effect on quality of life, satisfaction, treatment credibility, and service delivery perception. *Journal of Clinical Psychiatry ,77*(12), 1704-1711.

OBJECTIVE: To analyze the impact of telepsychology and same-room care on functioning, satisfaction, and perception of care based on a noninferiority trial of psychotherapy delivered via telemedicine or same-room care to elderly patients with depression. METHODS: 241 elderly patients with depression (meeting DSM-IV diagnostic criteria) were randomly assigned to either telemedicine (n = 120) or same-room treatment (n = 121) between April 1, 2007, and July 31, 2011. The primary outcomes included quality of life (36-item Short Form Survey [SF-36]), satisfaction (Charleston Psychiatric Outpatient Satisfaction Scale), treatment credibility, and service delivery perception scores obtained at 4 weeks, 8 weeks, 3 months, and 12 months. Comparisons of intervention means were carried out at each time point using independent sample t tests and SAS Procedure MIANALYZE to combine results across the multiply imputed complete data sets. If significant differences were detected for a given outcome within a domain, a Bonferroni correction was applied to determine if significance was maintained. RESULTS: None of the SF-36 scores showed a significant difference between the 2 treatment groups by the end of the study period, with little significance shown throughout the intermediate time points. Similarly, over all time points, there was no statistically significant difference in patient satisfaction or treatment credibility. CONCLUSIONS: This study found that telemedicine is a viable alternative modality for providing evidence-based psychotherapy for elderly patients with depression. Results provide evidence that

quality of life and satisfaction with care are not adversely influenced by the decision to use a telehealth modality instead of in-person treatment, and, as a result, resources can be devoted to offering services in patients' homes through telemedicine.

Schuurmans, J., et al. (2016). Tablet-based support for older adults with severe mood disorders treated in an ambulatory geriatric psychiatry setting: Protocol of a feasibility study of the eCare@Home platform. *Internet Interventions ,6*,22-28.

Introduction: Although older adults are just as likely to benefit from e-mental health as their younger counterparts, there are virtually no applications specifically designed to accommodate the needs of older adults with recurrent depression or bipolar disorder. Recurrent mood disorders constitute a large and rising proportion of the global disease in older populations, indicating a need for more e-mental health applications targeting this group. This paper describes the theoretical background and methodology of a study examining the feasibility of a tablet-based self-management platform for older adults with recurrent mood disorders. The eCare@Home platform was designed to 1) improve patients' awareness and knowledge of recurrent mood disorders and their treatment, 2) promote self-management through the use of a simple daily monitoring tool, and 3) facilitate online contact with their clinician through videoconferencing. Methods: The design involves a single-group four-month pilot study, with measurements at baseline (T0), and at weeks 8 and 16 (T1 and T2). The target group consists of older outpatients (aged 60 or above) who are undergoing treatment for recurrent depressive or bipolar disorder (N = 50), and their clinicians (N = 10). Primary feasibility endpoints will be system acceptability, system usability, and client satisfaction with the platform. In addition, qualitative data from semi-structured interviews in N = 10 patients and N = 5 clinicians will be gathered to provide more insight into user experiences and evaluations of the platform's added value. Discussion: To the best of our knowledge, this is the first study to evaluate the feasibility and acceptability of a tablet-based e-mental health platform for older adults with severe mood disorders. If tablet-based support for this group is shown to be feasible, the intention is to proceed with the design of a large-scale process and outcome evaluation. The strengths and limitations of the methodology used are addressed in this article.

Conn, D. K., et al. (2013). Program evaluation of a telepsychiatry service for older adults connecting a university-affiliated geriatric center to a rural psychogeriatric outreach service in Northwest Ontario, Canada. *International Psychogeriatrics,25*(11), 1795-1800.

BACKGROUND: Weekly telepsychiatry consultations have been provided since 2002 to six communities in Northwest Ontario. Staff from a single community psychogeriatric outreach service who work within these communities facilitate the referrals. METHODS: The program evaluation included (a) a chart review of the last 100 referrals, (b) analysis of patient and staff evaluations, (c) a survey mailed to all physicians in referring communities, and (d) three focus groups of staff working in local community agencies. RESULTS: The mean age at the time of consultation was 76.7 years. Sixty-eight percent of patients were females. The most frequent diagnoses were dementia (54%), depression (28%), and mild cognitive impairment (19%). The most frequent medication recommendations were antidepressants or cholinesterase inhibitors. Two hundred ninety-four patient assessments and case consultations were carried out between 2002 and 2009. Post-session evaluation surveys rated the provision of information, whether objectives were met, and overall usefulness of recommendations. The mean scores for these questions on a 5-point scale were between 4.6 and 4.85. Referring physicians were confident and satisfied with the recommendations made for their patients. All planned to continue to use telepsychiatry as a care option for the future. The focus groups added useful information about challenges and potential barriers to utilizing the program. CONCLUSIONS: The program was rated as being highly valued across all modalities of evaluation. Members of the referring team believe that access to a geriatric psychiatrist has broadened the team's knowledge base, its use of assessment tools, and increased their ability to better construct their patients' treatment plans.

AKUTTPSYKIATRI

Alam, M. G., et al. (2016). Web of objects based ambient assisted living framework for emergency psychiatric state prediction. *Sensors, 16*(9), 2016 Sep 06.

Ambient assisted living can facilitate optimum health and wellness by aiding physical, mental and social well-being. In this paper, patients' psychiatric symptoms are collected through lightweight biosensors and web-based psychiatric screening scales in a smart home environment and then analyzed through machine learning algorithms to provide ambient intelligence in a psychiatric emergency. The psychiatric states are modeled through a Hidden Markov Model (HMM), and the model parameters are estimated using a Viterbi path counting and scalable Stochastic Variational Inference (SVI)-based training algorithm. The most likely psychiatric state sequence of the corresponding observation sequence is determined, and an emergency psychiatric state is predicted through the proposed algorithm. Moreover, to enable personalized psychiatric emergency care, a service a web of objects-based framework is proposed for a smart-home environment. In this framework, the biosensor observations and the psychiatric rating scales are objectified and virtualized in the web space. Then, the web of objects of sensor observations and psychiatric rating scores are used to assess the dweller's mental health status and to predict an emergency psychiatric state. The proposed psychiatric state prediction algorithm reported 83.03 percent prediction accuracy in an empirical performance study.

PSYKOSOMATIKK

Murphy, M. L., et al. (2019). Preliminary efficacy and feasibility of referral to exercise specialists, psychologists and provision of a technology-based behavior change support package to promote physical activity in school teachers 'at risk' of, or diagnosed with, type 2 diabetes: The 'SMART Health' Pilot Study Protocol. *Contemporary Clinical Trials ,78*, 53-62.

INTRODUCTION: Type 2 diabetes mellitus (T2DM) is a global public health concern. Aerobic physical activity (PA) and resistance training (RT) play significant roles in the prevention and management of T2DM. The aim of this pilot trial is to determine the preliminary efficacy and confirm feasibility of referral to exercise physiologists, psychologists, and provision of a technology-based behavior change support package to promote aerobic PA and RT in school teachers 'at risk' of or diagnosed with T2DM. RESEARCH DESIGN AND METHODS: The SMART (Support, Motivation and Physical Activity Research for Teachers') Health pilot study will be evaluated using a three-arm randomized controlled trial. The intervention will be guided by Social Cognitive Theory, Health Action Process Approach Model and Cognitive Behavioral Therapy strategies. The participants will be randomly allocated to one of three study groups: Group 1: wait-list control group; Group 2: 5 face-to-face visits with a psychologist and exercise specialist over 3 months; and Group 3: same as Group 2 plus technology-based behavior change support package for an additional 6 months. Assessments will be conducted at baseline, 3-, 9- (primary time-point) and 18-months post-baseline. The primary outcome will be PA measured with pedometers. DISCUSSION: SMART Health is an innovative, multi-component intervention, that integrates referral to exercise specialists, psychologists and provision of a technology-based behavior support package to promote PA and RT in adults diagnosed with T2DM or 'at risk' of T2DM. The findings will be used to guide future PA interventions and to develop effective community-based diabetes prevention and treatment programs.

Hilty, D. M., et al. (2018). An update on telepsychiatry and how it can leverage collaborative, stepped, and integrated services to primary care. *Psychosomatics, 59*(3),227-250.

INTRODUCTION: In this era of patient-centered care, telepsychiatry (TP; video or synchronous) provides quality care with outcomes as good as in-person care, facilitates access to care, and leverages a wide range of treatments at a distance. METHOD: This conceptual review article explores TP as applied to newer models of care (e.g., collaborative, stepped, and integrated care). RESULTS: The field of psychosomatic medicine (PSM) has developed clinical care models, educates interdisciplinary team members, and provides leadership to clinical teams. PSM is uniquely positioned to steer TP and implement other telebehavioral health care options (e.g., e-mail/telephone, psych/mental health apps) in the future in primary care. Together, PSM and TP provide versatility to health systems by enabling more patient points-of-entry, matching patient needs with provider skills, and helping providers work at the top of their licenses. TP and other technologies make collaborative, stepped, and integrated care less costly and more accessible. CONCLUSION: Effective health care delivery matches the intensity of the services to the needs of a patient population or clinic, standardizes interventions, and evaluates both process and clinical outcomes. More research is indicated on the application of TP and other technologies to these service delivery models.

Aikens, J. E., et al. (2015). Improvements in illness self-management and psychological distress associated with telemonitoring support for adults with diabetes. *Primary care diabetes, 9*(2),127-134.

OBJECTIVE: The objective of this observational open label trial was to characterize changes in diabetes self-management and psychological distress associated with a mobile health (mHealth) interactive voice response (IVR) self-management support program. METHODS: For 3-6 months, 301 patients with diabetes received weekly IVR calls assessing health status and self-care and providing tailored pre-recorded self-management support messages. Patients could participate together with an informal caregiver who received suggestions on self-management support, and patients' clinicians were notified automatically when patients reported significant problems. RESULTS: Patients completed 84% of weekly calls, providing 5682 patient-weeks of data. Thirty-nine percent participated with an informal caregiver. Outcome analyses adjusted for study design factors and sociodemographics indicated significant pre-post improvement in medication adherence, physical functioning, depressive symptoms, and diabetes-related distress (all p values <0.001). Analyses of self-management problems indicated that as the intervention proceeded, there were significant improvements in patients' IVR-reported frequency of weekly medication adherence, SMBG performance, checking feet, and frequency of abnormal self-monitored blood glucose readings (all p values <0.001). CONCLUSIONS: We conclude that the combined program of automated telemonitoring, clinician notification, and informal caregiver involvement was associated with consistent improvements in medication adherence, diabetes self-management behaviors, physical functioning, and psychological distress. A randomized controlled trial is needed to verify these encouraging findings.

Paul, C. L., et al. (2013). The impact of web-based approaches on psychosocial health in chronic physical and mental health conditions. *Health Education Research, 28*(3), 450-471.

Chronic conditions such as cancer, cardiovascular disease and mental illness are increasingly prevalent and associated with considerable psychosocial burden. There is a need to consider population health approaches to reducing this burden. Web-based interventions offer an alternative to traditional face-to-face interventions with several potential advantages. This systematic review explores the effectiveness, reach and adoption of web-based approaches for improving psychosocial outcomes in patients with common chronic conditions. A systematic review of published work examining web-based psychosocial interventions for patients with chronic conditions from 2001 to 2011. Seventy-four publications were identified. Thirty-six studies met the criteria for

robust research design. A consistent significant effect in favour of the web-based intervention was identified in 20 studies, particularly those using cognitive behavioural therapy for depression. No positive effect was found in 11 studies, and mixed effects were found in 5 studies. The role of sociodemographic characteristics in relation to outcomes or issues of reach and adoption was explored in very few studies. Although it is possible to achieve positive effects on psychosocial outcomes using web-based approaches, effects are not consistent across conditions. Robust comparisons of the reach, adoption and cost-effectiveness of web-based support compared with other options such as face-to-face and print-based approaches are needed.

Dorstyn, D. S., et al. (2011). Psychosocial outcomes of telephone-based counseling for adults with an acquired physical disability: A meta-analysis. *Rehabilitation Psychology , 56*(1), 1-14.

BACKGROUND: The delivery of mental health services by telephone, referred to as telecounseling, has the potential to improve the health outcomes of adults with an acquired physical disability in a cost-effective way. However, the efficacy of this form of treatment requires further evaluation before it is used on a larger scale. AIM: This meta-analysis provides a critical and quantitative evaluation of the impact of telephone-administered psychological interventions on the psychosocial functioning of adults with an acquired physical disability caused by spinal cord injury, limb amputation, severe burn injury, stroke, or multiple sclerosis. METHOD: A comprehensive search of eight electronic databases identified eight studies (N = 658 participants) that compared treatment efficacy to that of matched control groups. Differences in the psychosocial outcomes of treatment and control participants were examined using Cohen's d effect sizes. Fail-safe Ns and 95% confidence intervals were used to evaluate the significance of these results. RESULTS: Significant improvements in coping skills and strategies (overall d = 0.57), community integration (overall d = 0.45), and depression (overall d = 0.44) were observed immediately after telecounseling, with modest improvements in quality of life maintained at 12 months post-intervention (overall d = 0.37). CONCLUSIONS: The results suggest that telecounseling is an effective treatment modality for adults adjusting to a physical disability; however, further trials are needed to establish the long term psychosocial benefits.

SPESIELLE DEMOGRAFISKE GRUPPER

Chong, J. & Moreno, F. (2012). Feasibility and acceptability of clinic-based telepsychiatry for low-income Hispanic primary care patients. *Telemedicine Journal & E-Health, 18*(4), 297-304.

BACKGROUND: The feasibility and acceptability of telepsychiatry for low-income Hispanic patients with major depression were assessed. SUBJECTS AND METHODS: In total, 167 adult Hispanic patients with major depression recruited from a community health center (CHC) were randomly assigned to receive psychiatry services through a video Webcam (WEB) (n=80) or to treatment as usual (TAU) (n=87). The WEB condition consisted of monthly telepsychiatry sessions at the CHC for 6 months provided by one of two Hispanic psychiatrists using an online virtual meeting program. TAU patients received their care from their providers. Acceptability was assessed by comparing appointment keeping for primary care versus telepsychiatry, patients' perceived working alliance with their provider, visit satisfaction, and antidepressant use. Feasibility was assessed using depression outcomes, functional days (unproductive or days lost), and whether WEB and TAU patients differed in their appointment keeping. RESULTS: WEB patients did not differ in the proportion of completed primary care versus telepsychiatry appointments and rated their working alliance with the psychiatrist and their visit satisfaction significantly higher than the TAU patients with their provider. Significantly more WEB than TAU patients used antidepressants. Although depression severity decreased faster among WEB than TAU patients, no differences were found in the overall depression score. WEB and TAU patients did not differ in the number of days that were lost or unproductive due to depression. Although WEB and TAU patients reported being willing to pay for mental health services provided by the CHC, almost proportionately twice as many WEB patients were willing to pay for telepsychiatry. CONCLUSIONS: Results show that for low-income depressed Hispanic patients, telepsychiatry service for depression is acceptable,

although its feasibility is questionable. The benefits of telemedicine were discussed in terms of improving patient care in ways other than directly providing services to the patients.

Chung-Do, J., et al. (2012). Rural mental health: Implications for telepsychiatry in clinical service, workforce development, and organizational capacity. *Telemedicine Journal & E-Health, 18*(3), 244-246.

In Hawai'i, rural residents suffer disproportionately from poor health and mental health outcomes. Hawai'i's island geography makes rural health service disparities especially compelling. Physician workforce shortages are projected to increase, despite 30 years of programs aimed at recruiting physicians to rural areas. Telepsychiatry has been shown to be a feasible way to provide a variety of health services to individuals living in rural areas with limited access to healthcare. The University of Hawai'i Rural Health Collaboration (UHRHC) was established by the Department of Psychiatry to address the need for workforce development and rural access to mental health services across the State of Hawai'i by using telepsychiatry. Partnerships with community health clinics have been formed to provide patient care and consultation-liaison services through telepsychiatry technology. In addition, UHRHC focuses on workforce development in its residency training curriculum by utilizing a service-learning approach to rural mental health. Evaluation of these efforts is currently underway, with preliminary evidence suggesting that UHRHC is a promising strategy to increase access to critical mental health services and reduce health disparities in rural Hawai'i.

RUSLIDELSER

Bandawar, M., Narasimha, V. L., & Chand, P. (2018). Use of digital technology in addiction disorders. *Indian J Psychiatry, 60*(Suppl 4), S534-S540. doi: 10.4103/psychiatry.IndianJPsychiatry_21_18.

The expanding use of digital technology in mental health has widened the scope of emerging addiction interventions. This review focus on the use of technological advances in the field of addiction and mental health. We discuss about how these advances has been implemented in addiction treatment and research. Further, we also mention about the utilisation of these services in India.

Tofighi, B., Abrantes, A. & Stein,M.D. (2018). The role of technology-based interventions for substance use disorders in primary care: A review of the literature. *Medical Clinics of North America, 102*(4), 715-731.

The burden of alcohol and drug use disorders (substance use disorders [SUDs]) has intensified efforts to expand access to cost-effective psychosocial interventions and pharmacotherapies. This article provides an overview of technology-based interventions (eg, computer-based and Web-based interventions, text messaging, interactive voice recognition, smartphone apps, and emerging technologies) that are extending the reach of effective addiction treatments both in substance use treatment and primary care settings. It discusses the efficacy of existing technology-based interventions for SUDs, prospects for emerging technologies, and special considerations when integrating technologies in primary care (eg, privacy and regulatory protocols) to enhance the management of SUDs.

Jiang, S., Wu, L., & Gao, X. (2017). Beyond face-to-face individual counseling: A systematic review on alternative modes of motivational interviewing in substance abuse treatment and prevention. *Addictive Behaviors, 73*, 216-235. doi: https://doi.org/10.1016/j.addbeh.2017.05.023

OBJECTIVES: This systematic review aimed to synthesize the evidence on the effectiveness of motivational interviewing (MI), delivered in modes other than face-to-face individual counseling, in preventing and treating substance abuse related behaviors. METHODS: Four databases (PubMed/MEDLINE, PsycINFO, ISI Web of Science and Cochrane Library) were searched for randomised clinical trials (RCTs) that evaluated the effectiveness of alternative modes of MI (other than face-to-face individual counseling) in preventing and treating substance abuse. Eligible studies were rated on methodological quality and their findings were qualitatively synthesized. RESULTS: A total of 25 articles (on 22 RCTs) were eligible for this review. Beyond face-to-face counseling, telephone was the most frequently used medium for delivering MI (11 studies), followed by Internet communication (4 studies) and short message service (SMS) (2 studies). Mail was incorporated as a supplement in one of the studies for telephone MI. In contrast to one-to-one individual counseling, group MI was adopted in 5 studies. The effectiveness of telephone MI in treating substance abuse was supported by all of the published RCTs we located. Internet-based MI was effective in preventing and treating alcoholism, but its outcome appeared to be inconsistent for smoking cessation and poor for abstinence from illicit drugs. SMS-based MI appeared to be useful for controlling tobacco and drinking. Group MI was attempted for quitting alcohol and drugs, with mixed findings on its outcomes. CONCLUSIONS: Collectively, the studies reviewed indicate that telephone MI is a promising mode of intervention in treating and preventing substance abuse. The effectiveness of other alternative modes (SMS-based MI, Internet-based MI and group MI) remains inconclusive given the controversial findings and a limited number of studies. By synthesizing the currently available evidence, this systematic review suggested that telephone MI might be considered as an alternative to face-to-face MI for treating and preventing substance abuse. Further research is needed to investigate the effectiveness of SMS-based MI, Internet MI, group MI and other alternative modes. Studies with methodological rigor and incorporating MI fidelity measures have great potential to advance the understanding in this field.