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Uniformed Services University

## Research Update -- March 29, 2020

**What's Here:**

- Psychotherapy for Depression Across Different Age Groups: A Systematic Review and Meta-analysis.
- Resolution of Dissociated Ego States Relieves Flashback-Related Symptoms in Combat-Related PTSD: A Brief Mindfulness Based Intervention.
- Trauma exposure, mental health, and quality of life among injured service members: Moderating effects of perceived support from friends and family.
- The role of PTSD and TBI in post-deployment sleep outcomes.
- Gender Moderates the Association of Military Sexual Trauma and Risk for Psychological Distress Among VA-Enrolled Veterans.
- Dynamic Interplay Between PTSD Symptoms and Posttraumatic Growth in Older Military Veterans.
- Facing the fear: resilience and social support in veterans and civilians with PTSD.
- Interventions to Improve Sexual and Reproductive Health in US Active Duty Military Service Members: A Systematic Review.
- Demographic Profile and Service-Connection Trends of Posttraumatic Stress Disorder and Traumatic Brain Injury in US Veterans Pre- and Post-9/11.
- Examining the Causal Effects of Sleep Deprivation on Emotion Regulation and Its Neural Mechanisms.

- Posttraumatic stress disorder increases the odds of REM sleep behavior disorder and other parasomnias in Veterans with and without comorbid traumatic brain injury.
- Links of Interest
- Resource of the Week: Telehealth and Telemedicine: Frequently Asked Questions (CRS)

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https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2762981

**Psychotherapy for Depression Across Different Age Groups: A Systematic Review and Meta-analysis.**

Cuijpers P, Karyotaki E, Eckshtain D, et al.

JAMA Psychiatry
Published online March 18, 2020
https://doi.org/10.1001/jamapsychiatry.2020.0164

Key Points
Question
Do psychotherapies for depression have comparable outcomes in age groups across the life span?

Findings
In a meta-analysis of 366 randomized clinical trials including 36 072 patients comparing psychotherapy with control conditions, psychotherapies had lower effect sizes in children and adolescents compared with adults, and no significant differences were found between middle-aged and older adults. However, conclusions are not definitive, given the low quality of many studies, the risk of publication bias, and the high heterogeneity among the studies.

Meaning
There is a need to improve psychotherapies in children and adolescents.

Abstract

Importance

It is not clear whether psychotherapies for depression have comparable effects across the life span. Finding out is important from a clinical and scientific perspective.

Objective

To compare the effects of psychotherapies for depression between different age groups.

Data Sources

Four major bibliographic databases (PubMed, PsychINFO, Embase, and Cochrane) were searched for trials comparing psychotherapy with control conditions up to January 2019.

Study Selection

Randomized trials comparing psychotherapies for depression with control conditions in all age groups were included.

Data Extraction and Synthesis

Effect sizes (Hedges g) were calculated for all comparisons and pooled with random-effects models. Differences in effects between age groups were examined with mixed-effects subgroup analyses and in meta-regression analyses.

Main Outcomes and Measures

Depressive symptoms were the primary outcome.

Results

After removing duplicates, 16 756 records were screened and 2608 full-text articles were screened. Of these, 366 trials (36 702 patients) with 453 comparisons between a therapy and a control condition were included in the qualitative analysis, including 13 (3.6%) in children (13 years and younger), 24 (6.6%) in adolescents (≥13 to 18 years), 19 (5.2%) in young adults (≥18 to 24 years), 242 (66.1%) in middle-aged adults (≥24 to 55 years), 58 (15.8%) in older adults (≥55 to 75 years), and 10 (2.7%) in older old adults (75 years and older). The overall effect size of all comparisons across all age groups was g = 0.75 (95% CI, 0.67-0.82), with very high heterogeneity (I2 = 80%; 95% CI: 78-82). Mean effect sizes for depressive symptoms in children (g = 0.35; 95% CI, 0.15-0.55) and adolescents (g = 0.55; 95% CI, 0.34-0.75) were significantly lower than those in middle-aged adults (g = 0.77; 95% CI, 0.67-0.87). The effect sizes in young adults (g = 0.98; 95% CI, 0.79-1.16) were significantly larger than those in middle-aged adults. No significant difference was found between older adults (g = 0.66; 95% CI, 0.51-0.82)

and those in older old adults (g = 0.97; 95% CI, 0.42-1.52). The outcomes should be considered with caution because of the suboptimal quality of most of the studies and the high levels of heterogeneity. However, most primary findings proved robust across sensitivity analyses, addressing risk of bias, target populations included, type of therapy, diagnosis of mood disorder, and method of data analysis.

Conclusions and Relevance
Trials included in this meta-analysis reported effect sizes of psychotherapies that were smaller in children than in adults, probably also smaller in adolescents, that the effects may be somewhat larger in young adults, and without meaningful differences between middle-aged adults, older adults, and older old adults.

See also: The Age of Depression and Its Treatments (editorial)

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https://www.tandfonline.com/doi/abs/10.1080/08995605.2019.1654292

**Resolution of Dissociated Ego States Relieves Flashback-Related Symptoms in Combat-Related PTSD: A Brief Mindfulness Based Intervention.**

Genine P. Smith & Glenn Hartelius

Military Psychology
2020; 32:2, 135-148
https://doi.org/10.1080/08995605.2019.1654292

A novel understanding and therapeutic approach to the treatment of PTSD-related flashback triggers are described. Triggered responses are conceptualized as the result of latent dissociative structures of neural organization and psychodynamic functioning activated by current events. The dissociative structure – here described as a dissociated ego state (DES) – reflects a fracturing of executive functioning resulting in a delimited aspect of self that is not under cognitive control or subject to cognitive inhibition by the self of daily experience, and is the psychological construct behind intrusive PTSD symptoms. Use of a mindful attentional state permits regulated access to the DES (therapeutic engagement without risk of emotional dysregulation) so that dissociated cognitive resources can be recovered and the dissociated structure deactivated. This may relieve maladaptive responses and behaviors associated with the DES in a profound and durable way, without the need for exposure to or recovery of traumatic memories. Based on this understanding, a 9-step intervention is introduced

with a case example of a Vietnam veteran suffering PTSD symptoms for 49 years with significant gains maintained at 21 months follow up. These findings demonstrate rapid and durable resolution of chronic PTSD symptoms through a mindfulness-based approach that focused on deactivation of dissociated ego states, in contrast to targeting trauma memories. If proven efficacious, this novel approach may result in reduced treatment costs and improved outcomes for veterans suffering with PTSD.

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https://www.tandfonline.com/doi/abs/10.1080/08995605.2019.1691406

**Trauma exposure, mental health, and quality of life among injured service members: Moderating effects of perceived support from friends and family.**

Cameron T. McCabe, Jessica R. Watrous & Michael R. Galarneau

Military Psychology
2020; 32:2, 164-175
https://doi.org/10.1080/08995605.2019.1691406

Poor mental health and quality of life (QOL) are common among service members exposed to trauma and may be more pronounced among those injured on combat deployment. It is vital to identify factors that attenuate these issues. This study examined whether perceived support from friends and family buffer associations between level of trauma exposure, mental health symptoms (i.e., posttraumatic stress disorder [PTSD], depression), and QOL. Military health care records and cross-sectional web-assessment data were collected for 1,643 individuals who were participating in a large-scale surveillance project of patient-reported outcomes of Service members injured on combat deployment. General linear models revealed perceived support from family and friends were independently related to lower depression and PTSD symptoms, and higher QOL. Perceived support from friends buffered associations between trauma exposure and depression symptoms and QOL, but not PTSD symptoms. In contrast, individuals with high family support reported the lowest levels for both PTSD and depression symptoms at low levels of trauma exposure. At high levels of trauma exposure, however, symptoms were similar across levels of family support. A similar trend was observed for QOL. Such evidence reinforces the importance of interpersonal relationships and support for injured service members, and highlights the need to address these topics in existing treatment and rehabilitation programs.

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https://www.tandfonline.com/doi/abs/10.1080/08995605.2020.1724595

**The role of PTSD and TBI in post-deployment sleep outcomes.**

Sarah L. Martindale, Matthew J. Konst, James R. Bateman, Alyssa Arena & Jared A. Rowland

Military Psychology
2020; 32:2, 212-221
https:doi.org/10.1080/08995605.2020.1724595

The purpose of this study was to evaluate the main and interaction effects of PTSD and TBI on sleep outcomes in veterans. Post-deployment combat veterans (N = 293, 87.37% male) completed clinical interviews to determine diagnosis and severity of PTSD and deployment TBI history, as well as subjective measures of sleep quality, sleep duration, and restedness. Sleep-related medical diagnoses were extracted from electronic medical records for all participants. PTSD and TBI were each associated with poorer ratings of sleep quality, restedness, shorter sleep duration, and greater incidence of clinically diagnosed sleep disorders. Analyses indicated main effects of PTSD on sleep quality ($p < .001$), but no main effects of TBI. PTSD severity was significantly associated with poorer sleep quality ($p < .001$), restedness ($p = .018$), and shorter sleep duration ($p = .015$). TBI severity was significantly associated with restedness beyond PTSD severity ($p = .036$). There were no interaction effects between diagnostic or severity variables. PTSD severity is a driving factor for subjective ratings of sleep disturbance beyond PTSD diagnosis as well as TBI diagnosis and severity. Despite this, poor sleep was apparent throughout the sample, which suggests post-deployment service members may globally benefit from routine screening of sleep problems and increased emphasis on sleep hygiene.

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https://www.sciencedirect.com/science/article/abs/pii/S016503272030077X

**Gender Moderates the Association of Military Sexual Trauma and Risk for Psychological Distress Among VA-Enrolled Veterans.**

Hallie S. Tannahill, Whitney S. Livingston, Jamison D. Fargo, Emily Brignone, ... Rebecca K. Blais

Journal of Affective Disorders
Available online 5 March 2020
https://doi.org/10.1016/j.jad.2020.03.017

Background
Military sexual trauma (MST) is associated with increased risk for posttraumatic stress disorder (PTSD) and depression diagnoses, as well as suicidal ideation/behavior (SI/B). Little is known about the differential effect of gender on the association of MST and the aforementioned mental health outcomes. As females are the fastest growing subpopulation of the Veterans Health Administration (VHA), it is imperative to assess possible between-gender differences in the association of MST with PTSD, depression, and SI/B.

Methods
Participants were 435,690 (n=382,021, 87.7% men) Post-9/11 Era veterans seen for care at the VHA between 2004–2014. Demographics, gender, PTSD and depression diagnoses, SI/B, and MST screen status were extracted from medical records. Adjusted logistic regression models assessed the moderating effect of gender on the association of MST with PTSD and depression diagnoses, as well as SI/B.

Results
Women with MST had a larger increased risk for a PTSD diagnosis (predicted probability=0.56, 95% confidence interval [CI] [.56, .56]) and comparable risk for a depression diagnosis (predicted probability=0.63, 95% CI [.63, .64]) compared to men with MST. Men were more likely to have evidence of SI/B (predicted probability=1.07, 95% CI [.10, .11]) relative to women, but the interaction between gender and MST was nonsignificant.

Limitations
Data were limited to veterans seeking care through VHA and the MST screen did not account for MST severity.

Conclusions
Non-VA settings may consider screening for MST in both men and women, given that risk for PTSD and depression is heightened among female survivors of MST.

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https://www.sciencedirect.com/science/article/abs/pii/S0165032719335402

**Dynamic Interplay Between PTSD Symptoms and Posttraumatic Growth in Older Military Veterans.**

Julia M. Whealin, Barbara Pitts, Jack Tsai, Caleb Rivera, ... Robert H. Pietrzak

Journal of Affective Disorders
Available online 5 March 2020
https://doi.org/10.1016/j.jad.2020.03.020

Highlights

- This study examined Posttraumatic Stress Disorder symptoms and posttraumatic growth in a nationally representative cohort of 2,006 older U.S. veterans over a four-year period.

- Autoregressive cross-lagged panel regression analyses revealed that Posttraumatic Stress Disorder symptoms had strong associations with both current and subsequent posttraumatic growth.

- Results of this study suggest that greater severity of Posttraumatic Stress Disorder symptoms, particularly avoidance and hyperarousal symptoms, may contribute to and maintain posttraumatic growth over time in older veterans.

- Deliberate, constructive attempts to manage chronic Posttraumatic Stress Disorder symptoms via Active Coping and Religious Coping may help promote greater posttraumatic growth over time in this population

Abstract
Background
Posttraumatic growth (PTG) refers to positive psychological changes that may occur after experiencing a traumatic event. While cross-sectional studies have suggested that posttraumatic stress disorder (PTSD) is associated with greater PTG, few longitudinal studies have evaluated interrelationships between PTSD and PTG. Further, little is known about which specific symptom clusters of PTSD and coping mechanisms may drive PTG over time.

Methods
We evaluated interrelationships between PTSD symptoms and PTG using data from a

4-year, nationally representative, prospective cohort study of 2,006 older trauma-exposed U.S. veterans.

Results
Autoregressive cross-lagged panel regression analyses revealed that greater severity of PTSD symptoms was associated with greater PTG over time. Specifically, greater severity of the avoidance and anxious arousal (e.g., hypervigilance) symptoms at Wave 1 predicted greater PTG at Wave 2; and greater severity of avoidance and lower severity of dysphoric arousal (e.g., sleep disturbance) at Wave 2 predicted greater PTG at Wave 3. Engagement in active coping and religious coping were associated with greater subsequent PTG above and beyond autoregressive associations between PTSD and PTG.

Limitations
The self-report nature of the assessments, discrete assessment periods assessed, and focus on older military veterans are study limitations.

Conclusions
Greater severity of PTSD symptoms, particularly avoidance and hyperarousal symptoms, may contribute to and maintain PTG over time in older veterans. Interventions that promote deliberate, constructive attempts to manage chronic PTSD symptoms via active coping and religious coping may help veterans better manage PTSD symptoms and experience greater PTG in late-life.

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https://www.emerald.com/insight/content/doi/10.1108/JACPR-11-2019-0455/full/html

**Facing the fear: resilience and social support in veterans and civilians with PTSD.**

Charlotte Louise Wall, Michelle Lowe

Journal of Aggression, Conflict and Peace Research
Publication date: 7 March 2020
https://doi.org/10.1108/JACPR-11-2019-0455

Purpose
This study aims to investigate the effects of resilience and social support on post-traumatic stress disorder (PTSD) in a sample of 121 veterans (n = 56) and civilians (n = 65).

Design/methodology/approach
Gender, age and marital status were collected, along with occupation for civilians and the unit served with, rank, length of time deployed, overall months active and location for veterans. The trauma experiences scale for civilians, the PTSD checklist for civilian and military, Resilience Research Centre's Adult Resilience Measure-28, Multidimensional Scale of Perceived Social Support and the Deployment Risk and Resiliency Inventory-2 scales were used.

Findings
The results revealed for both samples, resilience and social support (except unit support for veterans) impacted PTSD symptoms. However, social support did not mediate the relationship between resilience and PTSD.

Practical implications
Implications for policy and practice were discussed.

Originality/value
The originality of this research stems from the incorporation of both a civilian and military sample by comparing their levels of PTSD, resilience and social support.

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https://journals.sagepub.com/doi/abs/10.1177/0890117120908511

**Interventions to Improve Sexual and Reproductive Health in US Active Duty Military Service Members: A Systematic Review.**

Vargas, S. E., Norris, C., Landoll, R. R., Crone, B., Clark, M. F., Quinlan, J. D., & Guthrie, K. M.

American Journal of Health Promotion
First Published March 5, 2020
https://doi.org/10.1177/0890117120908511

Objective:
To identify and describe behavioral interventions to promote sexual and reproductive health among US active duty military service members.

Data Sources:
Systematic searches of PubMed, CINAHL, and PsychINFO (N = 1609 records).

Inclusion Criteria:
English-language articles published between 1991 and 2018 and retrieved using search terms related to military service, interventions, and sexual and reproductive health.

Exclusion Criteria:
Articles excluded if not empirically based, not published in peer-reviewed journals, did not sample active duty US military personnel, and did not examine the effectiveness of specified preventive sexual or reproductive health intervention(s).

Data Extraction:
Teams of paired authors extracted study rationale; aims; design; setting; description of the intervention; measures; sample demographics; clinical, behavioral, and psychosocial outcomes; and conclusions.

Data Synthesis:
Given the heterogeneity of studies, narrative synthesis was performed.

Results:
Fifteen articles met inclusion criteria: 10 focused on sexually transmitted infection (STI) acquisition and/or unintended pregnancy and 5 on sexual assault. Studies that assessed clinical outcomes found that interventions were associated with lower rates of STIs and/or unintended pregnancy. Significant effects were found on knowledge-related outcomes, while mixed effects were found on attitudes, intentions, and behaviors.

Conclusions:
Current evidence on the effectiveness of sexual and reproductive health interventions in the US military is limited in quality and scope. Promoting sexual and reproductive health in this population is critical to maintaining well-being among servicemembers, their families, and the communities surrounding military installations.

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https://www.mdedge.com/fedprac/article/218559/ptsd/demographic-profile-and-service-connection-trends-posttraumatic-stress

**Demographic Profile and Service-Connection Trends of Posttraumatic Stress Disorder and Traumatic Brain Injury in US Veterans Pre- and Post-9/11.**

COL (Ret) Hemant Thakur, MD  Olurinde Oni, MBBS, MPH Vikas Singh, MD, MHSA  Rishi Sharma, MD, MHSA  Mukut Sharma, PhD  Douglas M. Burns, PhD  Ram Sharma, PhD, MHSA  Mary E. Oehlert, PhD

Federal Practitioner
2020 March;37(3):128-137

Introduction:
This study seeks to understand the demographic changes in the active-duty service member profile, both prior to and following September 11, 2001 (9/11). The study analyzed diagnosis of posttraumatic stress disorder (PTSD) and traumatic brain injury (TBI) and measures of severity of those diagnoses as recorded in service-connection ratings (percent disability).

Methods:
A retrospective cohort-study of military veterans who received care at Veterans Health Administration medical centers between December 1998 and May 2014 was conducted based on clinical data recorded and stored within the Corporate Data Warehouse.

Results:
A cohort of 1,339,937 veterans received an inpatient or outpatient diagnosis of PTSD and/or TBI. The cohort was divided into 4 service period groups and 3 diagnosis categories. The service periods included pre-9/11 (n = 1,030,806; 77%), post-9/11 (n = 204,083; 15%), overlap-9/11 (n = 89,953; 7%), and reentered post-9/11 (n = 15,095; 1%). The diagnosis categories included PTSD alone (n = 1,132,356; 85%), TBI alone (n = 100,789; 7%) and PTSD+TBI (n = 106,792; 8%). Results of the post-9/11 group revealed significant changes, including (1) increase of veterans with PTSD + TBI; (2) increase of female veterans with PTSD + TBI; and (3) increase of severity level of diagnosed PTSD/TBI as evidenced by higher service-connected disability pensions at younger age in the post-9/11 group. Additionally, data revealed unequal distribution of veterans with PTSD + TBI across geographic areas.

Conclusions:
The veteran of the post-9/11 service period does not mirror the veteran of the pre-9/11 service period. Findings are valuable for policy making, allocation of resources, and for reconsidering the prevailing paradigm for treating veterans with PTSD and/or TBI.

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https://www.mitpressjournals.org/doi/abs/10.1162/jocn_a_01555

**Examining the Causal Effects of Sleep Deprivation on Emotion Regulation and Its Neural Mechanisms.**

Maheen Shermohammed, Laurel E. Kordyban and Leah H. Somerville

Journal of Cognitive Neuroscience
Posted Online March 12, 2020
https://doi.org/10.1162/jocn_a_01555

Cognitive reappraisal (CR) is a strategy used to regulate emotions that is thought to be effective but effortful, relying on higher order cognitive control systems to engage in active regulation. Sleep deprivation is believed to impair the functioning of these control systems, suggesting that it may impede the ability to implement CR effectively. This study tested the causal effects of sleep deprivation on emotional reactivity and the neurobiological systems underlying CR. We employed a within-subject crossover design in which participants underwent fMRI scanning twice, once when fully rested and once after a night of total sleep deprivation. During scans, participants passively viewed or used CR to downregulate their emotional response to negative and neutral images. Contrary to hypotheses, both self-reported negative affect ratings and neural responses to the images indicated no difference in the way participants implemented CR when sleep deprived and when fully rested. Meanwhile, neural regions that showed distinct reactivity responses to negative relative to neutral images lost this specificity under deprived conditions. Negative affect ratings and heart rate deceleration, a physiological response typically evoked by aversive pictures, exhibited a similar blunting. Together, these results suggest that, although sleep deprivation may reduce the discrimination between emotional reactivity responses to negative and neutral stimuli, it does not impact CR the way it is presently studied.

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https://academic.oup.com/sleep/article/43/3/zsz237/5582031

**Posttraumatic stress disorder increases the odds of REM sleep behavior disorder and other parasomnias in Veterans with and without comorbid traumatic brain injury.**

Jonathan E Elliott, Ryan A Opel, Dennis Pleshakov, Tara Rachakonda, Alexander Q Chau, Kristianna B Weymann, Miranda M Lim

Sleep
Volume 43, Issue 3, March 2020
https://doi.org/10.1093/sleep/zsz237

Study Objectives
To describe the crude prevalence of rapid eye movement (REM) sleep behavior disorder (RBD) following traumatic brain injury (TBI) and posttraumatic stress disorder (PTSD) in Veterans, given potential relationships between TBI, PTSD, RBD, and neurodegeneration.

Methods
Veterans (n = 394; 94% male; 54.4 ± 15.5 years of age) were prospectively/cross-sectionally recruited from the VA Portland Health Care System and completed in-lab video-polysomnography and questionnaires. TBI and PTSD were assessed via diagnostic screening and medical record review. Subjects were categorized into four groups after assessment of REM sleep without atonia (RSWA) and self-reported dream enactment: (1) “Normal,” neither RSWA nor dream enactment, (2) “Other Parasomnia,” dream enactment without RSWA, (3) “RSWA,” isolated-RSWA without dream enactment, and (4) “RBD,” RSWA with dream enactment. Crude prevalence, prevalence odds ratio, and prevalence rate for parasomnias across subjects with TBI and/or PTSD were assessed.

Results
Overall prevalence rates were 31%, 7%, and 9% for Other Parasomnia, RSWA, and RBD, respectively. The prevalence rate of RBD increased to 15% in PTSD subjects [age adjusted POR: 2.81 (1.17–4.66)] and to 21% in TBI + PTSD subjects [age adjusted POR: 3.43 (1.20–9.35)]. No subjects met all diagnostic criteria for trauma-associated sleep disorder (TASD), and no overt dream enactment was captured on video.

Conclusions
The prevalence of RBD and related parasomnias is significantly higher in Veterans compared with the general population and is associated with PTSD and TBI + PTSD. Considering the association between idiopathic-RBD and synucleinopathy, it remains unclear whether RBD (and potentially TASD) associated with PTSD or TBI + PTSD similarly increases risk for long-term neurologic sequelae.

See also: Time to recognize trauma associated sleep disorder as a distinct parasomnia

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**Links of Interest**
(Slow week for relevant news due to coronavirus emphasis)

Marcus Institute for Brain Health offers free treatment to eligible Veterans
https://www.blogs.va.gov/VAntage/71963/marcus-institute-brain-health-free-treatment-veterans/

Caring for the caregivers of TBI patients
https://health.mil/News/Articles/2020/03/16/Caring-for-the-Caregivers-of-TBI-Patients

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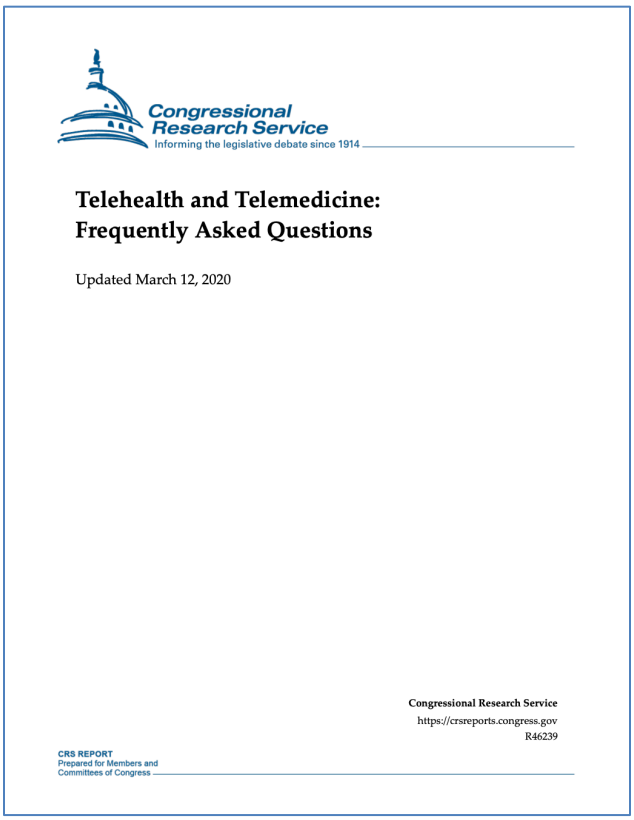
**Resource of the Week: Telehealth and Telemedicine: Frequently Asked Questions**

New, from the Congressional Research Service:

> The use of information and communication technology (ICT) in the health care industry is an emergent issue for Congress. Traditionally, legislation on health care addressed issues related to in-person care provided in brick-and-mortar buildings. With ongoing innovations in health care delivery—such as the use of telehealth and telemedicine—health care services can occur outside of traditional brick-and-mortar medical buildings, for example, inside patients' homes. The health care industry is using telehealth and telemedicine in two major ways: (1) to supplement in-person care for underserved populations who experience barriers to in-person care, and (2) to supplant in-person care for patients who like the convenience of using technology to access their health care services. To keep abreast with the advancements in the health care industry, and to meet the health care needs of the U.S. patient population, Congress continues to consider measures that aim to modernize the federal role in telehealth and telemedicine.
>
> This report provides responses to frequently asked questions about telehealth and telemedicine, serving as a quick reference with easy access to information. Where applicable, the report provides the legislative background pertaining to the question.

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