REVIEW ARTICLE

Telepsychiatry in Correctional Facilities: Using Technology to Improve Access and Decrease Costs of Mental Health Care in Underserved Populations

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Abstract

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.

Introduction

Substantial growth in technology has improved the delivery of medical care and increased access for patients seeking care. One area in which technology has made meaningful contributions is telemedicine, the delivery of health care across distance via the use of technology and communication modalities.[1] Telemedicine has been used for medical information interchange and to facilitate diagnosis, referral, monitoring, and interventions to offset higher costs associated with hard-to-access patients.[2] Telepsychiatry has been one area of telemedicine that has continued to grow and improve. Telepsychiatry has been defined as using telecommunication modalities, including teleconferencing software, hardware, and supporting infrastructure, to provide mental health care.[3] Telepsychiatry has the potential to improve patient access to care and lower costs of providing mental health care.[4] This technology has been shown to be used effectively in rural areas, schools, forensic practices, and correctional facilities.[5]

This subspecialty of telemedicine has shown potential for expanded use in correctional settings such as jails and prisons.[6] The nation's correctional facilities in 2007 held approximately 7.1 million inmates, and around half of these inmates had some sort of mental illness.[7] As the number of incarcerated individuals increases, the need for effective and appropriate psychiatric treatment has continued to grow as well. Telepsychiatry has begun to fill this need.[8]

Inmates in correctional facilities have long received substandard health care, including mental health care.[9] Lack of proper psychiatric services has led to untreated mental illnesses such as depression, anxiety, bipolar disorders, and schizophrenia being common in the inmate population.[7] Access to appropriate psychiatric care has been limited in correctional facilities for several reasons. In some cases, such as in West Virginia, Ohio, and Georgia, various providers have been hesitant to provide mental health treatment inside correctional facilities because of safety concerns.[3] In addition, costs for providers traveling to distant facilities have been a deterrent to providing adequate care to inmates. Besides transportation costs, there is an "opportunity cost" of not seeing more patients in the clinic because of the long trip to the prison.[10]

It can be noted, however, that cases do exist in which the practice of psychiatry in the correctional systems in some states, such as California, is lucrative enough to offset such limitations. It has been reported that 1 psychiatrist earned more than $820,000 in 2011 working for 1 prison in California. Also according to the same authors, 14 prison psychiatrists earned more than $400,000 in this state, a level matched by only 12 other states.[11]

Transporting inmates outside correctional facilities for treatment has not been effective, either. The costs of transporting an inmate, in actual transportation costs, person hours, and

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increased risk to public safety and security, have been a major barrier to bringing inmates to providers for treatment. Additionally, prisons usually use two prison staff members to transport inmates, which generates a need to replace those two officers in the prison to avoid a security risk because of understaffing the facility. Furthermore, many providers have been unwilling to provide treatment to inmates in a private practice setting because of increased danger to the providers and the other patients.[12] Telepsychiatry in correctional facilities has been effective in overcoming these barriers.

The National Bureau of Justice has reported that more than 50% of inmates in correctional facilities had a diagnosable mental illness, including substance abuse.[7] Recidivism, or reoffending and reentering the correctional system within 3 years of release, has been high among offenders with mental illness; approximately 25% of those inmates surveyed by the Bureau of Justice who had been incarcerated 3 or more times had diagnosable mental illnesses, specifically mania, depression, or a psychotic disorder.[7] With so many mentally ill inmates being released and reoffending, correctional system administrators and providers have had to examine ways to effectively treat mental illness and to decrease recidivism among the mentally ill. Telepsychiatry has been examined for its potential to do that.[10]

Several studies have examined the efficacy of telemedicine, and telepsychiatry in particular, in correctional settings.[1,9,13,14] Less research has been performed to examine the effect of telepsychiatry on inmate access to mental health treatment or the impact of telepsychiatry on costs of providing mental health treatment in correctional facilities. This may have been because of the difficulty in quantifying access or cost in providing this treatment.[15] The research that has been done, however, has indicated that telepsychiatry may play a pivotal role in providing psychiatric treatment inside correctional facilities.[16]

Methods

The purpose of this review was to determine the effect of telepsychiatry utilization on inmate access to mental health services and on the cost of providing mental health care in correctional facilities.

The method used was a literature review complemented with a semistructured interview of the second author, Timothy Thistlethwaite, MD, an experienced practitioner of telepsychiatry who has used telepsychiatry in correctional facilities for more than 17 years (see Sidebar: Questions asked in semistructured interview of telepsychiatrist). This interview was tape recorded, and only relevant answers were used to support the information found in the literature review to provide a contextualized and more comprehensive overview of this technology and its utilization in prisons.

Electronic databases of PubMed, Academic Search Premier, ProQuest, PsycARTICLES, and Google Scholar were searched for the terms *telepsychiatry* or *tele mental health* and *prison* or *access* or *cost*. Reputable Web sites of the National Bureau of Justice and the American Psychiatric Association were also mined. Only articles that were written in English were included for review. In an attempt to stay current in research, all articles that were older than 12 years (starting from 2000) were eliminated from the search. References were reviewed and determined to have satisfied the inclusion criteria if the material provided accurate information about telepsychiatry with a particular focus on prison mental health.

The results presented were extracted from journal articles, case studies, and different Web sites from diverse sources, as well as from the semistructured interview, to illustrate several aspects of telepsychiatry in prisons that should be considered, such as inmate access to mental health care and costs involved with it. Academic articles and practitioner health information technology sources were analyzed, and relevant categories were identified.

Results

Forty-nine sources were selected for this review. Findings are presented in the categories of access and savings.

Increased Access

Leonard[17] cited limited access to appropriate mental health care as a difficulty faced by many inmates. Inadequate access to care has often led to prisoners having untreated mental illness, which, in turn, has increased rates of violent behavior in correctional facilities as well as substantially increased recidivism.[18] According to the World Health Organization Mind Project, 24% of inmates with a mental illness have assaulted another inmate in a correctional facility, and those with mental illness are 2 times more likely to be injured in a fight than inmates without mental illness.[19] On the other hand, Hilty et al[20] found that using telepsychiatry as the means for mental health treatment increased access in rural, suburban, and urban settings. Similar results have been supported in a 2005 study of telepsychiatry in a correctional setting in New York as well.[21] Furthermore, telepsychiatry has been shown to increase access to mental health treatment for patients in schools and for veterans.[22,23]

Questions asked in semistructured interview of telepsychiatrist[a]

- How have you implemented telepsychiatry into your practice in correctional facilities?
- What method do you use to provide telepsychiatry to your patients in prisons, ie, software, hardware, and Internet connections?
- Who is involved in a typical telepsychiatry session in a correctional facility?
- What services are provided via telepsychiatry?
- How have inmates reacted to the utilization of telepsychiatry?
- How has telepsychiatry benefited your practice?
- How has the utilization of telepsychiatry affected inmate access to mental health care?
- How has the utilization of telepsychiatry affected the cost of providing mental health services to inmates in your practice?
- Are there any other significant advantages or disadvantages to telepsychiatry utilization in correctional facilities that we have not discussed?

[a] Timothy Thistlethwaite, MD, on March 28, 2012.

Utilization of telepsychiatry has been shown to overcome travel and cost barriers, allowing inmates to meet with a treating psychiatrist via teleconference, thus allowing greater access to treatment for the inmate and continuity of care without compromising public safety and security or incurring increased transportation costs.[24]

… use of telepsychiatry in conjunction with electronic medical records that have been implemented in correctional facilities has allowed for more effective provision of health care to inmates.

Mental health treatment teams in correctional settings in the US normally include a psychiatrist, psychologists, therapists, and psychiatric nurses. Access to the team is facilitated by living-unit supervisors and correctional caseworkers who have direct contact with the general population of the prison. The psychiatrist provides telepsychiatric services from a remote setting to inmates in the penitentiary. Services provided include psychiatric consultation, initial treatment evaluations, crisis intervention, medication management, and patient education.[25] Psychotherapy, although available via telecommunications devices, is often provided face to face by a therapist or psychologist in the facility.

Several states have effectively implemented telepsychiatry programs into their correctional facilities and have been able to increase access to appropriate mental health care for inmates. Arizona, California, Georgia, Kansas, Ohio, and West Virginia have begun to use telepsychiatry in their correctional facilities with some success (Table 1).

The Ohio State University Medical Center in Columbus, OH, has partnered with the Ohio Department of Rehabilitation and Correction to provide telepsychiatry services to inmates in Ohio prisons, providing evaluation, patient education, and medication management to more than 4000 inmates each year since 1998.[26] Similarly, as of 1997, St Mary's Hospital and the University of Arizona in Tucson have collaborated with the Arizona Telemedicine Program to provide telemedicine and telepsychiatry to the Arizona Department of Corrections. The University of Arizona Medical Center and Maricopa Medical Center in Phoenix, AZ, provided the base for this program to use telepsychiatry in rural prisons in the state, thus reaching more inmates and encouraging increased access to inmates who otherwise would have had lengthy waits for mental health services and evaluations for treatment.[27]

In 1998, the University of Kansas Center for Telemedicine & Telehealth implemented a telepsychiatry program that has served the state prison system since then and has provided an average of 70 telepsychiatry consultations each month. Telepsychiatrists have provided care and been reimbursed on a fee-for-service basis, and have delivered psychiatric services such as evaluation, treatment planning, medication management, and crisis intervention.[14]

In California, the California Department of Corrections and Rehabilitation Division of Correctional Health Care Services implemented a telepsychiatry program using contracted providers to meet the mental health needs of the inmates in 27 of the prisons in that state, and more than 4000 inmates have received appropriate psychiatric care annually.[28] This program has increased public safety by preventing inmate transports, decreased costs associated with those transports, and increased inmate access to effective psychiatric treatment in the form of psychiatric evaluations, medication management, and crisis intervention.[28] Johnston and Solomon[29] found that the implementation and utilization of this telepsychiatry program saved about $850 in inmate transportation costs, a savings of $4 million in 2004 because of decreased travel and transportation costs, as well as decreased costs for providing correctional officers to facilitate the transport.

The University of Texas Medical Branch at Galveston has a telemedicine program, in service since the early 1990s, providing telepsychiatry services including medication management and crisis intervention to correctional facilities at the county, state, and federal levels in Texas. The program has grown to be one of the largest providers of telepsychiatry worldwide (S Shelton, MBA PA-C, personal communication, June 11, 2012).[a] This program, while providing vital services to the inmate population in Texas, faces funding difficulties. Survival of the program will depend on adequate and appropriate funding (S Shelton, MBA, PA-C, personal communication, June 11, 2012).[a]

In West Virginia, mental health services are provided to inmates housed in the state's prisons by an independent subcontractor, PsiMed Corrections LLC, under the contract of Wexford Health Services with the state of West Virginia.[30] PsiMed has used a telepsychiatry system set up in the state's only maximum security prison to provide telepsychiatric care such as initial treatment evaluation, medication management, crisis interven-

Table 1. States that implemented telepsychiatry programs in correctional facilities

Author, year	State	Provider	Population treated
Nelson et al,[14] 2004	Kansas	University of Kansas Center for Telemedicine & Telehealth	Treatment provided to 1 jail in a pilot program with all 62 participating inmates
Venable,[33] 2005	Georgia	Augusta Correctional and Medical Institute	Treatment provided to 5 prisons
Ohio Department of Rehabilitation and Correction,[26] 2006	Ohio	Ohio State University Medical Center	Treatment provided to > 5000 inmates annually
California Legislative Analyst's Office,[28] 2007	California	Office of Telemedicine Services, California Department of Corrections and Rehabilitation Division of Correctional Health Care Services	Treatment provided to 4400 inmates annually in 27 prisons
Hincapie et al,[27] 2011	Arizona	Arizona Telemedicine Program	Treatment provided to 11 rural prisons
PsiMed Corrections LLC,[31] 2012	West Virginia	PsiMed Corrections LLC	Treatment provided to 4200 inmates annually in 31 correctional facilities across West Virginia

tion, and education about mental health to inmates throughout 31 of West Virginia's correctional facilities.[30] From 2003 to 2007, PsiMed Corrections' telepsychiatry program effectively provided psychiatric treatment to more than 4000 inmates annually, thus increasing inmate access to mental health treatment and decreasing travel costs for the treating psychiatrist.[31]

Gramlich[32] identified that approximately 70% of telemedicine visits provided in the Georgia correctional system were for mental health treatment. Georgia's telepsychiatry program has increased access to psychiatric care in 5 prisons in Georgia since the mid-1990s.[33]

According to Dr Thistlethwaite, the interviewed telepsychiatric practitioner, this technology has provided increased access to mental health services for inmates, and this increased access, in turn, has been instrumental in improving quality of care for inmates by ensuring no disruption in continuity of care. Incarcerated individuals have experienced greater consistency with medication management and have had less delay in receiving appropriate care. As inmates are transferred from facility to facility, psychiatric care and medication management can be disrupted. Telepsychiatry can prevent such disruptions.

Inmates have further experienced greater access to care because practitioners and clinical staff involved in patient care have been able to use the same videoconferencing capabilities to coordinate care. For example, in the central hub, a psychiatrist and an assistant gather information about an inmate, while a counselor, psychologist, or nurse in the facility sits with the inmate to facilitate communication between the treating psychiatrist and the inmate. This increase in communication has been beneficial when more than one provider is involved in inmate care, because the clinicians also have utilized teleconferencing to communicate with each other and to provide better quality and continuity of care. Furthermore, use of telepsychiatry in conjunction with electronic medical records that have been implemented in correctional facilities has allowed for more effective provision of health care to inmates. Not only are two treating mental health care practitioners able to communicate via teleconference, psychiatrists and internists or specialists are also able to utilize this technology to discuss ongoing care of inmates.

PsiMed Corrections uses Polycom Solutions, a high-definition videoconferencing technology package (Polycom, Polycom Inc, San Jose, CA) for each telepsychiatric session, which is encrypted for privacy and for compliance with the Health Insurance Portability and Accountability Act (HIPAA). The contract with the prison system is managed with a private contract that the state bids out for medical care every three years. PsiMed gets its reimbursement as a subcontractor on a capitation basis.

It has been the experience of the psychologist first author of this review (SD) that the telepsychiatric session differs from a face-to-face psychiatric session in only the method of delivery. Most telepsychiatric interactions occur with a mental health practitioner present with the inmate. Only in cases of particularly violent or dangerous inmates are correctional officers present during the session. Inmates have been provided identical treatment via telepsychiatry as they would have in a more traditional setting. Additionally, more prisoners have been able to be seen, as travel time has been decreased. These inmates have been able to discuss medication management as well as ongoing mental health treatment issues with the psychiatrist and the prison medical team. Inmates have been able, via telepsychiatry, to continue to receive psychiatric services from the same provider, regardless of the prison in which they have been incarcerated, thus avoiding a period of adjusting to and developing therapeutic rapport with a different provider after transfer to a different prison.

According to Thistlethwaite, drawbacks to utilization of telepsychiatry in correctional facilities are mostly technical. Many providers who use the correctional facilities' Internet access must gain access past the facilities' firewalls. This demands the ongoing cooperation of the prison administrators, which has not always been offered,[32,34] as well as an adept team in the information technology department. Furthermore, Gramlich[32] notes that the prison servers are not always reliable, and connections may be inadequate for providing telepsychiatric care. Lee[35] noted concerns of some researchers, such as lack of nonverbal communication or confidentiality issues. Thistlethwaite disagreed with this, noting that proper placement of the videoconferencing equipment to adequately capture the movements of the inmate allows for visual identification of clinically significant motor movements and body language, and confidentiality agreements are signed, as well as informed consent to treatment, upon inmates entering a facility.

Thistlethwaite also noted that inmate satisfaction has not appeared to suffer with the use of telepsychiatry. In fact, in his personal experience, many inmates seem to prefer this form of treatment because of increased access to the psychiatrist. The notion that the use of telepsychiatry is supported by inmates has been reinforced by findings in the literature. Lexcen et al[36] found, in a study of 72 patients in a forensic setting, similar scores of satisfaction and outcomes using telepsychiatry as with face-to-face interventions. Similarly, Tucker et al[37] found that inmates were satisfied with telepsychiatry treatment for services including consulting, initial treatment evaluation, medication management, and psychotherapy. In addition, inmates actually preferred telepsychiatry in some situations, such as treatment for sexual abuse and sexual dysfunction.[37] As inmates have little confidentiality or privacy in general, it has been found that patient acceptance of and satisfaction with providers and multiple staff being involved in treatment via telepsychiatry remain high in comparison with face-to-face treatment.[36] Thistlethwaite noted that treatment confidentiality is no more at risk than in face-to-face interactions in mental health care in correctional facilities because secure software and Internet connections are used to provide this service.

Additionally, Ross et al[38] and Morland et al[39] examined patient outcomes of telepsychiatry and found them to be equivalent to those of face-to-face psychiatric treatment. At times, telepsychiatry was found to be more effective in treating mental illnesses such as depression.[40]

Increased Savings

Several studies have explored the financial benefits of implementing telepsychiatry programs. Cost-benefit analysis has been recommended as the most efficient and effective economic evaluation used for telepsychiatry implementation[41] (Table 2).

Although initial costs to start a telepsychiatry practice may reach several thousand dollars to acquire the software, hardware, and required infrastructure, these programs have been shown to cut overall costs by reducing travel for the provider, decreasing overutilization of other medical services such as laboratory work, increasing medication compliance, and speeding diagnosis via reduced waiting or consultation time.[41]

… inmates were satisfied with telepsychiatry treatment for services including consulting, initial treatment evaluation, medication management, and psychotherapy.

A literature review by Hyler and Gangure[42] identified seven studies that indicated substantial cost savings via the utilization of telepsychiatry. One study found increased costs, and three studies identified situations in which utilization of telepsychiatry had similar costs as face-to-face psychiatric treatment. The seven studies that identified savings with the implementation and use of telepsychiatry prompted these researchers to determine that the utilization of telepsychiatry has led to a decrease in cost for providing psychiatric treatment in some settings.[42]

Similarly, in a prospective test-retest (pretest-posttest) design study, Shore et al[43] determined that utilization of telepsychiatry for clinical interviews saved more than $12,000 compared with face-to-face clinical interviews over an 11-month period in 2006.

Harley, in 2006, examined the cost of providing tertiary mental health care via telepsychiatry compared with traditional methods.[44] It was found that initial costs to begin a telepsychiatry service were around $6800; however, after providing telepsychiatric care for 6 months, costs remained under $7000 total for providing telepsychiatric services. The author estimated that the costs to provide traditional face-to-face psychiatric services to the same population over the same period would have been more than $25,000, primarily because of travel expenses.[44]

These findings have been supported by actual utilization of telepsychiatry in correctional facilities. For example, the aforementioned Arizona Telemedicine Program reported a savings of more than $1 million in transportation costs since its inception in 1996, and a savings of $106,000 between July 2003 and December 2003 alone.[45] The program identified further savings in administrative costs, as well as an added benefit of government incentives for the utilization of telemedicine. These savings and benefits amounted to approximately $2.6 million.[45]

An examination of the actual costs of providing services—specific and individual costs of sessions—using telepsychiatry vs using traditional face-to-face methods yielded results. Reimbursement for telepsychiatry has been typically on a fee-for-service basis and does not cover maintenance and infrastructure costs. These extra costs often have been covered by grant funding to the provider's organization.[46] A review of the costs of providing telepsychiatric services have indicated substantial savings, even when hardware costs are figured in. It was found in a randomized controlled trial in 2006 that a face-to-face psychiatric session cost providers $315 per visit, whereas a telepsychiatric visit had a cost of $265, a savings of $50 per visit.[47]

Discussion

The purpose of this research was to determine the effect of utilization of telepsychiatry on inmate access to mental health services and on the cost of providing mental health care in correctional facilities. The results of this review suggest that telepsychiatry has had a positive impact on mental health care in prisons by increasing access for inmates to effective psychiatric treatment and by maintaining continuity of care. In addition, substantial savings for providers and facilities was noted.

With a high prevalence of mental illness among inmates, adequate psychiatric care is imperative. In fact, appropriate care may have reduced aggressive inmate behavior inside correctional facilities, and well-managed mental illness has been shown to decrease recidivism upon release, as well as decrease victimization inside the facility.[48] Telepsychiatry is a way to provide this much needed care that is cost-effective, easily implemented, and accepted by providers and inmates.

As noted, a number of states, including Arizona, California, Georgia, Kansas, Ohio, Texas, and West Virginia, have implemented telepsychiatry programs in their correctional facilities with much success, both in increasing inmate access to providers and in decreasing costs. Furthermore, New Mexico and Michigan have also begun using telepsychiatry in prisons and have found similar positive results as in the other states.[49] Whereas the literature review identified one study that found increased costs with the implementation of telepsychiatry, the other studies reviewed found either similar costs as with face-to-face treatment or an increase in savings.[42] Studies examining the effect on access to care have all demonstrated substantial increase in inmates' access to care.[26,27,30,32]

Table 2. Studies of cost-effectiveness of telepsychiatry programs in US correctional facilities

Author, year	Study design	Outcome of utilization of telepsychiatry	Methods by which savings were achieved
Hyler & Gangure,[41] 2003	Literature review	Decrease in costs in some settings	Decreased provider travel, decreased use of other medical services
Harley,[43] 2006	Prospective design	Savings of $18,000	Decreased provider travel, greater medication management
O'Reilly et al,[46] 2007	Case-control design	Decreased costs from $315 to $265, a savings of $50 per visit	Decreased provider travel
Shore et al,[42] 2007	Prospective test-retest design	Savings of > $12,000	Decreased provider travel, decreased client travel
Johnston & Solomon,[29] 2008	Review of government documents	Savings of $850 per visit, or $4 million annually	Decreased inmate transportation costs, decreased provider travel

The semistructured interview with a telepsychiatric practitioner (TT) supported some of the findings of this review, including the advantages of increased access and decreased costs with the utilization of telepsychiatry, and potential disadvantages of lack of support by prison administration[32,34] and technical difficulties. The involvement of the correctional facilities' administration and their cooperation has been imperative for effective mental health treatment to take place via telepsychiatry. Thistlethwaite contradicted, however, some of the potential drawbacks identified in previous research studies such as lack of nonverbal communication or confidentiality issues.

This study was limited by the restrictions in the search strategy used, such as the number of databases searched, and publication bias may have affected the availability and quality of the research identified during the search. In addition, although much research exists about telepsychiatry in general, and a large number of studies have examined telepsychiatry in prisons, most of those studies have examined efficacy or acceptance of telepsychiatry. Research about the benefits or drawbacks of utilization on inmate access or cost to provide care is sparse. Also, the quality of care received through telepsychiatry was not measured through the reporting of any use of standardized scales or assessments.

Telepsychiatry can be "the wave of the future" in psychiatric care in correctional facilities because it can decrease the cost for facilities and increase access for inmates; however, further research in this area is needed. A prospective case-control examination of the cost to provide care via telepsychiatry in corrections compared with face-to-face psychiatric treatment would be beneficial. A comparison of the types and quantity of services provided to inmates through the use of telepsychiatry also would advance this new field of psychiatry.

Conclusion

Telepsychiatry has been demonstrated to have substantial ability to transform the way psychiatric services are delivered in mental health care. This literature review has revealed that utilization of telepsychiatry in correctional facilities has increased access to effective mental health care for inmates and has decreased the costs of providing such care. ❖

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Healing That Can Last

When depression, hopelessness, and lack of help do hurt,
healing that can last may still be achieved by a kindly word.

— Johan Wolfgang von Goethe, 1749-1832, German author, artist, and politician