Patient engagement for better treatment outcomes in mental health

4th February 2017

#health #CognitiveTherapy #MeasuringOutcomes #PROM #SocialOutcomes
#Mentegram #PrimaryCare #AlliedHealth

Vikas David
Mentegram Pty. Ltd.
https://mentegram.com.au
Melbourne, Australia
## Overview

## About Mentegram

## The mental health care continuum

- Screening
- Treatment
  - Complementing CBT/DBT with Mentegram:
  - Clinician Benefits:
  - Patient Benefits:
  - Social Support

## Measuring Life Outcomes

## Measuring value

## Return on Investment

## Implementation

- Implementation partners
  - Hashcode
  - HealthTRx
Overview

Engaging patients before, during and after treatment for better treatment outcomes can be challenging particularly in the mental health domain. With the advent of the web browser, patient portals were considered a viable medium to engage with clients/patients. However, the take-up and engagement levels have been poor in most cases. The “My Health Record” in Australia is a good case in point.

There are a lot of subtle elements that makes a portal for engaging patients effective. The importance of a positive User Experience (UX) cannot be understated in these cases as unlike clinician portals, there is little or no training that can be planned or delivered to consumers.

Motivating patients to first engage and then maintain their engagement is a design challenge. Peer support groups and tools supporting this concept online have been quite helpful to patients but don’t necessarily support better one-on-one, clinician-patient relationship and better treatment outcomes.

A multifaceted approach that addresses current patient-centered care involving patient empowerment and activation techniques is required to embrace the patient-centric movement. The program design must provide immediate and ongoing value to clinicians and patients, be sustainable to funders and profitable to private organisations.

About Mentegram

Mentegram is a browser-based interface for clinicians and a native mobile app for clients. This SaaS (Software as a Service) tool was developed to enhance patient engagement and involvement throughout their mental health journey. Mentegram can improve screening and intake processes, as well as intervention and follow-up. Mentegram was developed in response to the challenges faced in engaging patients before, during and after treatment for better treatment outcomes, especially in the mental health domain.

---


Copyright © Vikas David - Mentegram Pty. Ltd. 2017
This customisable tool can be used by inpatient services, outpatient day programs, community chronic disease management services and primary health organisations. It is based on web APIs (Application Programming Interface), so the functionality and workflow for clinicians may be embedded within existing systems if required. It is a HIPAA (Health Insurance Portability and Accountability Act) compliant, highly secure cloud-based application. Encrypted regional patient data for Australia and New Zealand resides on AWS (Amazon Web Services) Sydney.

**The mental health care continuum**

Assess, identify and triage patients into the right intervention to meet their needs

- **Screening**
- **Patient Engagement**
- **Treatment**
- **Social Support**

Provide evidence based, outcomes focused treatment

Address areas of ongoing need for relapse prevention

Engage patients before, during and after the treatment program
Screening

Idealistically, clinical service delivery organisations would like to provide immediate access to patients, have plenty of available clinicians and no waiting lists. However in reality it's prudent to invest in understanding the service delivery gaps and have a more effective triage and screening service.

Screening potential clients to identify which intervention or program will be most suitable for them may be more effective if complemented by technology. Clients can be sent links to complete screening forms that can be tracked and escalated based on responses.

**Before treatment commences:** Clients placed on waiting lists before their first appointment should ideally be monitored remotely to identify escalation in risks.

Standardised, validated screening forms used in Australia in the mental health space include the K10, DASS-21, EPDS, SDQ and PHQ-9. However, customised screening questionnaires can allow for remote monitoring and identification of other areas of need within the region.

---


Copyright © Vikas David - Mentegram Pty. Ltd. 2017
Mentegram provides a screening framework for engaging clients before their treatment commences. The solution has the ability to send forms to the patient and action their responses, minimising administrative and clinical time.

Treatment

Complementing CBT/DBT with Mentegram:

**Cognitive therapies** (cognitive behavioural and cognitive processing) and **prolonged exposure** are some of the most successful evidence-based approaches to mental and behavioural health conditions⁴.

There is good evidence showing that patients who actively engage with their therapy show more of a resilient response to stress and trauma and future onset of anxiety and depression⁵.

Patients with better engagement also show a faster reduction in symptoms and a 50% reduction in the relapse risk⁶.

The basic steps in a cognitive-behavioural assessment usually include;

1. **Step 1:** Identifying critical behaviours
2. **Step 2:** Determine whether critical behaviours are excesses or deficits
3. **Step 3:** Evaluate critical behaviours for frequency, duration, or intensity
4. **Step 4:** If excess, attempt to decrease frequency, duration, or intensity of behaviours; if deficits, attempt to increase behaviours.

To engage patients at home, clinicians distribute at-home follow-up materials such as symptom check, daily thought records, worksheets, education and information sheets. Most of these are currently distributed on paper and have extremely low engagement rates⁷.

---


Mentegram digitises these activities and keep track of patient progress

We believe that when designed and administered appropriately, patient-experience surveys provide robust measures of quality, and our efforts to assess patient experiences should be redoubled.

---

Enabling the patient to provide feedback on sessions is an important part of the treatment.

**Improve treatment adherence and outcomes**

Mentegram creates a structured channel for the patient to communicate with their clinician and the service anytime using native apps on their smartphone or a browser.

Patient feedback and a better understanding of their symptoms is invaluable in providing the right treatment.

“A recent report highlights some patients’ views on what matters!”

“......recognition that I am the expert in my life; ask me questions about what I need and think.”

“....reassurance. If I’m feeling really anxious, I might leave. Make it OK that I can come back and build a relationship.”

“......an option to choose the person I work with. I choose my hairdresser because I know she’s good at working with curly hair. I choose my gym person because I know he likes to work with ordinary people.”

---

Clinician Benefits:
Clinicians using Mentegram report various benefits including a better understanding of the patient’s symptoms, being able to see more patients during the week or saving 10-15 minutes per session as the patient provides a more accurate view on what transpired between sessions. Improved patient compliance with homework has also been reported, resulting in better treatment outcomes.

Similar to the NOCC (National Outcomes Casemix Collection) in Australia, it is prudent to compare clinician-rated measures like the HoNOS to patient-rated outcomes like SDQ, DASS, K10, PHQ, BASIS-32, etc. Mentegram is currently the best possible experience for patients to record their outcome measures, on their phone, when it’s convenient for them.

Mentegram can be used for PROM (Patient Reported Outcome Measures) as it includes common public domain outcome measures out-of-the-box as well as the capability to design custom measures.

Evidence shows a clear pattern that engaging mental health clients through their phone, dramatically increases engagement to about 90% across a wide range of demographics and conditions.


Copyright © Vikas David - Mentegram Pty. Ltd. 2017
Patient Benefits:

Mentegram provides a secure channel for patients to complete their evaluation forms, do their homework, receive relevant, timely education and information sheets from their clinicians, provide feedback on the service and report on their outcomes helping recovery and reducing frustration.

In a stepped care model\(^\text{16}\), information recorded by the patient may be shared with other providers with their consent. Keeping track of mood, sleep and journaling thoughts on a daily basis has been shown to reduce the recovery period\(^\text{17,18}\).

Social Support

Using Mentegram, once the engagement channel is established before or during the treatment, education and information sheets can be pushed to the client on peer support groups in the area or online tools for relapse prevention, keeping the client engaged post-treatment and providing an opportunity to monitor social outcomes.

Digital follow-up also shows promise as a crisis prevention tool\(^\text{19}\). Once patients engage with their treatment, their daily responses can be effectively used for proactive crisis monitoring. This allows clinical staff to reach out at the first signs of trouble. Engagement data collected through cell phones has been shown to be highly reliable and valid, and very strongly correlated with clinical assessments. In a recent study, patients being remotely monitored for depression relapsed at half the rate than patients without monitoring and overall used 65% fewer services\(^\text{20}\).


Measuring Life Outcomes

A “Life Outcomes” questionnaire can be triggered on the client's phone 3 - 6 months after the last session on Mentegram.

Questionnaires designed around life outcomes help analyse any social impact the treatment has made for example, whether the client has started living independently or is back in the workforce.

Mental illness can reduce participation in the workforce in two broad ways. For those in employment, untreated mental illness can diminish engagement and activity in the workplace. Annual losses to national productivity caused by untreated mental illness in the Australian workforce have been estimated at A$5.9 billion\(^{21}\)

---

Measuring value

Achieving high value for patients must become the overarching goal of health care delivery, with value defined as the health outcomes achieved per dollar spent\(^\text{22}\). This goal is what matters for patients and unites the interests of all actors in the system. If value improves, patients, payers, providers and suppliers can all benefit while the economic sustainability of the health care system increases\(^\text{23}\).

When measuring value, both outcome and cost must be measured over the full life-cycle of care, not just on discrete interventions\(^\text{24}\). Patient outcomes are multidimensional and complex and depends on various factors including demographics, diagnosis, social and life outcomes.

*Mentegram improves treatment outcomes and helps measure those outcomes.*

To get an accurate picture of cost savings and value, further investment needs to be made in comparing patient reported outcomes to clinician-reported outcomes and ideally also combined with emergency hospital presentations, reduction in disability services and savings made by proactively targeting clients for early intervention.

\(^{22}\) "Redefining Health Care: Creating Value-Based Competition on Results." 2 May. 2006, [http://www.hbs.edu/faculty/Publication%20Files/20060502%20NACDS%20-%20Final%2005012006%20for%20On%20Point_db5ede1d-3d06-41f0-85e3-c11658534a63.pdf](http://www.hbs.edu/faculty/Publication%20Files/20060502%20NACDS%20-%20Final%2005012006%20for%20On%20Point_db5ede1d-3d06-41f0-85e3-c11658534a63.pdf). Accessed 1 Feb. 2017.


Copyright © Vikas David - Mentegram Pty. Ltd. 2017
Return on Investment

Sample - Cost Benefit & ROI using Mentegram
ROI based on future value

ROI Parameters **

<table>
<thead>
<tr>
<th></th>
<th>Sessions/Clinician/Day</th>
<th>Clinician/Staff licences</th>
<th>Working days/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session Cost</td>
<td>4</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Session Profit</td>
<td></td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Time saved / session</td>
<td></td>
<td></td>
<td>10 min</td>
</tr>
</tbody>
</table>

Increase in adherence

|                        | 10%                     | A$300K                   |

** ROI based on sample values and may not reflect your organisational parameters or potential ROI. Value realisation may be translated to the ability to have additional sessions per day, more clinical time for patients, reduced waitin lista, reduced staff hours, seeing more patients, etc.

*Includes...
- Annual Licence costs
- Implementation costs
- Assistance with Change Management
- Assistance with Clinical Governance
- 50% additional support/reporting costs from year 2.
- Intangible benefits excluded from ROI and cost/benefit.
- Better treatment outcomes
- Decreased frustration for patients
- Improved Staff morale
- Providing demonstrable value - increased funding

Copyright © Vikas David - Mentegram Pty. Ltd. 2017
Implementation

For any program to be successful, various aspects of implementation need to be reviewed and appropriate change management strategies need to be put in place.

We believe in having local expertise available to implement these strategies successfully. To this effect, Mentegram has partnered with local Australian & New Zealand companies specialising in mental health and addictions implementation science.

Implementation partners

Hashcode

Hashcode is a mental health technology consulting organisation based in Melbourne, Australia. Vikas (consultant & founder) has over 19 years of health software experience with 14 years in mental health software and services. He has extensive healthcare industry knowledge and practical experience in providing leadership and support during software implementations. He specialises in partnerships within the healthcare segment. Over the last 19 years in Australia, he has worked across professional services, product management and provided consulting services to companies and government departments both locally and internationally.

Vikas is focused on solution design, the user experience and quality outcomes. Vikas also established Mentegram in Australia and contributes to design and development.

http://www.hashcode.com.au

HealthTRx

HealthTRx Global is a specialized consulting organisation with more than a decade of focused work in e-mental health and addictions across New Zealand, Australia, USA, Canada, Hong Kong and the United Kingdom. HealthTRx specialize in principles of implementation science which enables development and deployment of sustainable programs and services.

http://www.healthtrxglobal.com

Copyright © Vikas David - Mentegram Pty. Ltd. 2017