The uni virtual clinic

Changing the way mental health care is provided to young people at university

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June 2016

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Young and Well Cooperative Research Centre The Young and Well Cooperative Research Centre is an Australian-based, international research centre that unites young people with researchers, practitioners, innovators and policymakers from over 70 partner organisations. Together, we explore the role of technology in young people's lives, and how it can be used to improve the mental health and wellbeing of young people aged 12 to 25. The Young and Well CRC is established under the Australian Government's Cooperative Research Centres Program.

youngandwellcrc.org.au

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Executive summary

Background to the uni virtual clinic (UVC)

There is growing recognition of the importance of addressing the mental health needs of young people in the university sector. 1.3 million Australians were enrolled in tertiary education in 2014 and this number is increasing each year. The majority of these students are young people aged between 18 and 25. Young adulthood is a vulnerable time in which many common (depression and anxiety) and severe (psychosis) mental disorders first appear. In fact, 1 in 2 university students will experience a mental disorder and 1 in 10 will contemplate suicide. Mental disorders affect every facet of life, and if left untreated, persist throughout adulthood. They have a devastating effect on some of Australia's best and brightest young people, at a time when their life and careers are just beginning.

The first challenge is getting young people at university to seek help. Two-thirds of young people do not seek help for mental health problems and help seeking rates are even lower among university students. Many young people with a mental health problem fear stigma and judgement, may not know where or how to access treatment, or may be unable to afford treatment. In addition, university counselling centres are often over-burdened and under-resourced for those students who do seek help. Anonymous, scalable, and evidence-based online interventions can circumvent these problems and greatly increase the numbers of young people accessing the help they need. However, the second challenge, is keeping young people engaged once they have taken the step of seeking help. At this point it is critical that they remain in treatment long enough to derive the benefit they need.

The uni virtual clinic (UVC) is a comprehensive online service developed in partnership between the Centre for Mental Health Research at the Australian National University (ANU) and the Young and Well Cooperative Research Centre that has been designed to prevent and treat mental health problems and related issues in university students. It is anonymous, free to the end-user, tailored, and incorporates evidence-based treatments and information.

What does the UVC do?

The UVC contains resources targeting unique issues experienced by university students that impact on their mental health. The UVC provides students with information about mental health problems and other related student-specific challenges, screening and self-help tools, and information about where they can receive help for mental health problems and other related problems at university.

The information provided by the UVC about sources of help can be easily tailored for each specific university's resources. In addition, there is scope to add peer-support functionality to enable students to support each other via online chats or message boards.

What makes the UVC different?

A key priority of the UVC is to enable young people to find the right help as quickly and easily as possible. Accordingly the clinic incorporates devices that enable university users with varying levels of knowledge about mental health problems to navigate through the system. This includes the problem-solving tool, which helps users to find the most appropriate resources through both guided and unguided pathways through the clinic. In addition, the clinic can be tailored to the user's preferences, the interface enabling students to save factsheets, tools, and self-help packages on their UVC profile homepage to complete at a later date.

How was the UVC developed?

The UVC was developed through multiple interlinked research and development stages in consultation with young people, university stakeholders and other service providers. The background research conducted and subsequently published in academic journals included extensive investigation into university students' mental health problems, information and service needs and preferences, as well as stakeholder perspectives including both university academic teaching and counselling staff.

Potential outcomes and impact

The pilot version of the UVC at The Australian National University has been completed. The potential for the dissemination of the UVC in universities across Australia is strong. In addition, the UVC has potential to serve as a model for developing such clinics for young people in schools and other settings.



Introduction

University students have high rates of mental health problems

Young adults attending university face high age and life-stage related risks for developing mental health problems, with approximately 30-50% of university students meeting criteria for a mental disorder (Eisenberg, Hunt et al. 2011, Said, Kypri et al. 2013). A recent Australian study demonstrated a rate of 33.6% (Stallman 2010), and a large scale epidemiological study of over 5,000 college students in the US, the 12-month prevalence of mental disorder was almost 50%, with the highest rates of disorder being substance use disorders (29%) followed by anxiety disorders (11.9%) and mood disorders (10.6%) (Blanco, Okuda et al. 2008). University students may be at greater risk than their community-based counterparts with research demonstrating that the prevalence of severe psychological distress is significantly higher in tertiary students (19-48%) compared to their age-matched peers (3-11%) (Leahy, Peterson et al. 2010, Stallman 2010). Untreated mental disorders can have severe consequences for the individual including disability (Andrews, Issakidis et al. 2001, Andrews and Titov 2007), suicide (Hawton and van Heeringen 2009), and lowered quality of life, even for those experiencing sub-clinical symptoms (Brenes 2007). Poor mental health in university students also leads to poorer interpersonal relationships and lower engagement in campus activities and greater risk of dropout from their education (Salzer 2011).

Students have a low rate of seeking help

Despite the severity of the negative outcomes associated with untreated mental disorders in students, very few receive appropriate mental health care (Eisenberg, Hunt et al. 2011). Similar to young people in the general community (Rickwood and Braithwaite 1994, Rickwood, Deane et al. 2007), when university students do seek help for mental health problems, they typically approach friends, family, or other non-clinical sources of support (Eisenberg, Hunt et al. 2011). Although these informal sources may be a useful starting point (Rickwood and Braithwaite 1994), it remains critical for those with mental health problems to seek help from evidence-based sources. Less than half of students with a mental health problem seek professional help for their symptoms, with help seeking rates as low as 5% for drug and alcohol use disorders (Blanco, Okuda et al. 2008, Wynaden, Wichmann et al. 2013). The most frequently reported barriers to help seeking by university students include lack of time, high treatment costs, and concerns about confidentiality and stigma (Givens and Tjia 2002, Mowbray, Mandiberg et al. 2006).

Given the barriers to seeking treatment reported by students, online mental health interventions may be highly suited to the university population. Online resources are easily accessible, can be utilised in private, are costeffective, and typically require less time than face-to-face appointments (Griffiths and Christensen 2007). Young people frequently report using the internet for help with their mental health (Burns, Davenport et al. 2010). One study demonstrated that 72% of young people aged 18-25 years believe that websites are helpful when managing mental health problems (Oh, Jorm et al. 2009), and almost half of the young people in an another study stated that they would use the internet to access information about mental disorders (Burns, Davenport et al. 2010). The internet is also commonly used by young people to confide in peers about problems and to access forums for 'guestion and answer' advice (Burns, Davenport et al. 2010). Additionally, online interventions targeting mental health problems have been found to be effective for university students. A recent review conducted by the current authors found that computer, internet and telephone-based mental health interventions were promising in university populations, particularly those aimed at improving anxiety symptoms (Farrer, Gulliver et al. 2013). A previous study investigating student attitudes towards online mental health resources reported that almost half (47%) of university students indicated that they would use an online program for student wellbeing if one existed, and highly distressed students were significantly more likely to indicate intent to use such a program (Ryan, Shochet et al. 2010).

Creating an innovative virtual clinic for university student mental health

Virtual clinics have been previously utilised to provide streamlined, continuity of care for chronic physical and mental health conditions (Kethers, Lamb et al. 2006, Jennings, Powell et al. 2009). Virtual clinic models typically focus on self-management in care, and incorporate multiple tools to manage health problems including information, and symptom screening and monitoring tools. In its role as a partner in the Australian Government funded Young and Well Cooperative Research Centre, the Centre for Mental Health Research has developed a university virtual clinic, the uni virtual clinic or UVC, which is a comprehensive, online service targeting mental disorders and mental health problems in tertiary students.



The UVC provides mental health support to university students and targets all aspects of the mental health spectrum including promotion, prevention, early intervention, treatment, relapse prevention and recovery. The content, functionality and processes of the clinic have been developed in consultation with young people (end-users), university stakeholders and other service providers.

The current report outlines the functionality of the clinic, as well as the extensive body of research that provided input into its development, and the potential for applying the UVC in different settings.



The uni virtual clinic (UVC)

HOW WAS THE UVC DEVELOPED?

The UVC was developed through multiple interlinked research and development stages in consultation with young people, university stakeholders and other service providers. These stages and their results are outlined below.

STAGE 1: INITIAL SCOPING

The first stage involved initial scoping where the research undertaken was designed to inform the development of the UVC.

Systematic reviews

Three systematic reviews were conducted to examine the current evidence for online and mobile programs and interventions designed to support student mental health.

The first review (Farrer, Gulliver et al. 2013) found that technology-based (e.g., mobile phone, internet, portable music player etc.) interventions targeting mental health and related problems offered promise for students in university settings. The data specifically suggested that technology-based cognitive behavioural therapy (CBT) was likely to be particularly useful in targeting anxiety.

The second review (Gulliver, Farrer et al. 2015) examined tobacco and other substance use in students [excluding alcohol, which had previous demonstrated efficacy in students (Carey, Scott-Sheldon et al. 2009)] and concluded that technology-based interventions increased abstinence from tobacco in students. However, there were too few studies to draw conclusions about the efficacy of technology-based programs for other drugs. Together, these reviews demonstrated the high potential for the utility of a technology-based intervention for mental health problems and substance use in university students.

The final review (Ali, Farrer et al. 2015) examined peer-to-peer support interventions for mental ill-health in young people, and demonstrated a serious lack of high-quality studies examining peer support interventions despite their common use as an adjunct to internet interventions for mental health problems. This finding emphasises the need to consider an investigation of the effectiveness of a peer-to-peer component in the UVC.

Stakeholder perspectives

Multiple methods and cycles of stakeholder feedback were conducted using both qualitative and quantitative methods.

Qualitative studies: The qualitative methods primarily included focus groups conducted with university students. The focus groups (n = 19) demonstrated that students viewed the concept of a university-specific virtual clinic favourably (Farrer, Gulliver et al. 2015), despite expressing concerns about the privacy and security of personal information (Gulliver, Bennett et al. 2015). Conversely, students believed that the online nature of such a clinic would generate increased feelings of confidentiality when seeking help (Chan, Farrer et al. 2016). Further, students indicated that they wished to connect with professionals via the virtual clinic, for the clinic to provide information tailored to issues faced by students, and for the clinic to enable peer-to-peer interaction. Given the feedback generated through these qualitative methods, these components were all considered in the design of the UVC. Overall, the results of these studies demonstrated a high level of interest for a university-specific virtual mental health clinic for students. In addition, an informal session conducted with counselling centre staff demonstrated the acceptability of a virtual clinic in the university system. However, given the nature of the current methods for booking appointments via telephone, and the required system change needed for integration at an administrative level, the ability for students to book appointments through the virtual clinic was slated for a future iteration of the UVC.

Quantitative studies: The quantitative methods comprised two surveys, one with staff and the other with students both at the Australian National University ANU.

The student survey (Farrer, Gulliver et al. Submitted) was designed to examine prevalence rates and risk factors for specific groups of students who may need additional support from the UVC. A total of 611 ANU students were



recruited to the study (response rate 11.6%: 611/5265 students some who were randomly sampled to participate, and some who were recruited from advertisements from a total of 15,821 students). The survey yielded a point prevalence rate of 7.9% for major depression, and 17.5% for generalised anxiety disorder (GAD) (Farrer, Gulliver et al. Submitted). The results of the analysis of predictors of outcomes indicated that students in their first year of undergraduate study were at greatest risk of depression, whereas female students, those who moved to attend university, and students experiencing financial stress were at greatest risk of GAD. Students with experience of body image issues and lack of confidence were at significantly greater risk of major depression. Finally, feeling too much pressure to succeed, lack of confidence, and difficulty coping with study was significantly associated with risk of GAD. This survey confirmed the high rates of common mental health problems in students, and also suggested that certain groups of students may benefit from tailored encouragement to access the UVC and other mental health services.

Although student feedback was critical to this process given they are the key end-users of the program, gaining the perspectives of other relevant stakeholders such as academic staff, was also essential. The support of student mental health depends at least in part on the accommodations afforded to them by the academics who teach them. Accordingly a study was undertaken of the attitudes and mental health literacy of teaching staff at the ANU (n = 224). This survey demonstrated that many university teaching staff were highly sceptical about the quality and effectiveness of online mental health interventions, with only 22.3% believing they were a credible treatment option (Farrer, Gulliver et al. 2015). Further, they did not believe that it was part of their role to intervene in student mental health. These findings were important as the attitudes of academic teaching staff may affect their willingness to recommend the UVC to students as a source of help. It was concluded that in order to maximise uptake of the UVC, it is critical to increase teaching staff's positive attitudes towards online mental health care.

STAGE 2: SERVICE MODEL DEVELOPMENT

The second stage of the project involved the iterative development and refinement of the service model for the university virtual clinic. Based on the research conducted in Stage 1, the project team developed a preliminary model which incorporated: a) concepts of how a user might experience or use the clinic, including over time; b) possible components / features of the clinic; c) how the clinic might best communicate with end-user service providers and other stakeholders; d) functionality or content of the clinic which may require tailoring for different sub-groups of users; and e) how new or existing users might be screened or directed to services as part of their use of the clinic (e.g., stepped care).

Feedback through iterative cycles of testing sessions were generated to produce a series of iterative prototypes. The suggestions, feedback and issues raised through a feedback session was fed into the current prototype which was then subject to further stakeholder input during the next prototype session and subsequently the next prototype. Three 1-hour prototype testing sessions were conducted with university students (n = 6; 3 male, 3 female, mean age = 21.2 years) (Gulliver, Bennett et al. 2015). Using participatory design methods we developed and refined the service model for the UVC using these models.

Figures 1-3 show the progression of the UVC home page as demonstrated to students participating in the iterative prototype rounds. Figure 4 shows the final concept for the UVC home page.

In addition to this, the project manager and a research assistant conducted several face-to-face discussions with university stakeholders to assess the information and service needs of different sub-groups of students (e.g., disability, postgraduates, international students etc.). This ensured that the final model was appropriate for all potential users, and also provided appropriate information on each stakeholder group. The refinement of the service model was also informed by IT and clinical perspectives, which ensured that the model was feasible, that user privacy and confidentiality could be adequately protected, and that legal and duty of care obligations were considered.

Finally, a Student Leadership Group was established in 2014 and comprised 10-15 students each year (2014-16) recruited from the ANU to assist with the development and testing of the clinic. These students provided input on all aspects of UVC design and development including graphic design, as well as tools and functionality.



The uniVirtual Clinic

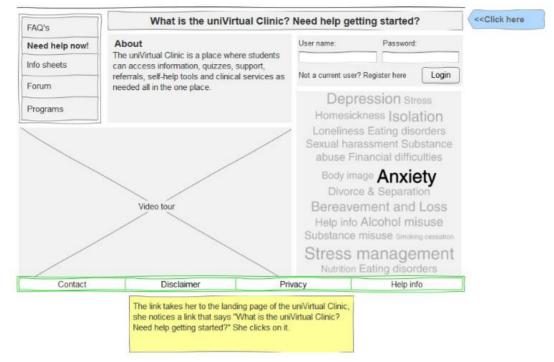


Figure 1. Round 1 prototypes - Example UVC home page

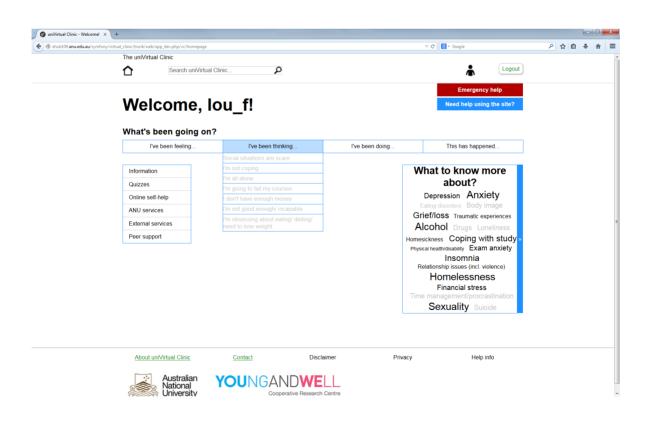


Figure 2. Round 2 prototypes - Example UVC home page

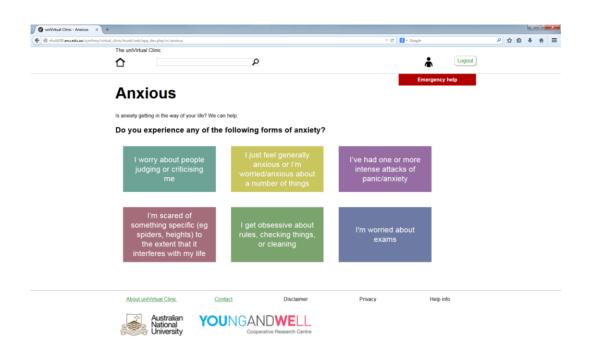


Figure 3. Round 3 prototypes - Example UVC home page

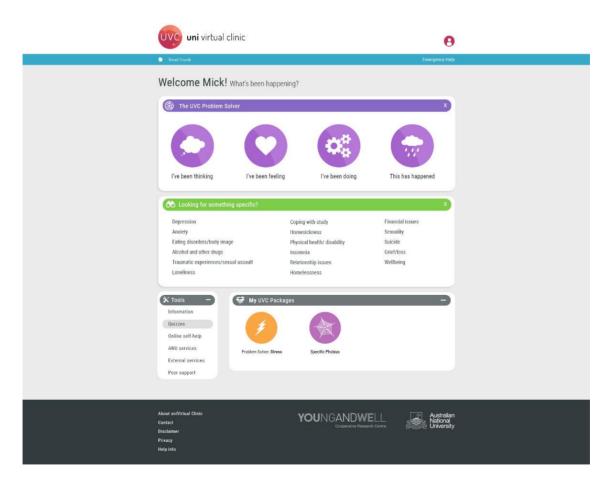


Figure 4. UVC homepage



STAGE 3: SOFTWARE IMPLEMENTATION

Stage 3 involved software implementation, which was undertaken by an in-house technical staff team within the ANU, and was managed by senior staff with extensive multi-disciplinary experience in e-health intervention research. ANU students were also involved in providing feedback into the design of the UVC at this stage.

WHAT IS THE UVC?

The UVC is an online space for university students to support and manage their mental health. The goal of the UVC is to connect students with the mental health information and support they need. For example, students may want to find out more about mental disorders, assess their own mental health, try a self-help therapy program, or find out how to make an appointment to speak to someone.

The UVC also addresses the needs of students with varying needs, including those who want to manage their mental health, those who want to help their friends through a crisis, and those who experience difficulties in times of stress.

Figure 5 shows the original development model for the UVC, demonstrating the interaction between the UVC online space, and the student, as well as potential interaction between various groups on or off campus including clinicians, researchers, service providers, and student administration. However, the current pilot version of the clinic was modelled to accommodate student users only, currently students are not able to book appointments directly via the website and there is no facility at this stage for counsellors to access any of the UVC quiz results or workbooks. This departure from the planned model was partly a consequence of the high level of administrative system change required to integrate the clinic within the existing health system (such change dependent on non-UVC systems, see above), and partly because students were highly concerned about the potential for other staff from the university being able to access their results (Gulliver, Bennett et al. 2015).

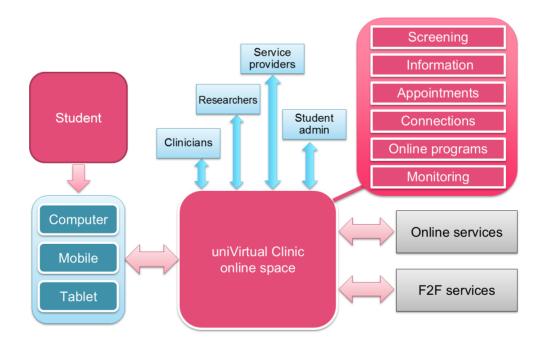


Figure 5. Original development model of the UVC

The UVC targets four major groups of mental disorders that commonly affect university students:

• Mood disorders (major depression, bipolar disorder).



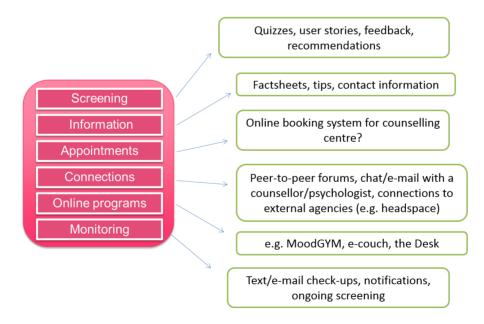
- Anxiety and trauma-related disorders (generalised anxiety disorder, social anxiety disorder, obsessive compulsive disorder, post-traumatic stress disorder, specific phobia, panic disorder, agoraphobia).
- Substance use disorders (alcohol, smoking, and other drugs).
- Eating disorders (anorexia, bulimia, binge eating disorder).

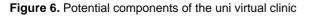
The UVC also contains resources targeting unique **issues experienced by university students** that impact on their mental health including:

- Insomnia
- Suicide and self-harm
- Financial issues
- Loneliness/social isolation
- Relationship issues
- Homesickness
- Adjustment to university (specific focus on international students)
- Grief and loss
- Career and life after university
- Perfectionism
- Stress
- Physical health (nutrition, exercise)
- Time management and procrastination
- Disability
- Living arrangements
- Sexual and gender identity
- Exam anxiety

WHAT DOES THE UVC DO?

Figure 6 shows the originally conceptualised possible components of the UVC. As noted above, during qualitative feedback cycles, the implementation of several features (peer-to-peer forum, online booking system, notification) were deferred for pragmatic reasons.





Thus, the current primary features of the UVC are:



- 1. **Information** (university tailored factsheets, services, students stories about mental health and other problems)
- 2. Screening (quizzes, feedback and recommendations)
- 3. Self-help tools (tailored guided and unguided pathways, access to online treatment programs)

These features, together with the two to be added in later versions of the UVC (providing access to professionals via an online booking system and a peer-to-peer support forum or chat sessions) are explained below.

INFORMATION

There is evidence that online information can in itself be an effective treatment for mental health problems (Griffiths, Christensen et al. 2004, Donker, Griffiths et al. 2009). The UVC comprises factsheets targeting all major mental disorders and related issues (see Figure 7), information about online and face-to-face services within the university setting and in the community (see Figure 8). A critical element of the UVC is that all the information provided is tailored to university students, a feature not available on more generic online mental health websites or portals. The UVC contains information about prevalence in university students, signs and symptoms, risk factors, impact on university life, help seeking, prevention, and treatment.

uve uni virtual clinic	θ
 Findem Solver Feedings 	Emergency (felp
Depression - Fact She	eet
We all feel sad or down from time-to-time, but when someone feels or and this gets in the way of their friendships, studies, work, and life in gen sion. This is a serious illness that really shouldn't be left untreated.	
Signs and Symptoms Signs and Symptoms of Major Depressive Disorder (often simply called "de things; feeling sad, moody, irritable, empty, or numb; having truble sleepin worried or tenses having diffuely concentrating and making decisions; fee ing and critical; and having thoughts of suicide. Although everybody feels s entity down and experiences a number of the above symptoms for 2 week by to function, they may be experiencing depression1. Young people can also experience a milder but more pesistent form of de for months, or even years, and athough people with dysthymia might be al are likely to experience a reduced enjoyment in life and have disrupted app	g; lacking energy and motivation; feeling ling worthless or guilty; being self-blam- ad at times, when a person feels consist- or more, and this interferes with their abili- pression called dysthymia2. This can last bie to go about their day to day lives, they
	SELF WORTH JUNI INNI J. DO
How common is depression in university students? Depression, the most common mental liness across age groups3, is partic a higger impact on a young persons life than any other disease or injury, pl evidence shows that unkersity students are even more prone to depressio study finding around 1/3 of undergraduates reported at least one episode or pressed it was difficult to function?.	tysical or mental5. What's more, some n than other young people6, with one

Figure 7. Depression factsheet tailored to students



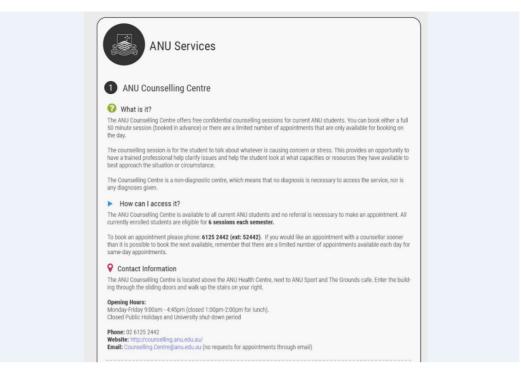


Figure 8. Tailored information about available university-specific resources

SCREENING

The UVC contains brief, validated screening measures for all mental disorders and some related issues (see Figure 9). Screeners provide feedback about symptoms, normative data that allows students to see where they sit relative to other students, feedback about how their symptoms have changed since they last completed the screener, and recommendations for help based on their scores.

UVC uni virtual clínic					
🕈 Problem Solver Feelings				Emergency Help	
Dre UVC Problem Solver				x	
🗹 Sadness Quiz					
Over the past 2 weeks, how often have you been bothered by any of the following problems?					
	Not at all	Several days	More than half the days	Nearly every day	
1. Little interest or pleasure in doing things	0	0	0	0	
2. Feeling down, depressed, or hopeless	0	0	0	0	
3. Trouble falling or staying asleep, or sleeping too much	0	0	0	0	
4. Feeling tired or having little energy	0	0	0	0	
5. Poor appetite or overeating	0	0	0	0	
 Feeling bad about yourself – or that you are a failure or have let yourself or your family down 	0	0	0	0	
Trouble concentrating on things, such as reading the news paper or watching television	0	0	0	0	
 Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual 	0	0	0	0	
 Thoughts that you would be better off dead or of hurting yourself in some way 	0	0	0	0	
SUBMIT					
Feelings 🛞 I feel sad 🔕 Help me find options	Quiz				
				Add this to your home page	

Figure 9. Sadness (depression) quiz

15



SELF-HELP TOOLS

The UVC offers a range of self-help tools developed by the Centre for Mental Health Research (CMHR) and other leading e-health researchers. These tools are based on evidence-based psychotherapeutic approaches such as cognitive behaviour therapy (CBT), interpersonal therapy (IPT), exposure therapy, relaxation, problem solving therapy, and mindfulness. Users can complete these tools at their own pace. Some tools are combined into treatment packages that guide the user through screening, psychoeducation, and treatment for a particular disorder (see Figure 10).

ACCESS TO PROFESSIONALS

Future iterations of the UVC will explore the capacity for integration with existing mental health and other services within and external to the university environment to facilitate access to professionals. This may include an integrated booking system that allows students to make appointments with university counselling and health centres, and online therapy services delivered by clinical psychology interns through chat, e-mail or Skype.

PEER SUPPORT

Another functionality of the UVC, planned to be added at a later date will be to enable users to connect with others through an asynchronous forum and synchronous chat sessions. The forum and chat sessions will be moderated to ensure user safety. In the meantime, a PhD student funded by the Young and Well CRC, Kathina Ali, is undertaking a randomised controlled study of the utility of synchronous chat as an adjunct and standalone intervention for disordered eating using the German-based online program ProYouth ("ProYouth Oz").

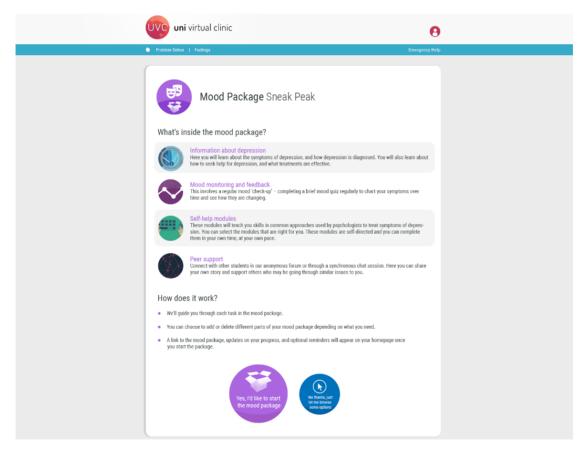


Figure 10. Treatment package for depression (Mood Package)



WHAT MAKES THE UVC DIFFERENT?

PROBLEM-SOLVING TOOL

A key priority of the UVC is to enable young people to find right help as quickly and easily as possible. Young people may differ in their ability to recognise and label mental health problems in themselves or their friends. To accommodate this, young people have several options for seeking help from the UVC homepage. Resources specific to mental disorders and related issues are clearly accessible from links on the homepage. For users who are not sure what they are looking for, the problem-solving tool (see Figure 11) on the homepage (see Figure 4) allows them to select from options that reflect their experience (e.g. I'm feeling stressed, I can't concentrate, I'm not coping). These options link to pathways that direct the user to the most relevant content based on their experience.

GUIDED AND UNGUIDED PATHWAYS.

Unguided pathways allow the user complete autonomy to browse all of the available UVC resources at once, whereas guided pathways using the problem-solving tool as described above, walk the user through available resources and make recommendations that best fit the user's situation. Users can choose between guided and unguided pathways at all times within the UVC.

A HELP SEEKING EXPERIENCE THAT EVOLVES OVER TIME

The UVC has the capacity to remember where a user is up to, where they visited, and what they accessed last time they visited. The UVC has capacity to make recommendations to a user based on what they have previously found helpful or unhelpful.

USER CONTROL OF PRIVACY

The user can choose how they wish to interact with the UVC. This is achieved by enabling the user to specify how personal information is collected and stored by the clinic over time, and to configure how the clinic interacts with them through personal reminders and updates. However, reminders are not currently enabled in the current pilot version.

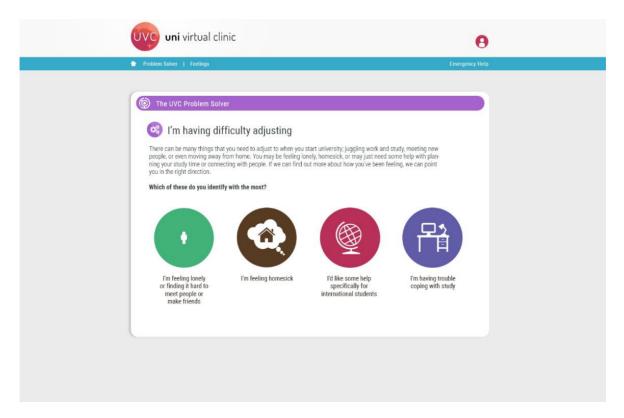


Figure 11. Problem-solving tool for the problem of "I'm having difficulty adjusting"



IMPACT AND RECOMMENDATIONS

The pilot version of the UVC at The Australian National University was completed in 2016. The UVC is an innovative, scalable, and flexibly built tool that has strong potential for dissemination nationally and internationally. In the first instance, strategies for disseminating the UVC should be investigated in universities across Australia to ensure more young people are provided with the opportunity to access mental health care they might not otherwise receive. The UVC also has potential to serve as a model for developing such clinics for young people in other settings such as schools.

Crucially, given the high level of mental health problems in young people at university, the UVC has the potential to create mentally healthy universities. It can reduce the prevalence of mental disorders in a high risk group of young people and avert the associated distress, poor academic outcomes, dropout, career loss, and impaired social functioning. Graduates can take their learnings from the clinic with them into the workplace and other settings. Future investment in this program, as well as increased recognition and funding for the implementation and evaluation of the UVC is required.



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