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Depression as Disease Burden - A World View

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Congratulations to the Mental Health Association of Hong Kong for the 60th birthday. There's a story about 60th birthdays. In South India, if a man reaches his 60th birthday, he has to renew the marriage vows with his wife so they have to go through the whole process again. Now I quite like that idea for two reasons. Firstly, it is that nobody is expected to live for 60 years, it is a kind of renewal and rebirth and therefore agreeing again to do things together. Secondly, it's important to celebrate these milestones because 60 is a significant milestone.

I'm absolutely delighted to be here. Every time I come to Hong Kong it reminds me that things get done in Hong Kong. And I'm particularly grateful to the Organizing Committee of the 60th Anniversary Symposium for bringing me here again. Their vision and hard work have made the Association completely indispensable in Hong Kong, particularly in some of the things that we were hearing about in terms of social enterprise and services that the Association does. You have seen some wonderful examples and the beautiful exhibition of fine work in mental health.

Defining depression

When I was asked to talk about global burden of depression and also give the Yap Memorial Lecture on cultural variations of depression, I think there's quite a lot of overlap between the two topics. So please forgive me if I repeat some of this later on in the afternoon because there are common issues. And when I was talking to Mrs. Carrie Lam earlier, she told me there is no word for depression in Mandarin. But she's been proved wrong, you told me there is such a word. There is no word for depression in Punjabi, there's no word in Hindi, there's no word in Urdu. Sadness yes, unhappiness yes, but no depression as we understand it in the community.

One of the main challenges when we talk about global burden and global impact of depression is that it means different things to different people. Everybody in this room, at least once you will have had a very bad day - you know, I got out of the 'wrong side of the bed' - everything has gone wrong, nothing goes right. You feel low and you feel tired and you feel unhappy and you feel sad and that's a common human emotion. Now the challenge for us as clinicians in psychiatry in particular, is about how do we stop ourselves from medicalising normal human emotions. It is incredibly important to stop saying that this is a clinical condition, this is a normal human emotion and part of the challenge when we look at the burden and the definitions is at what point do we say - that this has become deviant, that this has become severe, this needs to be treated with antidepressants, pharmacotherapy, cognitive behavioral therapy or a mixture.

So part of the challenge really is - how do we determine, how do we measure what is clinical and what is sub-clinical and who measures it. I'll come back to some fascinating work being done in many countries

Transcript of Keynote Speech of 60th Anniversary Symposium on Mental Health on 8th December 2014.

where they have trained school children to identify epilepsy and psychosis. In their village they would say somebody's having fits or somebody's hearing voices. So they need to be taken on and referred to the school teachers who would do some sort of proper paper-based assessment to get a threshold, to get ideas to see whether this is a genuine epilepsy or genuine psychosis or not. Then they would refer such individuals to community health workers, whether these are midwives or visiting health worker or volunteers in the village, who will then refer them to medical professionals and who will then refer them to psychiatrists. So there is the approach.

So who measures it? I think that's incredibly important when we talk about the burden of depression. Some of the figures that I am going to give you came from a meeting at the Economist, a weekly magazine published from London and various other places, which had an all-day meeting on depression about two weeks ago. The UK's Minister for Mental Health and Social Care spoke and various other people shared positive data and their experience. What that highlighted are two things for me: one the economic burden and second what happens to people. It's not people who take time off work, it's about people who are depressed - they are at work but can't perform. It's a phenomenon which has been called presentism. So you are there but you can't concentrate, you're not doing anything that your employer expects you to do.

Interestingly in October the World Economic Forum for the first time set up a global agenda - Council of Mental Health. Their aim is to look at mental health in the workplace; so which companies look after people who have mental illness and what treatment they are offering and what interventions they are offered. One of the major challenges for all of us is how does the healthcare system deal with its employees' depression. Do we? I don't think we do. So part of the challenge really starts at home before we say that this is really horrendous and outrageous - we need to look at what's going on.

We do need epidemiological data. There can be absolutely no doubt - we need it for some kind of rational planning. So we know that if X million people live in this geographical area, if the prime cause of depression is N% then how many would be severely depressed, how many would be mildly depressed, how many would be moderately depressed and what kind of resources do you need for that. It allows us to measure the frequency, it allows us to look at the needs assessment of people who are suffering and it also allows understanding of the dimensions of the disease and the supplementary research evidence.

One of the major challenges for us is that clinical diagnosis does not map on to research criteria. Very often they are measuring very different things and that's a challenge how do we translate clinical research into clinical activities. So the translation of research becomes incredibly important. And this is also culturally bound - and I'll talk more about that later this afternoon - there are different ways of expressing symptoms. Let me just give you one example - that in many cultures the idea of guilt is much more prevalent when you are feeling depressed, but in other cultures there is much shame, that I brought shame on the family and that depends upon the identity of the individual whether it is that you are an ego-centric individual or a socio-centric individual. Part of the impressive work being done in Hong Kong is the rule of filial piety. How can you look after people in the family and what the social capital is and I think that is one of your strengths. So how do we integrate social capital with engagement and outcomes both for recognition of and treatment of depression.

Clinical depression

I'm talking about major depression here - there will be only one illness episode in 28%

of people, they will never experience it again. We reckon that it will be recurrent in 34% and it will be chronic in 38% - so roughly one third, one third, one third. So that's something that you need to be bearing in mind, that half of the cases of depression would remit within three months.

How about co-morbidity with depression - 70% cases will present with other disorders, largely chronic physical conditions, such as arthritis, hypertension, diabetes, cardiac problems, pulmonary problems. And we know that if you have diabetes and you have depression, the chance of getting your diabetes under control is much worse. Similarly for hypertension, rheumatoid arthritis and chronic arthritis, etc. So I want you to bear that in mind when we are looking at both the global burden and the interventions. And we know that impairment and disability due to depression persist beyond remission. And risks are in academic and work failure, unemployment, partner and family relationship difficulties, and we have already heard about suicide and premature morbidity.

So it is incredibly important that we look at that. There are fairly recent figures that of 514 million people living in Europe, 32 million will have depression per year. Women are more than twice more likely to have depression compared to men. Part of the difficulty for women is not only they suffer more but they are also more likely to be carers. So they have a double whammy in trying to deliver things when they are not feeling well.

And what happens to men who are depressed? One of the little pieces I did for the Spectator Magazine two weeks ago was men do not identify depression and do not seek help for depression. We will do anything, it's not a manly thing to stand up and say I feel depressed. So I will hit the bottle, I will hit up people, I will use other drugs, but I will not admit to myself, much less anyone else, that I am clinically depressed.

Again that's a challenge not only in terms of the public mental health agenda but also in terms of how do you measure the burden. Lifetime risks for depression is 35% in women and 22% in men; rates in depression in general population 8.5% and anxiety 14%. Absolute numbers have risen, not because the rates have risen but because people are living longer. So when people say that depression is on the rise - it isn't. We are becoming better at diagnosing it, we are becoming much more effective in treating it, but we are also trying to look at co-morbidity. As people live longer it's inevitable that they will have physical problems and with physical problems they will have depression. 72% of mood disorders have other disorders of which 54% will have anxiety, 41% will have substance abuse, 49% will have somatoform disorders.

This is European data (Wittchen et al 2011). That's utterly shocking that only about half, between one-third and half, will have any contact with any health provider. So when WHO talks about mental health gap - i.e. the number of people suffering from condition 'A' and the number seeking health - this is an example of depression. Nearly half the people who do have depression will not get any help, and will not seek help. Around 8 to 16% will have contact with any mental health specialist and only 10% will receive minimum adequate treatment. That says something and for you to ponder over the next two days.

Depression as disease burden

When we look at burden of disease, we look at the burden on the individual who is ill. Of course they may not be able to work, it will affect their relationships, it will affect their whole functioning and one of the big challenges again is about recovery model. We need to be thinking about - I've always used the example of a patient that I have been seeing since 1987 who has never, ever been symptom free (psychotic symptoms, depressive symptoms, medical symptoms) all the time.

Now, you could argue that's my failure, that I haven't been able to get rid of her symptoms but she had a very responsible job, but she's kept going, she's in a relationship, she's got a flat, and she's functioning fine. So why should I be badgering her with increased dosages of medication to stop her from working. So that's the balance of thinking of the burden of disease for the individual is, for the family, people who are caring for the patient and obviously the community, kinship and extended family. And that in itself has major implications for communities which are more social centred.

Even now, I left India about 34 years ago, when I go back to India I meet people who, they don't care if I am President of the World Psychiatric Association, they don't know who I am, I'm grandson of so-and-so, son of so-and-so and that's why I'm here today. So under those circumstances the burden of disease is very, very different if it was an ego-centric society and I was there by myself and obviously the burden on the whole of society as well.

Consider Disability Adjusted Life Years [DALYs] as basically the number of fully healthy years lost to a particular disease or risk factors whereas the age at which the disease or death occurred and the duration and severity of any disability created. Ideally, everyone in the world no matter where you are should have the right to best life expectancy in the world - it's a human right issue. The only differences in the rating of a death or disability should be due to age and sex, not to income, culture, location, social class. And DALYs should be equal to a total of Years of Lost Life (YLL) due to mortality, and Years Lost to Disability (YLD) if you die early due to injury and illness. So if you are clinically depressed you may be in those 38% where the condition is chronic and you can't get better, you can't go back to work, your relationship is suffering, you may be having problems with the family and functioning in the society so that adds to what's going on.

The whole idea of global burden of disease was developed originally for the World Bank. By and large I'm optimistic - I'm a bottle three quarters full person. But there is a global tipping point emerging. I mentioned the World Economic Forum, I mentioned the Economist talking about it, we know that the World Bank have got depression on their agenda and they were supposed to come out with a report on depression in May next year but they postponed it to autumn next year because they want to focus on ebola.

Part of the challenge I raised to them is - it's very easy to say ebola, but what about children who lost their families, what about people who are afraid that they may have ebola and their anxiety and their depression. And what about people who lose their social support networks, the impact on them? You can't just look at physical health aspects without looking at mental health. Interestingly the idea of global burden of disease has extended greatly in the mid-1990s and is now adopted by the World Health Organization. Many countries now have their national burden of disease; some states, provinces and even cities like Los Angeles and San Francisco have got city burden of disease. So again that is something, I would love to know how the burden of disease in Hong Kong has been calculated and is it working and if so how.

Basically, it's about three key definitions: *impairment,* which is loss or abnormality of psychological, physiological or anatomical structure and function; *disability,* which is any restriction or lack of ability to perform a certain task in the manner or within the range which is seen as normal; and *handicap,* which is disadvantages resulting from impairment or disability which limits or prevents the fulfillment of a role which is normal, obviously that depends what age, sex, social and cultural factor.

There are different kinds of diseases - Type I: Traditional communicable diseases

like infectious, maternal, peri-natal, nutritional diseases; Type II: Modern non-communicable diseases like cancer, heart, neuro-psychiatric, chronic lung, diabetes, congenital diseases, and Type III: Injuries, non-transitional which are unintentional, like motor vehicle, poisoning, fall, fires, drowning, and intentional like suicide, violence, war and other kinds of conflict. This is also a general list of neuropsychiatric disorders that the World Bank uses to measure the global burden. Burden was calculated for major depressive disorders (MDD) and dysthymia. Disability weights from population survey data quantified the severity of health loss from depressive disorders. These weights were used to calculate Years Lived with Disability (YLDs) and Disability Adjusted Life Years (DALYs). Separate DALYs can be estimated for suicide and other conditions e.g. ischemic heart disease attributable to depressive disorders. There's a big debate going on because the United Nations have not included mental health, mental illness as part of the non-communicable diseases. There was something last week that they are considering they may change their mind. I hope they do.

One of the strengths of the global disease burden study is that it focuses attention on conditions that are the chief causes of disability. These are generally very different from the leading causes of death and have been mostly ignored in debates about public health priorities.

Take this 1990 data as an example. If you look at the leading causes of disability worldwide, total years lost due to disability is 472.7 million years in total, 50.8 million due to unipolar major depression, and 15.8 million to alcohol use, 14.1 million to bipolar disorders, 12.1 million to schizophrenia and 10.2 million to obsessive compulsive disorders. If we put schizophrenia to one side and just look at common mental disorders, you can imagine how much impact that they have (Table 1).

Table 1
The leading causes of disability worldwide, 1990

	(As measured by years of life lived with a disability, YLD)	Total YLDs (millions)	Percent of total
	All Causes	472.7	
1	Unipolar major depression	50.8	10.7
2	Iron-deficiency anaemia	22.0	4.7
3	Falls	22.0	4.6
4	Alcohol use	15.8	3.3
5	Chronic obstructive pulmonary disease	14.7	3.1
6	Bipolar disorder	14.1	3.0
7	Congenital anomalies	13.5	2.9
8	Osteoarthritis	13.3	2.8
9	Schizophrenia	12.1	2.6
10	Obsessive-compulsive disorders	10.2	2.2

Nature Medicine 4, 1241-1243 (1998) doi:10.1038/3218
The global burden of disease, 1990-2020. Alan D. Lopez & Christopher C.J.L. Murray

Looking at another data from Europe - 148 million work days lost per month due to depression, simply due to depression. And when partially or fully remitted disability days normalise so that the impact is on patients, caregivers, social, society, and systemic and economic burden is directly on patients, and indirectly as well.

In 2000, depression was the fourth leading cause of disease burden, accounting for 4.4% of total DALYs in the year and it causes the largest amount of non-fatal burden accounting for almost 12% of all total years lived with disability worldwide. In 2010, it was the second leading cause - major depressive disorder accounted for 8.2%, ranging from 5.9% to 10.8%, dysthymia for 1.4%. So burden has not been reduced not because diagnosis is a problem, as reliable diagnosis and reliable treatments are available. Total cost in Europe is €113,405 million per year. It is the direct health care cost per person and that nearly half of the burden is borne by employers.

Interestingly in the UK in the last two years there's been a major shift - British Telecom, Royal Mail, British Gas and various other big multinational companies have now started looking after the mental health of their employees. So they have both counsellors and something called Mental Health First Aid. There's a charity called Mental Health First Aid Charity in London and they have trained somewhat like 70,000 mental health first aiders who are to provide first aid for people with mental health problems.

Depression and DALYs

Depressive disorders were a leading cause of DALYs even though no mortality was attributed to them as the underlying cause. Again the challenge here is that we really need to look at things in a different way - how we're doing it and how we deliver. MDD accounted for 2.5% of global DALYs and dysthymia for 0.5%. There was more regional variation in burden for MDD than for dysthymia; with higher estimates in females, and adults of working age. MDD explained 16 million suicide DALYs and almost 4 million ischemic heart disease DALYs. This attributable burden would increase the overall burden of depressive disorders from 3.0% to 3.8% of global DALYs.

In 2010, mental and substance use disorders accounted for 183.9 million DALYs, or 7.4% of all DALYs worldwide. Such disorders accounted for 8.6 million YLLs (0.5% of all YLLs) and 175.3 million YLDs (22.9% of all YLDs). Again it's important to bear in mind and particularly for this audience, I think if you remember nothing else - take this figure, DALYs varied by age and sex, with the highest proportion in people aged 10-29 years.

The global disease burden study also included an attempt to project death and DALYs based on a relatively simple model of how 'distal' determinants of health, such as education and wealth, affect the trajectory of specific conditions. In terms of the leading causes of disease burden, several changes in ranking are foreseen.

So this is where public mental health needs to focus its energies on. We know that three quarters of psychiatric disorders in adulthood start below the age of 44, 50% start below the age of 15. So we need to be going into schools and we need to be working with teachers, we need to be teaching parenting skills to see how young parents can cope with children and how they are being brought up.

And it is inevitable that if you have psychiatric disorder it will determine your education status, your wealth, affect - it may affect your trajectory of specific conditions. And some of you may have heard me talk about this before about social determinants of

health. For those of you who are bored and want to Google the London tube map, do so now. Look at Central line, going east from Liverpool Street. For every tube station you go east, your longevity drops. Why should that be? It is because you're getting poorer, there's far more unemployment, lack of green spaces, lack of public transport and a whole host of other things we don't even think about.

So we need to bear in mind there will be changes in ranking over the next few years. In 1990 lower respiratory infections were number one and they will go down to number six in 2020. Disease or injuries that are going to be number one are ischemic heart disease and unipolar major depression will be number two going up from number four. So there is very clear data (Figure 1).

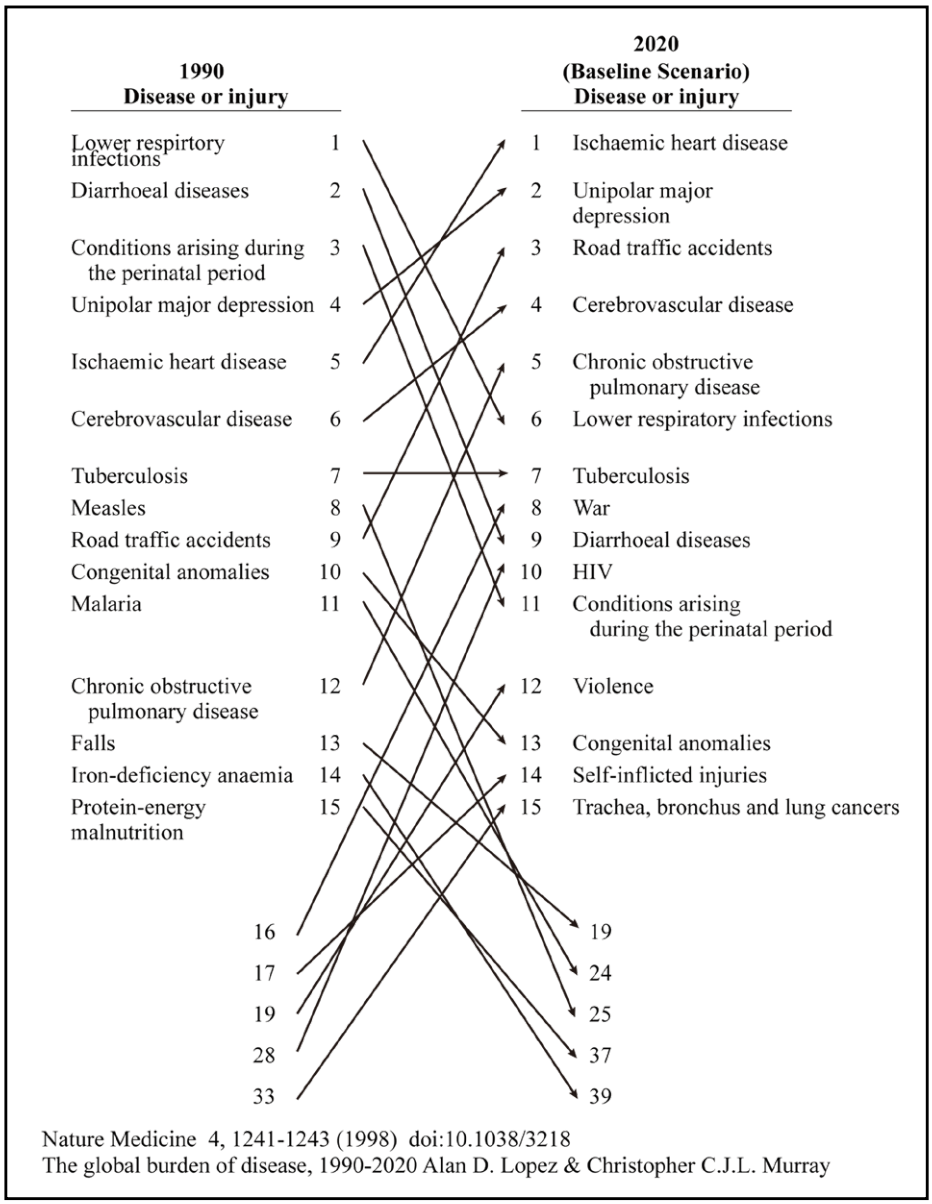

Figure1: Change in the rank order of disease burden for 15 leading causes worldwide, 1990-2020 (as measured by DALYS)

Increasing burden of mental & substance disorders

It's also quite interesting that mental and substance use disorders are now the leading cause of YLDs worldwide. But World Bank estimates suggest that unipolar depression will be the number one cause by 2020. Again if you look at overall burden - depressive disorders accounted for 40%, with anxiety disorders amounting to 14.6%, substance abuse at 11%, alcohol use disorders for 9.6%, schizophrenia for 7.4%, bipolar for 7%, pervasive developmental disorders for 4.2%, childhood behavioral disorders for 3.4%, and eating disorders for 1.2%.

That is a major challenge for economies which are growing with increased organisation and increased urbanisation. The whole idea of female body shape is changing. There was a very interesting study done five years ago in Papua New Guinea where it suggested that after the introduction of television - the rates of eating disorders had started going up. So again it says something that we need to look at all social and cultural factors.

The burden of mental and substance use disorders increased by 37.6% between 1990 and 2010, which for most disorders was driven by population growth and ageing. In England alone all mental illness costs over £105.2 billion a year through the costs of medical or social care, production output losses, and the human cost of disability, suffering and distress. In Scotland the total cost of mental illness is £8.6 billion, which is equivalent to 9% of its GDP, and in Northern Ireland the cost is £2.8 billion, and in Wales £7.2 billion a year. By and large the overall prevalence of mental illness is similar in England and Scotland though estimates are about 25% higher in Wales and Northern Ireland.

As for common mental disorders in England alone, the total economic cost of these problems is around £25 billion pounds a year, including £13 billion in lost output and pay for time off sick, carers' time at £4 billion, and public services expenditure on mental health at £8 billion. Days lost due to common mental disorders were 41% of all diseases in 2000-2001, or a total of 129,191 thousands. Now the figure has come up to 43% when a total of 10,537 (thousands) days were lost due to common mental disorders.

The problem is quite often that most employers are not aware. Particularly in small companies if you've got 12 people all theoretically should be better at having fun but you're not because there are kind of human resource issues and leave and so on and so forth. And I've already touched upon absenteeism and presentism so I won't go through that. In England again the tax payer bears £11 billion of these costs and another £10 billion as social security. In spite of this, 80% of directors say that their company has no policy to deal with stress. So again that is a challenge how we convince our policymakers, politicians and employers that this is where you need to invest.

What we need is a comprehensive coordinated response to mental disorders at country level. We need to know where the mental health gap is. Now, there will never, ever be enough resources. There will never be enough psychiatrists, there will never be enough psychologists, there will never be enough nurses. So we need to think of different ways of delivering services. Should we be working with better parenting skills, with teachers, with employers, with hair dressers. There was a wonderful study done a few years ago where they looked at the diagnosis of a common mental disorder in women who went to a particular hair dresser. How good he was while they were sitting under the dryer having their hair tinted and he could do a psychiatric assessment.

So we need to look at completely different ways of providing services. It is important

to know the problem of the disease and it is obvious newer psychiatric disorders and I showed you in that figure top ten causes of disability.

I just want to very quickly go through co-morbidity. I've already touched upon it but I think it is worth bearing in mind and I have a personal agenda of anger against Rene Descartes - the whole mind body pluralism that somehow mind is there and body is there and they don't talk to each other. Life is not like that and I think that's where other healthcare systems come in. In Ayurvedic system where you are unwell it's because of environment, it's because of the weather, it's because of your diet, it's because of your physical condition, it's because of your mental condition. So there's a range of things which come together to create illness. And I'd love to know what the Chinese system is - is it something similar? So we ought to be utilising those in order to engage patients, their carers and make sure that by engaging them they are actually getting the right intervention at the right time for the right people.

We know that people who are depressed, as I said earlier, are two to five times more likely to have depression than the general population, and depression is also associated with 65% increased risk of diabetes - who would have thought. So you need to look at both to see what's going on and obviously in osteoporosis and multiple sclerosis, immunological problems and arthritis, etc. We know there are cultural differences as well, so health related quality of life in America is poor among African Americans or Hispanics, those who are less educated, those who are unemployed, those were divorced or separated, those who have public medical insurance, and who also have more general medical disorders.

So the data is there, so the challenge for all of us is how do we try and make that work. Ischemic heart disease - 4 million years were attributed to major depression, 3.5 million years lost and a quarter of a million years of life lived with a disability.

It's not brilliantly high but if you have depression the chances of developing ischemic heart disease are nearly 1.6 times higher. So again, there is a geographical difference that in Eastern Europe and North Africa and the Middle East these demonstrate the highest proportion and the high income representing the lowest. So money does buy you happiness.

What we need to be looking at is focusing on the non-communicable diseases and mental health in all regions of the world - widespread recognition of the importance of disability. A major challenge is economic downturn which we are still going through since 2008, and depression and loss of productivity due to depression indicates that the economic burden of depression, impaired work performance, would respond both to improvement in depressive symptomatology and to standard treatments for depression.

Improving Mental Heath

Later on I'll be talking a bit more about intervention and perhaps we can have a discussion then. It is that we don't diagnose depression often enough, we don't diagnose it rightly and we underuse and use poor quality efficacious and tolerable depression treatments. So again that's something that we need to be thinking about.

My suggestion would be that evaluated interventions which have the potential, we will be hearing more about psychological treatments. Pharmacotherapy with older antidepressant drugs, with or without protective, proactive collaborative care, are currently more cost-effective than using newer antidepressants particularly in lower-income sub-regions.

And again that's a debate that Hong Kong needs to have to see where it fits in. So even

in resource-poor regions each DALYS can be averted by efficient depression treatments in primary care and it costs less than one year of average per capita income making such intervention cost-effective use of health resources. And these quality improvement interventions are cost efficient and largely haven't occurred in primary care. But certainly in the UK there are a small proportion of general practitioners who are trained in psychiatry, but they are also trained in serving severe mental illness rather than common mental disorders.

So there is a shift that we need to be shifting about and thinking about part of the challenge for the Association - how do you teach general practitioners and staff in primary care. We need to be thinking about what are the barriers and how can we overcome those and we need to aim for achieving remission wherever possible rather than simply symptom reduction and compliance with collaborative management are the best way forward.

To conclude, depression remains the leading cause of disability and cost. In the USA, it was US$800 billion in 2012 and it is likely to double in the next 20 years. It's the leading cause of disability and we need to start action for it now and I'm really delighted at this initiative and this Symposium. We need to have better capture of patients who have depression and treat them aggressively so we can reduce the treatment gap. We need to go in for early interventions and individual and family education. And one of the studies that I was involved in a few years ago where Asian women, these were South Asian women who went to their GPs, the GP was South Asian too, but he picked up at least 17% of cases of depression. So we decided that rather than teaching the GP, we should train the patients to see what are the buzz words that you can use and the recognition rate more than doubled right up to 37%. The patient used certain words and the GPs started working and made the right diagnosis. So again the lesson really is that GPs already have too much to do. So we need to think of different ways of making them aware that there are things that we need to look at. And there is a lot of movement, I think mental health has reached a tipping point globally and sustainable development goals need to change in order to improve mental health.