# Module:
# Mental Health in the Commnunity

## Week 1
## A history of 'madness': Deinstitutionalisation to community care

### Topic 3
### Diagnosis in psychiatry – Part 1 of 2

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**Lecture transcript**

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I'm going to talk about diagnosis in psychiatry, which I have to say, is a much misunderstood construct, and misunderstood by many people. I'm going to talk about approaches to classification in general and then classifying illness, disease, injury, disorder; do a brief history of psychiatric classifications; talk about the evolution of DSM through III, IV and 5; talk a little bit about controversies in diagnosis; diagnosis and its critics; and then the value and limitations of psychiatric diagnosis.

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Now, classifications are ubiquitous. So we have taxonomy-- used to classify plants and other things, periodic table classifies the elements and nosology allows us to classify disease in a structured way.

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Now, nosology is that classification of disease, injury and disorder, and there are three approaches. The simplest is classification by symptoms, which is so-called 'syndromal approach', and almost all psychiatric disorders lie in that category.

The next approach is classification by pathogenesis. What's the biological mechanism underlying the disorder? For example, infections, cancer, endocrine disorders, inflammatory disorders.

And a further way of classifying things is classification by cause; It's the etiological approach. So that we have scurvy, which is a disorder caused by lack of vitamin C.

**Slide 7**

So disease concept has problems. So how well do we understand disease? So infection, paradigmatic disease, but how do we understand susceptibility to infection? What about causal factors underlying cancers? So the BRCA1 and BRCA2 genes have been shown to be associated with hereditary breast and ovarian cancers. And I'd amount that these genes are responsible for between 5% and 10% of breast cancer. What about the other 95%?

And then what are the mechanisms underlying the development to Type 1 and Type 2 diabetes? Do

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we really understand rheumatoid arthritis, or why there is a lot more asthma than there used to be, or even why there's an epidemic of peanut allergy, which was almost unknown when I was a child?

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The next set of problems is illustrated to my mind by a statue. It's called Alison Lapper Pregnant and it spent some time in the fourth plinth in Trafalgar Square in London. The statue was produced by Mark Quinn. Now, Alison Lapper is a woman who lives with phocomelia, which is a rare problem that's either genetic or caused by exposure to the drug thalidomide during pregnancy. But she's an artist. She's a parent. She was awarded an MBE.

Now does she have the disease or disorder, or is she just herself? What about general deafness? There's an argument in the deaf world that there's a very rich life. For example, sign languages have a rich literature of their own. Or autism, is that a disorder or just a different way of being?

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The final set of problems with the disease concept is that of boundaries, boundaries between the normal and the abnormal. We tend to think that those are very clear cut in physical medicine. But we all have a blood pressure. When do we develop hypertension? In a sense, it's arbitrary. People in affluent countries put on weight, though paradoxically, more often when they are relatively poor. Is obesity an illness? Diseases are regularly invented. So osteoporosis became a disease, rather than a sign of ageing, in 1994 officially. And sometimes diseases are uninvented. So that homosexuality was removed from US diagnostic systems, the Diagnostic and Statistical Manual, between DSM- II and DSM- III. And finally, can what you are be a disease or a disorder?

**Slide 10**

Now, what's diagnosis for? Firstly, potentially, it's a basis for prediction about the future, prognosis. Secondly, it's a basis for therapeutics. How can we alleviate a problem before we've decided what the problem is? Next, it's an analytic tool for increasing our understanding about the causes of disease. How can we research a problem before we've defined what we want to look at?

And finally, it's a means for identifying the distribution of disease within populations, which is the province of epidemiology. And incidentally the epidemiological approach can inform both our understanding of illness and help us identify potentially important therapeutic avenues.

**Slide 11**

Now I'm going to say a little bit about the history of classification in psychiatry. There's a pre-history; in fact descriptions of psychiatric phenomena are very old. There are important developments throughout the 19th century, particular Kraepelinian Dichotomy and I'll just talk briefly about the US-UK Diagnostic Project and how we've moved towards so-called operational definitions.

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I've said, descriptions of mental disorder go back a very long way, in fact to Babylonian texts, which have been translated by Ted Reynolds, who is a neurologist, and James Kinnier Wilson, who published an article in Brain in 2014. And that shows that the Babylonians writing in cuneiform on clay tablets had good descriptions of what we would now recognise as some common mental and neurological disorders, and that goes back about 3,500 years. Although, there was no systematisation then-- just descriptions. As we've seen, the ancient Greeks identified different mental disorders, like mania, meloncholia, hysteria. We have already seen in the 14th century the common law distinguished between lunacy-- you can get better-- and idiocy-- which was congenital, you wouldn't get better-- so that's a crude but in effective nosological distinction.

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Now in the 19th century, we saw multiple complex aetiologically-based diagnostic systems, particularly elaborated by German psychiatrists. And then we saw the identification of some specific organic mental disorders, general paralysis of the insane, Alzheimer's disease, Korsakoff's Psychosis. We also had a description of moral insanity-- later psychopathy-- a full personality disorder. There was a long standing distinction between psychoses and neuroses. And finally, there is the Kraepelinian Dichotomy, to functional psychosis, that's to say not caused by clear cut organic pathology, dementia praecox, schizophrenia and manic depressive psychosis, now bipolar disorder.

**Slide 14**

In the 1960s it was noted that administratively, schizophrenia was much more commonly diagnosed in the US versus the UK in psychiatric hospitals, which otherwise did much the same, whilst affective disorder was a much commoner diagnosis in the UK. The diagnostic criteria being employed that time weren't particularly clear, although, UK psychiatry was trained in the descriptive psychopathological approach that had developed in Germany in the early part of the 20th century. In the UK-US diagnostic study, once clear phenomenologically-based criteria were employed along with standardised interviewing techniques, research showed that schizophrenia was equally common amongst US and UK psychiatric populations. And that was a bit of a shock for American psychiatry. It provided a wake up call, and it kick started the development of DSM-III and its successors.

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One of the components of contemporary classificatory systems is the so-called 'operational' definition. Now, Aubrey Lewis, who was the first to Director of the Institute of Psychiatry, attended a seminar 1961 about classification systems. He said, 'the public classification is likely one that will not lead to any ambiguity. In psychiatry to make a classification based on theory is what we would all like, and what we believe we cannot at the moment attain, because as Dr Hempel clearly stated, the requirements are not met by any of the theories prevailing in psychiatry at the present time. Therefore I would suggest that for the purpose of public classification, we should eschew categories based on theoretical concepts and restrict ourselves to the operational, descriptive type of classification.' Dr Hempel was Carl Hempel.

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And so we get the project that was DSM, the Diagnostic and Statistical Manual, and there's actually a little institutional history of the evolution of DSM on the American Psychiatric Association website, and The DSM project, which began with the first edition through DSM-II, then changed in character with the introduction of DSM-III and its successors.

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DSM-III introduced a number of important innovations, including these explicit diagnostic criteria. It also adopted a multiaxial diagnostic assessment system. So it wasn't just diagnosis, but other factors, including personality factors, and social factors, and an approach that attempted to be neutral with respect to the cause of mental disorders. The website tells us, 'this effort was aided by extensive work on constructing and validating the diagnostic criteria and developing psychiatric interviews for research and clinical use.'

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Now in a paper that was actually kick-starting the development of DSM-5, Kupfer and colleagues wrote about DSM-III, looking back on it. And they said, 'the DSM-III diagnosis system adopted a so-call neo-Kraepelinian approach to diagnosis. This approach avoided organising a diagnostic

system around hypothetical but unproven theories about aetiology in favour of a descriptive approach, in which disorders were characterized in terms of symptoms. These could be elicited by patient report, observation, measurement.' They go on to say, 'the major advantage of adopting a descriptive classification was its improved reliability over prior classification systems using non-operationalized definitions of disorders, based on unproved ecological assumptions. From the outset however, it was recognised that the primary strength of a descriptive approach was its ability to improve communication and conditions in researchers, not its established validity.'

In other words, what we have now is a diagnostic system, where if I say somebody has schizophrenia using proper assessments, then somebody else will say somebody has schizophrenia with a quite high degree of agreement. But that doesn't mean that there's an underlying thing, an entity, a platonic ideal of schizophrenia.

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DSM-IV was published in 1994. And the APA tell us, it was the culmination of a six year effort, involved more than 1,000 individuals, and numerous professional organisations. And much of the effort involved, conducting a comprehensive review of the literature, to establish a firm empirical basis for making modifications. Numerous changes were made to the classifications: disorders were added, deleted and reorganised to the diagnostic criteria sets and the descriptive text. Developers of DSM-IV and the 10th edition of ICD worked closely together so that there were less differences between ICD-10 and DSM-IV. Now if you decode that, what it means is, DSM-IV was more of the same but just a bit different.

**Slide 20**

So now we have DSM-5, and that was supposed to be something completely different. So it started off with grand ambitions, and these are described in a paper by Nemeroff and Weinberger, which was an introduction to a whole series of responses to DSM-5 as it was published by experts in the field looking at particular disorders. They write: 'When the DSM-5 process was launched several years ago, the clear hope by all involved was that, finally, psychiatric diagnoses would include, in addition to signs and symptoms, various bio-markers of the major disorders including schizophrenia, bipolar disorder, and major depression, with reasonable measures of sensitivity and specificity. Because the risk for these disorders has a major genetic component, it seemed plausible to anticipate including specific genetic markers such as single nucleotide polymorphisms or structural genomic abnormalities, for example, copy number variations, that increase disease vulnerability and perhaps denote biologically distinct alternative phenotypes.'

So that was the research agenda that underlay the DSM-5 project. However, and I'm quoting, 'This unbridled enthusiasm followed on the heels of the sequencing of the human genome and the then-existing strong belief that many complex diseases in medicine would be simplified by the results of genome-wide association studies. However, that promise has not been realised in psychiatry, nor in many other branches of medicine, although historic insights about the genetic architecture of complex diseases have emerged. Moreover, our understanding of the underpinnings of the genetic basis of disease vulnerability and treatment response has become considerably more sophisticated because of, to name a few, emerging disciplines, epigenetics, non-coding RNAs, microRNAs, transcriptomics, and proteomics. Similar disappointments occurred in an earlier wave of unbridled enthusiasm from brain imaging studies, both structural and functional, which yielded much about the neurobiology of the major psychiatric disorders, but without any pathognomonic findings.'

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So to unpack that, actually DSM-5 was not able to use these exciting new technologies - the genetic technologies, the imaging, functional imaging technologies - that had so much promise at the start of the enterprise. So perhaps again it's more of the same. So in the end DSM-5 wasn't that different from its predecessors, which means, among other things, I spent £75 quid for no

particular reason. The grand ambition of finding bio-markers for or underlying the phenotypes of mental disorder did not come to pass. Now we did get a lot of detailed changes to the classification system on the basis of emerging evidence and expert opinion. But in reality, the edifice is much the same.