

Depression Is to Diabetes as Antidepressants Are to Insulin: The Unraveling of an Analogy?

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The common comparison of depression to diabetes enables the construction of depression as a nonstigmatizing chronic illness that requires medication. We explore, through the use of discourse analysis, how both long-term users of antidepressants and family physicians invoked this analogy in research interviews. Specifically, we show how these participants explicitly or implicitly challenged the aptness of the depression–diabetes analogy as framed either within a generic (and presumably type 1) conception of diabetes or within the model of type 2 diabetes. These challenges include demonstrating how the elements or inferences of the analogy do not correspond, and how the analogy does not have its intended effects. We consider the implications of the unraveling of this analogy for the construction of depression as a chronic medical condition, for the supposed ease of prescribing and taking antidepressants, and for the reduction of stigma.

While metaphors for illness (e.g., AIDS is a "modern plague") and illness as metaphor (e.g., social evils are "cancers") are common rhetorical devices (Sontag, 1978, 1989), illness as analogy, particularly in the case of one illness being used as a comparison for another, is less prominent. One exception is the common use of diabetes as an analogy for depression (e.g., Andreasen, 2001; Kwintner, 2005; Whitaker, 2010). Reasoning from the case of diabetes to the case of depression produces the following elements and relations:

- Like diabetes, which is marked by symptoms such as excessive thirst, weight change, and tingling or numbness in the feet or hands (American Diabetes Association, 2011), depression is signaled by symptoms such as sad mood, loss of interest in everyday activities, feelings of hopelessness and guilt, and difficulty concentrating (American Psychiatric Association, 2000).
- Both are the consequence of a physical deficiency in a bodily organ—diabetes from a failure of the cells in the pancreas to produce sufficient insulin, and depression

from a malfunctioning in the brain, specifically, a deficiency of neurotransmitters.

- A person who is afflicted with either diabetes or depression cannot simply "snap out of it" and rid himself or herself of the disease through willpower.
- Both diabetes and depression require diagnosis and treatment from a medical professional in order to rule out other conditions, for example, hyperglycemia secondary to other causes in the case of diabetes and hypothyroidism in the case of depression.
- Medical treatments are available—insulin for diabetes, and antidepressants for depression.
- Both are lifelong conditions that can be managed, but not cured.

Several rhetorical functions can be performed by this analogy. By comparing depression to diabetes, the former becomes constructed as a real medical condition, that is, an illness (Kramer, 2005). Being constructed as a real medical condition confers legitimacy and an identified status on the particular form of human distress that we label "depression." The analogy also sets up a need for medical intervention and, in particular, for the taking of antidepressants, which becomes constructed as lifesaving (Kwintner, 2005). It functions, then, as a powerful strategy for selling antidepressants (Whitaker, 2010)—one that has been obvious on publicly accessible websites, such as for

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Lexapro, Prozac, and Zoloft.¹ Finally, the analogy is thought to reduce the stigma and responsibility attached to depression (Andreasen, 2001; Kwintner, 2005). If depression is a medical condition over which persons have no control, then the way that physicians interact with patients who display the symptoms that define depression (Kramer, 2005), the way that patients diagnosed with depression think and feel about themselves (Stoppard & Gammell, 2003), and the way the public understands and reacts to persons with such a diagnosis (Newman & Holden, 1993) should be less discriminatory. Both blame and shame should be reduced.

Despite the popularity of the depression-diabetes comparison, it has been dubbed "a false analogy" (Jensen, 2004), and its aptness has been questioned along several lines. First, where a clear understanding of the physical pathology of (type 1) diabetes exists, that is, cells in the pancreas lose their ability to produce insulin, which then makes extraction of glucose in the blood impossible (American Diabetes Association, 2011), no such understanding exists for depression. Despite the belief that "depression is caused by a central deficiency of biogenic amines" (Smolin, Klein, Levy, & Ben-Shachar, 2007, p. 839), this explanation remains a hypothesis and, indeed, has become widely discredited (France, Lysaker, & Robinson, 2007; Whitaker, 2010). Second, a clear test for diagnosing diabetes exists, that is, the level of glucose in urine, but no such test exists for depression (Baik et al., 2010; Karp, 2006; Thomas-MacLean, Stoppard, Miedema, & Tatemechi, 2005). It is not possible to measure levels of neurotransmitters in the brain. Third, diabetes does not improve without some form of intervention; however, many mild to moderate cases of depression will remit with the passage of time (Posternak & Zimmerman, 2000). Fourth, the way in which insulin works to relieve the symptoms of diabetes is known; how and even whether the regulation of levels of neurotransmitters in the brain works to relieve the symptoms of depression is unknown (Kirsch, 2010).

TYPE 1 OR TYPE 2 DIABETES?

Invocations of the diabetes-depression analogy typically employ diabetes in a generic sense; that is, they are not

specific as to which of the major forms of diabetes-type 1 (formerly known as insulin-dependent or juvenile) or type 2 (formerly known as non-insulin-dependent or adult onset)is being referenced. Because one rhetorical function of this analogy is to convince sufferers that they have a real medical condition that can be treated with medication, the most likely interpretation of the use of the term "diabetes" is as type 1. If the analogy references type 2 rather than type 1 diabetes, somewhat different elements ensue. First, the combination of environmental risk factors and genetic predisposition, along with an identified multistep pathogenesis, that characterizes type 2 diabetes can provide a conceptual model for understanding what is now the uncertain etiology and pathophysiology of depression. Smolin et al. (2007) have proposed that a simplified chain of events, obesity \rightarrow hyperinsulinemia and insulin resistance \rightarrow diabetes mellitus, can be translated into prolonged psychological stress \rightarrow hyperserotonism and serotonin resistance \rightarrow major depression, thereby making explicit the chain of predisposing and risk factors for depression. Second, the identification of potentially modifiable risk factors-being overweight and inactive in the case of type 2 diabetes and experiencing stress in the case of depression-makes control of the condition with nonmedication options at least possible. Third, treatment options can be opened up to emphasize what are referred to as "lifestyle modifications," that is, losing weight and engaging in an exercise routine for type 2 diabetes, and employing stress-reduction techniques for depression. Fourth, likening depression to type 2 diabetes invokes the power of the rhetoric of "epidemic." The prevalence of diabetes in Canada is estimated at 8.7% for adults over 20 years of age, with type 2 diabetes accounting for 90-95% of cases (Public Health Agency of Canada, 2011) and frequently being referenced as at epidemic proportions (e.g., Whiting, Guariguata, Weil, & Shaw, 2011). Similarly, depression has recently been constructed as an epidemic (Greenberg, 2010), with the World Health Organization estimating that by 2020 it will be the second leading cause of disability worldwide (Lopez & Murray, 1998). Constructing a health condition in this way draws attention to an urgent need for action. It is possible, then, that type 2 diabetes might be a more apt comparison to depression than type 1 diabetes.

THE PRESENT STUDY

References to the depression–diabetes analogy(ies) are typically found in books and articles that promote depression as disease/illness (e.g., Andreasen, 2001; Kramer, 2005), dispel this construction as a myth (e.g., Leventhal & Martell, 2006; Whitaker, 2010), or provide nuanced uncertainty about how to understand and treat depression (e.g., Karp, 2006). These references are often cursory and only occasionally based on isolated excerpts of talk from research interviews with those who treat or are treated for depression (e.g.,

¹Up to at least 2006, the depression–diabetes analogy was prominent on publicly accessible websites for common antidepressants. For example, one of the "facts" on the website for Zoloft was that depression "is a real medical condition, like diabetes or arthritis"; the opening sentence from the section on Disease Information from the website for Prozac was, "As with illnesses such as diabetes or high blood pressure, depression can 'run in your family"; and in a section titled Understanding Depression from the website for Lexapro was the statement "And, just as there are treatments for conditions like diabetes and heart disease, there are treatment options available for depression." Before 2012, all of these references had been removed from the websites and replaced by the black box warning about the potential for suicidality and other adverse reactions following use of antidepressants.

Baik et al., 2010; Karp, 2006; Kwintner, 2005; Stoppard & Gammell, 2003). They are sometimes presented critically (e.g., Jensen, 2004), and sometimes as taken-for-granted (e.g., Andreasen, 2001). In no case, however, is the analogy, in and of itself, the focus of empirical inquiry. The purpose of the present article is to supplement these existing references with a dedicated focus on how the depression–diabetes analogy is taken up in research interviews with members of two key groups: family physicians who treat depression, and long-term users of antidepressants. Such work can inform an empirical assessment of the current status of the analogy.

METHOD

Data

The data for the present analysis were derived from research interviews conducted in 2009 with members of two key groups: (1) family physicians who diagnose and treat depression and (2) lay persons who identify themselves as longterm users of antidepressants.

Recruitment of interviewees. All family physicians listed in the telephone directory of a midsized Canadian city (n = 165) received a letter inviting them to participate in "a program of research investigating how physicians make decisions to diagnose and treat patients for depression." A \$150 CDN honorarium was offered for their participation. Eleven physicians (five women) agreed to participate. The physicians ranged in age from 33 to 73 years (median = 55 years) and had been in family practice between 3 and 46 years (median = 18 years). At the time of the interview, nine were in full-time practice, six were salaried and worked in publicly funded settings, and five worked in private practice on a fee-for-service basis.

We recruited lay participants through a poster placed on community bulletin boards in city libraries, grocery stores, recreation centers, and the waiting rooms of health clinics; the poster advertised "an interview study examining perspectives on the treatment practices for depression, and in particular, the long-term use of antidepressant drugs." Eleven individuals (eight women) agreed to participate. At the time of the interview, their ages ranged from 25 to 68 years (median = 52 years); they reported first having started antidepressants between 2 and 37 years prior to the interview (median = 11.5 years). We offered a \$75 CDN honorarium for participating, which was not advertised.

Procedures

The University of Saskatchewan Behavioral Research Ethics Board approved these research projects. Each participant was informed of the purpose of the research and his or her rights both verbally and through a written, signed consent form.

Interviews with physicians consisted of two parts. The first was conducted by the first author and focused on questions pertaining to how physicians went about diagnosing and treating depression. The second part was conducted by either the first author or one of her graduate students and focused on whether and how patients made requests for antidepressants and how such requests influenced the physicians' diagnostic and treatment practices. Interviews with antidepressant users were conducted by the second author and had two parts. First, participants were asked to respond to questions about diagnostic and treatment practices for depression, and to describe their interactions with physicians, their treatment history, and their experience taking antidepressant medication. In the second part of the interview, interviewees were asked to respond to claims that depression is both over- and underdiagnosed and overand undertreated (Sigurdson & McMullen, in press). All interviews ranged from 1 to 2 hours, were recorded on a digital audio recorder, and were transcribed verbatim with all identifying information omitted.

During the course of analyzing the transcripts for other projects (McMullen, 2012; Sigurdson & McMullen, in press), we observed repeated comparisons of depression to diabetes in the talk of the physicians and the long-term antidepressant users, despite our not having prompted participants to orient to this analogy. Given the prominence of this comparison in academic and popular literature and in the marketing of antidepressants by pharmaceutical companies, we chose to focus our attention on segments of text containing the diabetes–depression analogy (n = 14). After identifying these segments, we immersed ourselves in reading and rereading them, while iteratively returning to the full transcripts and the audio-recordings in order to understand these segments in context. In employing a discourse analytic approach, we paid particular attention to how participants took up the analogy and to the rhetorical functions of their talk (Wood & Kroger, 2000).

ANALYSIS

In this analysis, we show how research participants explicitly or implicitly challenged the aptness of the depressiondiabetes analogy as framed either within a generic (and presumably type 1) conception of diabetes or within the model of type 2 diabetes. These challenges include demonstrating how the elements or inferences of the analogy do not correspond, and how the analogy does not have its intended effect.

The Elements or Inferences Do Not Correspond

In extract 1, a family physician presents a commonly noted breakdown in the analogy, that is, that there is no "blood test" for depression: Extract 1.

1	I:	is there anything else that you feel hinders your you
		care (.) of (.) people who are (.)

2 depressed

- 3 P02: (1) would be nice to have a little <u>bl</u>ood test that would show (.) which are- what are the
- 4 deficiencies (.) which of these neurotransmitters (1) [are at fault]
- 5 I: [wouldn't it]((chuckling)) (.) [exactly]
- 6 P02: [(.) like is] it thyroid or diabetes ((chuckling)) [(.) right]
- 7 I: [yeah exactly] (.) exactly (.) just the [uncertainty of really-]
- 8 P02: [yeah (.) you know] (.) put a thumb print on this thing and (1) the arrow shows you (.)
- 9 which ones to choose
- 10 I: Yeah exactly (.h)-
- 11 P02: It'll come

In this extract, not having "a little <u>bl</u>ood test" (1. 3) disrupts the depression–diabetes analogy in three ways: (1) It is not possible to determine "what are the deficiencies" (II. 3–4), that is, it is not possible to know definitively what is occurring physiologically for the person; (2) unlike "thyroid or diabetes" (I. 6), not knowing what the deficiencies are makes it difficult to formulate a differential diagnosis; and (3) not being certain "which of these neurotransmitters (1) are at fault" (I. 4) means that it is not possible to know which particular antidepressant might be useful. Despite the failure of the analogy on three features that are key to biomedicine a physiological basis for the condition, diagnostic accuracy, and specificity of treatment—the possibility that the aptness of the analogy will prevail is maintained ("It'll come"; 1. 11).

Another physician alludes to a similar failure of the analogy and expands on a particular consequence of the lack of a standardized protocol:

Extract 2.

- 1 P10: that's part of why I wanted to be in this study is (.) some way to maybe standardize a
- 2 little bit more or- (.) just that we're doing things more [similarly because you know it's]
- 3 I: [and talk to each other about yeah]
- 4 P10: it's pretty clear with (.) something like blood pressure or diabetes everyone knows kind
- 5 of what our parameters are but as again (.) still stigma (hh) that there are still <u>lots</u> of
- 6 doctors out there even in my own clinic that (1) won't want to refill something if I'm not
- 7 there or (.) you know (1) sort of talk the patient out of (.) oh you know side effects

Despite the lack of specificity as to what is encompassed by "parameters" (l. 5), the comparison in this extract is clear: unlike "blood pressure or diabetes" where "everyone knows kind of what our parameters are" (ll. 4–5), what it is that

physicians do when it comes to dealing with depression is constructed by this physician as much more variable. The evidence provided for this claim in lines 5–7 further undermines the aptness of the depression–diabetes analogy. Specifically, the example cited by this physician of "<u>lots</u> of doctors out there even in my own clinic that (1) won't want to refill something if I'm not there" or who "sort of talk the patient out of [antidepressant medication]" would be unlikely to find a parallel in the treatment of diabetes. That is, it would be difficult to imagine a physician not refilling a prescription or talking a patient out of taking medication for diabetes. That this physician constructs such actions as evidence of "stigma" (1. 5) also indicates that the success of the analogy in diminishing the disgrace of depression might be questionable.

Notions of stigma and lack of knowledge of depression also figured in the ways in which the depression–diabetes analogy was taken up by persons with a history of long-term use of antidepressants.

Extract 3.

1	LT03:	I- I really don't think (1) that the (.) average GP (2) um
		$\overline{(1)}$ has that much (.) knowledge
2		(.) of (1) psychiatry (1) um (2) the (.) uh (.) diseases of
		the mind (2) uh (.) the average
3		person doesn't have any idea (1) um (.) if you're (.)
		mentally (1) if you have a mental
4		problem (.) then you're crazy (1) well (.) we're not
		$\overline{(3)}$ we have a deficiency (1) or
5		something like that (1) uh (.) the same as (.) uh (.)
		$\underline{\text{diabetes}}$ (1) the dis- the deficiency of
6		$\underline{\text{insulin}}$ (1) it's exactly the same thing (2) but $\underline{\text{one}}$ (.) is
		in the $\underline{\text{mind}}(.)$ and the other one is
7		in the body (.) and apparently that makes a difference

In this case, a key element of the analogy—depression is like diabetes in that both are the consequence of a physical deficiency—is invoked and further emphasized by the speaker ("it's exactly the same thing"; 1. 6). However, the aptness of this element for characterizing depression is then undermined by the distinction between "<u>mind</u>" (1. 6) and "<u>body</u>" (1. 7). Although not stated explicitly, the implication is that deficiencies in the body, that is, of insulin, are constructed as more legitimate than deficiencies in the mind, that is, of neurotransmitters. The speaker's use of "apparently" (1. 7) suggests that while the privileging of deficiencies "in the <u>body</u>" (1. 7) over those "in the <u>mind</u>" (1. 6) does occur, it is misguided and, as argued in lines 1–4, is evidence of both a lack of knowledge and a lack of understanding on the part of general practitioners and the public.

Another long-term user of antidepressants also invoked the depression-diabetes analogy to argue that depression is misunderstood, but, unlike in the previous extract, specifically differentiates depression from diabetes on the basis of the former being "a non-physical disease." Extract 4.

1	LT06:	it's also an illness that is so um (1) misunderstood by
		(.) most people because (.) unlike
2		diabetes or (.) uh (.) acne or something (.) it is a
		non-physical disease (.) and it $\underline{can}(1)$
3		it's very debilitating (1) and people that have never had

- any type of mental illness (.)
- 4 don't understand it

In this instance, the conjunction of "diabetes or (.) uh (.) acne" (l. 2) suggests a double meaning of the term "physical," that is, something that is of/in the body and something that is obvious and can be seen. Both diabetes and acne are understood as bodily conditions, and while acne can easily be understood as being physical in the sense that it is visible, diabetes can also be physically marked by the presence of glucose monitoring devices and practices and by medic-alert tags. Nothing of this nature signals the presence of depression. Debilitation and suffering thereby remain hidden, and understanding is compromised.

Another long-term user also challenged the correspondence of elements of the analogy with respect to the antidepressants-insulin comparison.

Extract 5.

- 1 LT05: I think there's always this (1) this idea of what am I like without them (1) 'cause is it (.)
- 2 is it changing my personality (.) or who I am (.) do you know what I mean 'cause like-
- 3 (.) an- and then you have people who say oh well it's (.) it's kind of like (.) um (2) if you
- 4 have diabetes you have to take insulin and stuff and I say yeah but those medications (.)
- 5 aren't (.) messing (.) with your <u>neurons</u> ((laughs)) you know what I mean like they aren't
- 6 (.) um (.) like it <u>doesn't</u> really change your (.) your <u>mind</u> whereas I wonder sometimes if
- 7 this changes my mind (.) and what I would be like without them

Although the discourse of being a changed person while on antidepressants has been previously noted by other researchers (e.g., Karp, 2006), what is noticeable in this extract is that the speaker implicates brain ("<u>neurons</u>"; 1. 5), <u>mind</u> (l. 6), and personality/identity ("<u>who I am</u>"; 1. 2) in differentiating antidepressants from insulin. Having one's neurons "mess[ed] (.) with" (l. 5) is constructed as qualitatively, and perhaps even quantitatively, different from effecting a change in the cells of one's pancreas. Specifically, there is a spillover of concern about the effects of antidepressants on one's physiology, mental faculties, and personhood that is absent in how this speaker constructs the effects of taking insulin; indeed, these latter effects go unstated. If the proposed correspondence between antidepressants and insulin worked as it is intended to, concern over taking medication should be at least partially muted by its lifesaving capacity.

Type 2 Diabetes

Of note in the previous five extracts is that none are specific as to whether the reference to diabetes is as type 1 or type 2. If we assume that such unspecified references are more likely to be to what, at least historically, has been the most commonly understood sense of the term, that is, type 1, then it could be argued that while the elements and inferences of the analogy might not work very well for type 1 diabetes, they might indeed work for type 2 diabetes. However, again, as evident in the following two extracts, our interviewees challenged the correspondence between depression and type 2 diabetes and between antidepressants and medication for type 2 diabetes.

Extract 6.

1	I:	so what's the difference between the diabetic and the
		[depressed patient]
2	P06:	[diabetics never] look after themselves ((chuckles))
		they're uh (.) they're the hardest (1)
3		uh (.) illness ((chuckles)) that one ever has to look after
4	I:	(.) and is it frustrating for you in a sense because (.) the
		protocols can be so- (.) in some
5		ways pretty straightforward
6	P06:	oh you think (.) yeah yeah you just have to $\underline{eat} \underline{less}$ (.)
		you have to exercise more
7		((chuckles)) it is so- well especially the type 2 you- (.) I
		certainly can't use the same
8		yardstick for the type 1 (1) but uh no (.) and it is
		so much increasing in our society (1)
9		and the lack of uh ability to get them to turn around
		(1) but no that's (.) you know (.) one
10		of the chronic diseases one doesn't want to deal with (.)
		I think depression is easier
11		((laughs))
12	I:	hmm (.) interesting.
13	P06:	yeah (.) in that [way]
14	I:	[in what-] in what sense
15	P06:	(.) uh (2) well (.) <u>diabetics</u> can't ever be cured (.) totally
16	I:	right
17	P06:	whereas I think depression can be (.) uh I think you can
		<u>control</u> it anyway I think you
18		can (.) predict your triggers and I think you can
		(1) work with $uh(2)$ uh some of the
19		known (.) reactions that you'll have (2) towards it

Although the form of diabetes to which this physician is referring is not clear in line 2, it begins to become clearer with references to so-called lifestyle modifications in line 6 ("you just have to <u>eat less</u> (.) you have to <u>exercise more</u>") and then is made explicit by lines 7–8 that she is referencing type 2 diabetes. Her construction of type 2 diabetes as "the hardest (1) uh (.) illness ((*chuckles*)) that one ever has to look after"

(ll. 2–3) and "one of the chronic diseases one doesn't want to deal with" (ll. 9–10), and diabetics as "<u>never</u> look[ing] after themselves" (l. 2) and as "can't ever be cured (.) totally" (l. 15) stands in sharp contrast to her construction of depression as "easier" (l. 10). While lines 17–19 can be read as qualifying the statement that depression can be "cured totally" and the reference to "you can <u>control</u> it anyway" as resurrecting an alignment of depression with type 2 diabetes, the phrases "predict your triggers" (l. 18) and "work with uh (2) uh some of the known (.) reactions that you'll have (2) towards it" (ll. 18–19) are more consistent with a construction of depression as precipitated by reactions to events in the world than as a chronic illness.

Another physician destabilized the presumed correspondence between antidepressants and oral medication for diabetes (which is most often prescribed for type 2 diabetes). The following exchange occurred in response to a question about whether there are circumstances that lead him to prescribe or not to prescribe antidepressants that he later questions.

Extract 7.

- 1 P09: (3) well (hh) uh (1) if I (.) if I sense that (.) I'm being pressured or <u>coerced</u> (1) uh (.) and
- 2 that it's (.) it's not (.) it's their agenda (1) I'm very uncomfortable (1) because I think
- 3 they're potent (.) I think they're pharmacologically active (.) I think they can have drug
- 4 interactions and they can have side effects (.) and uh they can potentially (.) I mean if
- 5 they're bipolar (.) and I give them an antidepressant and they go (1) uh hypo-manic or
- 6 manic (.) I mean I'm responsible (1) so (.) uh (.) I take the role seriously and uh it's <u>not</u>
- 7 <u>like prescribing an antibiotic (.) or a (1) pill for diabetes</u> (.) I mean (.) not to minimize
- 8 that but I mean (.) it's (.) it's <u>some</u>thing (.) <u>important</u> (1) like from my perspective (.)
- 9 these are potent drugs

As in extract 6 where the comparison of depression to type 2 diabetes highlights differences in the intractability of the two conditions, the comparison of antidepressants to oral medication for diabetes in extract 7 highlights differences in the treatment of the two conditions. While it is possible to read these extracts as contradicting each other, that is, greater concern about treating type 2 diabetes in extract 6 and greater concern about using antidepressants in extract 7, it is also possible to resolve this contradiction by attending to the different types of treatments for the different forms of depression that appear to be referenced in the two extracts. That is, type 2 diabetes might be constructed as more difficult to treat than situationally based depression, that which occurs in response to predictable "triggers" and where the focus is on working with a person's "reactions" to such triggers; treatment of what is considered biologically based depression (e.g., bipolar) with what are constructed as "potent" (l. 9) medications can be positioned as more difficult than administering a "pill for diabetes" (l. 7). Nevertheless, in both of these extracts the depression– diabetes analogy—even when diabetes is understood as type 2—is used to expose differences, rather than similarities, between the two conditions.

The Analogy Does Not Have the Desired Effects

In addition to challenging the aptness of the elements and inferences of the analogy, regardless of whether type 1 or type 2 diabetes is the source of comparison, our participants demonstrated ways in which the analogy did not produce its intended effects. In extract 8, a physician constructs how the use of the analogy can derail his attempt to explain depression as being the result of a chemical imbalance and a sort of "drained body organ."

Extract 8.

1	P02:	(.) but at least for people to \underline{hear} (.) that uh (1) this is a
		condition that's (1) the (.) the part
2		of the body doesn't work well (1) and (.) there are
		things that we can try to correct that
3		(2) and uh (.) the one (2) I foolishly occasionally I use
		the (.) diabetes like (.) the
4		pancreas you know (.) has been exhausted so (1) you
		need something else (1) to help it
5		along (.) but that's a (.) that's always a mistake because
		then (1) the thoughts go on to
6		diabetes you know
7	I:	((chuckle))
8	P02:	like my my <u>uncle's mother</u> was <u>diabetic</u> ((chuckling))
		and (.) you know that tends to
9		divert people so (1) it's not a good idea to go for
		comparisons

Although this physician initially takes up the depressiondiabetes analogy and explicitly states two of its elements, that depression is like diabetes in that both involve a "<u>part</u> of the <u>body</u> [that] doesn't <u>work well</u>" (ll. 1-2) and that treatments are available ("there are things that we can try to correct that"; l. 2), he ultimately constructs the use of the analogy as "always a mistake" (l. 5). The conclusion that using this comparison "tends to divert people" (ll. 8–9) suggests that the analogy no longer serves the function of getting people to accept a diagnosis of depression and its ensuing treatment; ironically, rather than keeping the focus on the target of the comparison—depression and its treatment attention is directed to the source of the comparison. Use of the analogy thereby defeats its own purpose.

In the next two extracts, a long-term user of antidepressants and a physician show how the seemingly straightforward notion that comparing antidepressants to

Extract 9.

1	LT08:	and if my original doctor's right that the brain is
		missing that (.) connection $\overline{(.)}$ well
2		(hhh) I wouldn't take insulin from a diabetic (.) I mean
		no (1) so I'm trying to psych
3		myself into maybe this is what I need (3) (hhh) I think I
		quit it- one of the reasons for
4		quitting it one of the times was realizing (.) or or (.)
		was thinking that I've taken it long
5		enough and (hh) this is what bothers me though (.)
		when I get (1) wildly different (.)
6		answers from different professionals for instance one
		told me that prolonged use of
7		Prozac can (.) <u>can</u> lose its effectiveness over time (1)
		(hh) sounds okay to me that's true
8		for (.) a lot of things (.) but that's not what my <u>first</u>
		doctor told me so (2) so then I see if

9 stopping for a while (.) will (.) make it more effectual when I start again

Extract 10.

- 1 P10: well a big part of it is kind of convincing them that medications are okay that they're not
- 2 addicting like the ones that <u>I</u> would use (.) I certainly wouldn't be using any (.) long-term
- 3 benzodiazepines or anything like that (hh) so once they understand it's not addicting (.)
- 4 umm (.) we talk about it a lot (.) like you know if you had diabetes you wouldn't (.)
- 5 probably argue with me on going on Metformin or insulin if you needed it (.) so- sort of
- 6 try to get them to see the biologic nature of it

Although the speaker in extract 9 initially takes up the insulin comparison as a way of reinforcing the necessity of taking antidepressants (ll. 1-2), she then talks of nonadherence in ways that challenge the aptness of this comparison. Specifically, deciding to quit taking insulin because one has "taken it long enough" (ll. 4-5) or because it has lost "its effectiveness" (1. 7) or might become "more effectual" (1.9) when restarted is unlikely. Similarly, getting "wildly different (.) answers from different professionals" (11. 5-6) about the effectiveness of insulin is also unlikely. This breakdown in the antidepressants-insulin analogy is made explicit in extract 10. If the analogy actually worked, then physicians would not have to convince patients of the nonaddicting nature and safety of antidepressants and patients would not "argue" (1. 5) about going on them. Having to convince oneself or one's patients that antidepressants are needed appears to be qualitatively different from one of the intended effects of the analogy, that is, to normalize the taking of antidepressants for depression.

DISCUSSION

We have provided evidence of how, in the context of research interviews, family physicians who prescribe antidepressants and persons who have used antidepressants for long periods explicitly or implicitly questioned the aptness of the "depression is to diabetes" part of the analogy. Specifically, the family physicians talked about depression being unlike diabetes because there is no test for determining a physical marker for depression, no clear way of making a differential diagnosis of depression, and no consistently practiced parameters for treatment. In doing so, they can be seen as implicitly challenging the construction of depression as a routinely diagnosed and treated medical condition. Long-term users of antidepressants disputed the veracity and believability of the notion that diabetes and depression are alike because both are physical, bodily conditions. Similar to Barr and Rose (2008), we found clear instances of the continued distinction between mind and body, with conditions understood as "in the body" or as "physical" constructed as having greater legitimacy and garnering greater understanding and empathy than conditions understood as "in the mind" or as "nonphysical." Clearly connected to this instance of failure of the analogy were judgments on the part of the long-term users of antidepressants that lack of knowledge of depression on the part of both medical practitioners and the public continues to exist. Questions arise, then, as to how effective this analogy has been in reducing the stigma of depression.

Our data also provide evidence of how the "antidepressants are to insulin" part of the analogy falters. This part of the analogy is typically understood as a way to convince both prospective users and physicians of the need for, and normality of using, medication to treat depression. We found, however, that the supposed correspondence between antidepressants and insulin was challenged on the basis of the effects of the medication itself, and of the success of the analogy per se. Specifically, antidepressants were constructed as having unexpected and undesirable physical and/or psychological effects that make the decision to prescribe or to use them more difficult than it is for insulin. Similarly, the capacity of the analogy to encourage the taking of, and adherence to, antidepressants was challenged by physician talk of patient resistance to antidepressants and by user talk of practices of nonadherence. While illness explanations by physicians typically increase medication compliance (Thompson, Whaley, & Stone, 2011), our data indicate that some explanations might not always have this desired effect.

Although Smolin et al. (2007) have argued that type 2 diabetes might provide a better analogy for depression than type 1 diabetes, we found that direct references or allusions to type 2 diabetes in our data were associated with exposing the differences rather than the similarities between treating depression and treating type 2 diabetes. The relative ease of prescribing "a pill" for diabetes was contrasted with the

difficulty of knowing when to prescribe an antidepressant because of the latter's potential for drug interactions and side effects. In addition, the construction of type 2 diabetes and those with this chronic illness as difficult to treat with lifestyle modifications raises the possibility that the analogy of type 2 diabetes and depression might not achieve the goal of reducing the stigma of depression any better than the analogy of type 1 diabetes. Specifically, the possibility of controlling a chronic condition through lifestyle modifications entails personal responsibility for change. Failing to take such responsibility can result in blame and shame; that is, persons with type 2 diabetes who do not engage in healthy eating and exercise are at risk of being seen as fat and lazy (Teixeira & Budd, 2010), and those with depression who do not recognize and control their reactions to specific environmental triggers risk being seen as unmotivated. Ironically, then, using type 2 diabetes as an analogy for depression could have the unintended consequence of increasing the stigma of depression.

But, to what extent does the unraveling of the depressiondiabetes analogy cast doubt on the validity of a biomedical model for understanding and treating depression and, in particular, on the construction of depression as a chronic illness in need of management? It is possible that this unraveling could be seen as relatively inconsequential. There was evidence in our data of participants continuing to endorse the future applicability of the analogy (presumably on the basis of technological advances) and of the biomedical model of depression despite the failure of this analogy to have its intended effects. It is also possible that other comparisons might come to replace the depressiondiabetes analogy. In addition to diabetes, depression is often compared to other chronic conditions such as heart disease and cancer (Andreasen, 2001), allergies (Leventhal & Marshall, 2006), hypertension, and, in our own data, to thyroid problems. Whether these analogies stand up under empirical scrutiny is a question for future research. These possibilities aside, evidence of the unraveling of the depression-diabetes analogy certainly does nothing to bolster confidence in the messaging of depression as a chronic illness.

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