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Review

HOARDING DISORDER: A NEW DIAGNOSIS FOR DSM-V?

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This article provides a focused review of the literature on compulsive hoarding and presents a number of options and preliminary recommendations to be considered for DSM-V. In DSM-IV-TR, hoarding is listed as one of the diagnostic criteria for obsessive–compulsive personality disorder (OCPD). According to DSM-IV-TR, when hoarding is extreme, clinicians should consider a diagnosis of obsessive–compulsive disorder (OCD) and may diagnose both OCPD and OCD if the criteria for both are met. However, compulsive hoarding seems to frequently be independent from other neurological and psychiatric disorders, including OCD and OCPD. In this review, we first address whether hoarding should be considered a symptom of OCD and/or a criterion of OCPD. Second, we address whether compulsive hoarding should be classified as a separate disorder in DSM-V, weighing the advantages and disadvantages of doing so. Finally, we discuss where compulsive hoarding should be classified in DSM-V if included as a separate disorder. We conclude that there is sufficient evidence to recommend the creation of a new disorder, provisionally called hoarding disorder. Given the historical link between hoarding and OCD/OCPD, and the conservative approach adopted by DSM-V, it may make sense to provisionally list it as an obsessive–compulsive spectrum disorder. An alternative to our recommendation would be to include it in an Appendix of Criteria Sets Provided for Further Study. The creation of a new diagnosis in DSM-V would likely increase public awareness, improve identification of cases, and stimulate both research and the development of specific treatments for hoarding disorder. Depression and Anxiety 27:556–572, 2010.

Key words: *hoarding; obsessive–compulsive disorder; obsessive–compulsive personality disorder; Anankastic personality disorder; DSM-V; classification; nosology*

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INTRODUCTION

This article focuses on some of the key issues pertaining to pathological or compulsive hoarding that are being considered for the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-V). We first discuss terminological issues and describe the current status of hoarding in the existing classification systems (i.e., DSM-IV-TR and ICD-10).[1,2] We then identify and discuss key issues that are specifically relevant to DSM-V. Given that research on compulsive hoarding has increased exponentially over the last decade, and that it may represent a major threat to public health, it is time to consider whether it should be included as a new disorder in DSM-V to reflect this new knowledge. This article is not intended to be a comprehensive review of compulsive hoarding, as other reviews already exist.[3–7]

This article was commissioned by the DSM-V Anxiety, Obsessive–compulsive Spectrum, Posttraumatic, and Dissociative Disorders Work Group. *The recommendations provided in this article should be considered preliminary at this time and they do not necessarily reflect the final recommendations or decisions that will be made for DSM-V, as the DSM-V development process is still ongoing*. Thus, this article's recommendations may be revised as additional data and input from other experts are obtained.

TERMINOLOGY

As some authors (e.g., [4]) have pointed out, without further specification, the term "hoarding" is of limited heuristic value because it can be a symptom of multiple organic and psychiatric disorders, and thus cannot be conceptualized as a single nosological entity or effectively guide therapeutic interventions. Bolman and Katz[8] reportedly used the term "compulsive hoarding" for the first time to describe pathological or excessive collecting behavior in humans.[4] Thus, the term "compulsive" was originally used in order to differentiate normal saving and collecting from excessive, impulsive, and/or pathological hoarding. More recently, the term "compulsive" has been used to describe primary hoarding behavior (i.e., hoarding due to exaggerated fears of losing items that could be important or valuable or because of excessive emotional attachment) and distinguish it from hoarding that is secondary to other developmental, neurological, or psychiatric conditions. For consistency with the literature, we use "compulsive hoarding" throughout this review, but we later discuss whether the term "compulsive" is optimal.

HOARDING IN *DSM–IV* AND *ICD-10*

Although hoarding is often considered a symptom of obsessive–compulsive disorder (OCD), and is included in most structured interviews and questionnaires of OCD symptoms, such as the Yale–Brown Obsessive–Compulsive Scale (Y-BOCS)[9,10] and the Obsessive–Compulsive Inventory-Revised (OCI-R),[11] it is not directly mentioned in DSM-IV-TR or in ICD-10 as a typical symptom of OCD. Instead, "the inability to discard worn-out or worthless objects even when they have no sentimental value" is one of the eight current criteria for Obsessive–Compulsive Personality Disorder (OCPD) in DSM-IV-TR. By contrast, the equivalent diagnostic category in ICD-10, Anankastic Personality Disorder, does not include such a criterion. When describing the differential diagnosis between OCPD and OCD, DSM-IV-TR states:

> *Despite the similarity in names, OCD is usually easily distinguished from OCPD by the presence of true obsessions and compulsions. A diagnosis of OCD should be considered especially when hoarding is extreme (e.g. accumulated stacks of worthless objects present a fire hazard and make it difficult for others to walk through the house). When criteria for both disorders are met, both diagnoses should be recorded*. (p. 728)

Thus, although not explicitly stated in the OCD section, DSM-IV-TR assumes that, when severe, hoarding *can* be a symptom of OCD. This can be confusing as clinicians may struggle deciding when a diagnosis of OCD is appropriate, particularly when hoarding appears in the absence of other prototypical OCD symptoms. As reviewed below, the majority of hoarding cases display no other OCD symptoms.

HISTORICAL PERSPECTIVE

A brief historical review is helpful in elucidating the reasons for the ambiguous status of hoarding in DSM-IV-TR as both a criterion of OCPD and a symptom of OCD. Hoarding as a characterological trait has its origins more than a century ago in the psychoanalytical concept of the "anal character," which later became today's OCPD.[12–14] However, hoarding has been a core diagnostic criterion for OCPD only since DSM-III-R (see[15]). The idea that extreme hoarding might warrant consideration of OCD as a diagnosis appears for the first time in DSM-IV in the differential diagnosis section of the text for OCPD. That is, although OCD is mentioned as a differential diagnosis in DSM-III and DSM-III-R, the passage is very brief (*In OCD there are, by definition, true obsessions and compulsions, which are not present in OCPD*) and does not mention hoarding.

So why did hoarding, which originally was an obsessional personality trait, appear mentioned as a potential symptom of OCD in DSM-IV? The answer is possibly related to the inclusion of two hoarding items in the Y-BOCS symptom checklist,[9,10] which was used in the DSM-IV field trial[16] and rapidly became the most widely used rating scale for OCD. This may well have influenced the wording in DSM-IV (although it still is unclear why it appeared only in the personality disorders section and not also in the

OCD section) and the development of many other symptom inventories since, such as the OCI-R[11] among others.

WORKING DIAGNOSTIC CRITERIA FOR COMPULSIVE HOARDING

Given the absence of a formal diagnosis for compulsive hoarding as a syndrome in the official classification systems and in response to the accumulating knowledge, Frost and Hartl[17] developed a set of diagnostic criteria, which have been widely adopted by researchers in the field:

(1) The acquisition of and failure to discard a large number of possessions that seem to be useless or of limited value;
(2) Living spaces sufficiently cluttered so as to preclude activities for which those spaces were designed;
(3) Significant distress or impairment in functioning caused by the hoarding.

These criteria have been used, or adapted for use, in multiple psychopathological, epidemiological, neuroimaging, and treatment studies over the last decade.[5,7,18–27] Several clinician and self-administered measures also have been developed to reflect these criteria and are now widely used in the field, including the Saving Inventory-Revised,[28] the Hoarding Rating Scale,[29] and the UCLA Hoarding Severity Scale.[30] In light of recent developments and cumulative knowledge gained over the last decade, the original criteria by Frost and Hartl[17] have now been further refined and are listed below:

(A) Persistent difficulty discarding or parting with personal possessions, even those of apparently useless or limited value, due to strong urges to save items, distress, and/or indecision associated with discarding.
(B) The symptoms result in the accumulation of a large number of possessions that fill up and clutter the active living areas of the home, workplace, or other personal surroundings (e.g., office, vehicle, yard) and prevent normal use of the space. If all living areas are uncluttered, it is only because of others' efforts (e.g., family members, authorities) to keep these areas free of possessions.
(C) The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning (including maintaining a safe environment for self and others).
(D) The hoarding symptoms are not due to a general medical condition (e.g., brain injury, cerebrovascular disease).
(E) The hoarding symptoms are not restricted to the symptoms of another mental disorder (e.g., hoarding due to obsessions in Obsessive Compulsive Disorder (OCD), lack of motivation in Major Depressive Disorder, delusions in Schizophrenia or another Psychotic Disorder, cognitive deficits in Dementia, restricted interests in Autistic Disorder, food storing in Prader–Willi Syndrome).

Specify if:
With Excessive Acquisition: If symptoms are accompanied by excessive collecting or buying or stealing of items that are not needed or for which there is no available space.

Specify whether hoarding beliefs and behaviors are currently characterized by:

- *Good or fair insight*: Recognizes that hoarding-related beliefs and behaviors (pertaining to difficulty discarding items, clutter, or excessive acquisition) are problematic.
- *Poor insight*: Mostly convinced that hoarding-related beliefs and behaviors (pertaining to difficulty discarding items, clutter, or excessive acquisition) are not problematic despite evidence to the contrary.
- *Delusional*: Completely convinced that hoarding-related beliefs and behaviors (pertaining to difficulty discarding items, clutter, or excessive acquisition) are not problematic despite evidence to the contrary.

These proposed diagnostic criteria would be accompanied with additional text for clarification. Crucially, a requirement for the diagnosis of compulsive hoarding is that the symptoms are not better accounted for by another mental disorder (including OCD). Note that excessive acquisition is currently listed as a potential specifier because, as reviewed below, not all compulsive hoarders display this symptom. Including an insight specifier is relevant to hoarding, as many sufferers underestimate the extent of their difficulties.[3,7] For further discussion on the use and definition of the term "insight," see Phillips and Tandon (in preparation).

STATEMENT OF THE ISSUES

1. Should compulsive hoarding continue to be mentioned as a symptom of another disorder, such as OCD or OCPD?

   1.1. Is compulsive hoarding a symptom of OCD?
   1.2. Is compulsive hoarding a symptom of OCPD?

2. Should compulsive hoarding be included as a separate diagnosis in DSM-V?
3. If hoarding were to be included as a separate diagnosis, are any changes to its proposed criteria warranted? For example, might changes be needed in order to reflect gender, developmental, or cross-cultural considerations?

4. If a separate disorder is included, what should it be called?
5. If a separate disorder is included, where should it be classified in DSM-V?

SIGNIFICANCE OF THE ISSUES

Issue #1 is important, given that accumulating data have raised the question of whether or not hoarding does have a specific relation with OCD and OCPD, and whether these diagnoses cover all the severe hoarding cases. Issue #2 is important, given that recent epidemiological studies suggest that compulsive hoarding occurs in 2–5% of the population and can lead to substantial distress and disability, as well as serious public health consequences that warrant consideration as a mental disorder. In this context, it is crucial to examine the potential advantages and disadvantages of the creation of a new disorder. Issue #3 is relevant, given the focus of DSM-V on establishing clinical criteria that are broadly applicable to both genders, across the lifespan, and in different cultural contexts. Issue #4 is important, as the name of a potential new disorder needs to be as accurate and descriptive as possible to minimize confusion, facilitate communication between professionals, and also be acceptable to sufferers. Issue #5, which is relevant to the overall structure of DSM-V and may well influence the way clinicians conceptualize and approach disorders, is considered briefly here and in more detail elsewhere.[31]

SEARCH METHODS

A literature search was conducted using the PubMed, ScienceDirect, Scopus, and PsychLit databases using the following keywords: hoarding, collecting, packrat, OCD, OCPD, Anankastic Personality Disorder, impulse control disorders, and compulsive buying. There was no time limit to the search. Reference sections of published articles were also examined. The Annotated Listings of Changes in each DSM, the DSM-IV Sourcebooks, and the DSM-IV Options Book were consulted for details of the DSM-III to DSM-IV OCD criteria revisions. The proceedings and/or monographs of the preparatory conference series for DSM-V, particularly the *Obsessive–Compulsive Spectrum Disorder* (OCSD) conference, were also used.

RESULTS

SHOULD HOARDING CONTINUE TO BE MENTIONED AS A SYMPTOM OF ANOTHER DISORDER, SUCH AS OCD OR OCPD?

Is hoarding a symptom of OCD?. The conceptualization of hoarding as a possible symptom of OCD is relatively recent in the history of DSM (since DSM-IV), but is now included as a symptom in most clinician- and self-administered measures of OCD symptom severity. Studies of clinical OCD samples indicate a prevalence of hoarding (measured with the two items of the Y-BOCS symptom checklist) of 18–40% in adults and children/adolescents.[17,32–35] However, hoarding seems to be a clinically significant problem in fewer than 5% of patients with OCD.[16,36]

Factor and cluster analytical studies have consistently identified a separate hoarding factor in large samples of OCD patients.[37,38] A recent meta-analysis of 21 studies involving more than 5,000 individuals with OCD worldwide confirmed that hoarding is an independent factor, both in adult and pediatric samples.[38] This indicates that hoarding has been consistently identified as a "distinct entity" within OCD, but this alone does not answer the question of whether hoarding is an OCD symptom or not. Indeed, compulsive hoarding could arguably be conceptualized and classified in a number of ways: as a symptom dimension or subtype of OCD, a variant of OCD (when it occurs in the absence of other OCD symptoms), or as a discrete disorder.

Phenomenologically, compulsive hoarding resembles OCD in that the avoidance of and difficulties discarding possessions are driven by fears of losing important items that the patients feel they may need in the future or feel emotionally attached to, or fears of making mistakes regarding what to keep or discard. These fears could be regarded as functionally similar to "obsessions," whereas the avoidance of discarding, urges to save items, and some acquisition behaviors (compulsive buying and collecting) could be regarded as similar to "compulsions." Overlapping with some symmetry-related obsessions in OCD, touching or moving possessions without permission provoke distress in many hoarding patients. Several studies in nonclinical samples have observed significant correlations (ranging from 0.4 to 0.5) between measures of hoarding and OCD symptoms assessed by self-report and the Y-BOCS interview.[17,39,40] Community hoarding samples (i.e., people who self-identified as having hoarding problems) report more symptoms of OCD compared to nonclinical controls and experience them as more severe and distressing, suggesting a link between hoarding and OCD.[3] However, in these studies, the presence of clinically significant obsessive–compulsive symptoms, other than hoarding, was not specifically assessed, so these results also could be explained by the presence of a significant proportion of patients with a comorbid OCD among the hoarding groups, given that subsequent studies have found OCD to be comorbid in 16–35% individuals with compulsive hoarding.[15,22,41–43]

Although fears of losing personally important or valuable things resemble "obsessions" and urges to save or collect items resemble "compulsions," there are a number of important phenomenological differences between compulsive hoarding and OCD. First, thoughts related to hoarding are not experienced as intrusive, but rather as part of the individual's normal stream of thought.[39,44–45] Second, they are not

repetitive in the same way that typical obsessions are experienced.[45,46] Third, they are seldom experienced as distressing or unpleasant.[44,46–48] The distress seen in hoarding patients comes from the product of the behavior (clutter) and not from the experience of ownership of a possession.[39] Fourth, thoughts about possessions do not lead to an urge to get rid of them or to perform any ritual.[3,22,46,47,49] Hoarding is rather a "passive" phenomenon whereby intense distress may be triggered only when sufferers face the prospect of having to discard their possessions. The term "preoccupation" may be more appropriate than "obsession."[49] When directly confronted with having to discard one of their possessions, individuals who hoard are as likely to experience grief, or sometimes anger, as anxiety,[3,46,50,51] emotions seldom seen in response to typical obsessions. Unlike in OCD, compulsive hoarding symptoms worsen over each decade of life;[19,52] distress and disability often appear late in the course of the syndrome and are usually linked to the intervention of third parties, such as relatives or local authorities. Fifth, the frequently egosyntonic nature of hoarding symptoms and more common lack of insight in compulsive hoarders contrasts with typical OCD patients,[3] perhaps with the exception of some OCD patients with predominant symmetry/ordering symptoms. Indeed, in some patients with compulsive hoarding, saving and acquisition are associated with positive emotions of excitement, pleasure, and euphoria. Moreover, they may contribute to patients' sense of self and even life-purpose. Such experiences are rarely seen in OCD and more closely resemble those found in impulse control disorders.[3]

Although some patients with OCD present clinically significant hoarding symptoms, a substantial number of individuals with severe hoarding do not display other OCD symptoms. For example, in a sample of 217 patients diagnosed with significant hoarding problems and generated by community solicitation, only 18% were diagnosed with concurrent OCD (based on nonhoarding symptoms), whereas the concurrent comorbidity rates with major depression, social phobia, and GAD were 36, 20, and 24%, respectively.[43] In a recent epidemiological study of compulsive hoarding ($N = 742$), none of the participants classed as "hoarders" met diagnostic criteria for OCD,[42] although the instrument used in this study to determine hoarding caseness did not assess the broad hoarding phenotype (including clutter and excessive acquisition) and its associated interference and distress.

A recent study by Pertusa et al.[22] further examined this question by recruiting and comparing individuals with severe hoarding with and without OCD. The authors recruited OCD patients with prominent hoarding symptoms ($n = 25$), individuals with severe hoarding without OCD ($n = 27$), OCD patients without hoarding ($n = 71$), anxious controls ($n = 19$), and community controls ($n = 21$). Compulsive hoarding was diagnosed using the working criteria, described above. In addition, individuals with severe hoarding had to score 40 or higher on the Saving Inventory-Revised,[28] which reflects clinically significant hoarding problems. Participants fulfilling these criteria were then further divided into two groups according to the presence/absence of a DSM–IV diagnosis of OCD. Individuals with severe hoarding were diagnosed as having OCD only if they endorsed other prototypical OCD symptoms, or had obsessions/compulsions as defined in the DSM–IV. The results indicated that the phenomenology of hoarding behavior was largely similar in the two hoarding groups. The majority of participants in both hoarding groups reported hoarding similar types of items and for strikingly similar reasons (i.e., their emotional or intrinsic value). Even in most patients with OCD, their hoarding was clearly unrelated to other "traditional" OCD themes, suggesting that the two phenomena are independent. Another key finding was that, in about one-fourth of the individuals with severe hoarding who also met criteria for OCD (which represented approximately 12% of the overall sample of hoarding individuals), their hoarding could be explained as a consequence of true obsessions. Examples included fear of catastrophic consequences (e.g., superstitious thoughts, contamination of others) if items are discarded, need to perform onerous compulsions (e.g., checking, mental rituals) associated with the process of discarding that ultimately led to complete avoidance of discarding, urges to pick up items with a certain shape/texture from the street, the need to buy items in certain numbers in order to feel just right, or to avoid contaminating others.[22] These patients were also more likely to hoard bizarre items (such as rotten food, bodily products, etc.), which is rarely seen when hoarding is unrelated to OCD. The authors concluded that in most cases (88% of individuals in their sample; $n = 52$) compulsive hoarding is a separate condition, which can co-occur with OCD as well as with other psychiatric disorders, although in a minority of cases, hoarding behaviors can occur as a consequence of—that is, be secondary to—traditional OCD symptoms. Consensus criteria that have not undergone study but that may be useful to identify OCD-related hoarding (i.e., hoarding as a compulsion) are listed below. A diagnosis of OCD should be considered if the individual meets all of the following criteria:

(1) The hoarding behavior is driven mainly by prototypical obsessions (e.g., fear of contamination, superstitious thoughts, intense feelings of incompleteness, or saving to maintain a record of all life experiences) or is the result of persistent avoidance of onerous compulsions (e.g., not discarding in order to avoid endless washing or checking rituals).
(2) The hoarding behavior is generally unwanted and highly distressing (i.e., the individual experiences no pleasure or reward from it).

(3) The individual shows no interest in the majority of the hoarded items (i.e., the items do not have a sentimental or intrinsic value for the individual).
(4) Excessive acquisition is usually not present; if present, items are acquired or bought because of a specific obsession (e.g., an urge to pick up items with a certain shape/texture from the street, the need to buy items in certain numbers, or to buy items that have been accidentally touched in order to avoid contamination of others if they touch these items) and not because of a genuine desire to possess the items.

However, the fact that hoarding often appears in the absence of other significant OCD symptoms does not fully rule out the possibility that compulsive hoarding may be a variant of OCD. Similar arguments have been put forward in other OCD-related disorders, such as body dysmorphic disorder (BDD)[53] or hypochondriasis.[54,55] Like compulsive hoarding, these disorders are somewhat similar to OCD but also seem sufficiently distinct. Arguably, the fact that these disorders have been considered separate disorders from OCD, through the various editions of DSM, has contributed to the greater acceptance for BDD and hypochondriasis as separate disorders.

A number of recent correlational studies[15,22,42,56,57] also suggest that hoarding should not be conceptualized as a symptom of OCD. These studies have found that correlations between hoarding and prototypical OCD symptoms are typically in the small-to-moderate range, comparable to correlations with other non-OCD measures, such as anxiety and depression. By contrast, prototypical OCD symptoms show stronger intercorrelations. For example, Abramowitz et al.[57] recruited samples of OCD patients ($n = 225$), patients with other anxiety disorders ($n = 178$), and a group of unscreened undergraduate students ($n = 1{,}005$), and found that hoarding tended to correlate more weakly with other OCD symptoms than the other symptoms intercorrelated, and that hoarding symptoms were not correlated with global OCD or anxiety severity, whereas other OCD symptoms were. A taxometric analysis of OC symptoms in an unscreened student sample found that hoarding showed evidence of taxonicity, indicating that it constituted a discrete categorical latent subclass, whereas the other OC symptoms were found to be dimensional, varying by degrees along a continuum.[56] If replicated, these findings may be suggestive of distinct etiological mechanisms in compulsive hoarding and OCD.

The cognitive-behavioral model of compulsive hoarding postulates that hoarding is associated with deficits in information processing, problems with emotional attachments to possessions, erroneous beliefs about possessions, and avoidance and approach behaviors specific to compulsive hoarding.[3,17] Some of these deficits are shared with OCD patients while others differ in severity or are quite distinct. With respect to information-processing deficits, compared to OCD patients, compulsive hoarding patients show significantly greater problems with categorization of objects,[58,59] attention deficits,[47] and decision-making difficulties.[40,60] Furthermore, they show a different pattern of mediation of memory deficits.[61] In contrast to OCD, compulsive hoarding patients show emotional attachments to their possessions, sometimes equating them with their sense of self and well-being, and occasionally imbuing them with human characteristics.[3,39,44,47,62,63] Although people with compulsive hoarding problems exhibit excessive responsibility, the form is different from that observed in OCD and more closely tied to the fate of the possession rather than responsibility for harm coming to someone.[45,62] Characteristics, such as perfectionism and uncertainty, are common to both compulsive hoarding and OCD.[25,39,45,46,50,64] Unlike OCD, however, compulsive hoarding patients display no exaggerated beliefs associated with the importance of or control over thoughts.[45,65] Overlapping with some symmetry-related obsessions, touching or moving possessions without permission provokes great distress in hoarding patients and reflects an excessive desire to maintain control over possessions.[3,46] Finally, the nature of avoidance patterns differs somewhat in that compulsions in OCD are attempts to avoid, escape, or neutralize the threat posed by the obsession and are primarily anxiety driven. In contrast, individuals with compulsive hoarding avoid discarding possessions and end up storing them as a way to avoid the experience of loss, having to make an anxiety-provoking decision, or making a mistake regarding a possession. Thus, hoarding behavior is in these individuals driven by a variety of emotions, including sadness, anger, and distress, which occur when there is a threat of losing a possession.[3,17,47,62] Also, distinct from most symptoms in OCD, saving and acquiring behaviors are often positively reinforced in compulsive hoarding by positive feelings of pleasure, safety, and comfort provided by acquiring new items or fantasizing about existing ones.[3,45,47,62,66]

Evidence against the consideration of compulsive hoarding as a symptom of OCD also comes from preliminary neuroimaging, genetics, and treatment outcome studies. A detailed review of this literature is beyond the scope of this article and can be found elsewhere.[5–7] Briefly, preliminary evidence suggests that hoarding symptoms may have a distinct neural substrate to that of OCD. Compulsive hoarding shows a unique pattern of abnormal resting state brain function that does not overlap with that of nonhoarding OCD.[5,23] Whereas OCD symptoms are mediated by elevated activity in specific orbitofronto–striatal–pallidal–thalamic circuits,[67] compulsive hoarding symptoms seem to be mediated by partially distinct fronto–limbic circuits involving the cingulate cortex, ventromedial prefrontal cortex, and limbic structures.[5,18,23,25] Similar results were obtained in com-

pulsive hoarding samples with[18] and primarily without[25] OCD, but more research is needed before firm conclusions can be drawn. Interestingly, these preliminary results are consistent with the animal and human lesion literature, which also implicate the ventromedial prefrontal cortex and subcortical limbic structures in hoarding behavior.[68] Genetic studies to date have been conducted in the context of other disorders, such as Tourette's Syndrome[69] or OCD.[34,70–72] Their results have been inconsistent, but are broadly supportive of the idea that hoarding is etiologically distinct from OCD. Finally, the fact that hoarding symptoms tend to be less responsive to evidence-based treatments for OCD, including exposure and ritual prevention and serotonin reuptake inhibitors,[7,36,73,74] further supports the idea of different etiological mechanisms in compulsive hoarding and OCD. Table 1 summarizes the differences and similarities between compulsive hoarding and OCD.

Summary and preliminary recommendations: There is a historical link between OCD and hoarding, and in some patients with OCD, their hoarding seems secondary to other OCD symptoms, such as fear of contamination or harm. In these cases, hoarding can be conceptualized as a symptom of OCD (i.e., a compulsion). However, in the majority of patients with OCD, hoarding cannot be better accounted for by other OCD symptoms. When not secondary to other OCD symptoms, the phenomenological differences between hoarding and OCD seem to outweigh the similarities. There may also be important differences in cognitive-behavioral processes, course of the illness, neurobiological substrates, and treatment response. Furthermore, most hoarders do not have other clinically significant OCD symptoms, and OCD is not the most common comorbidity. Thus, the classification of compulsive hoarding as an OCD symptom only covers a minority of hoarding cases. A new diagnostic category may be needed to cover the majority of cases where hoarding occurs in the absence of, or independently from, other OCD symptoms. Careful evaluation of hoarding symptoms and good operational criteria are required to distinguish hoarding as a compulsion and hoarding as a separate diagnosis, particularly as some patients seem to meet diagnostic criteria for both hoarding (as a separate syndrome) and OCD.

Is compulsive hoarding a symptom of OCPD? As mentioned earlier, "the inability to discard worn-out or worthless objects even when they have no sentimental value" is one of the eight current criteria for OCPD in DSM–IV-TR. This criterion has its origins in the psychoanalytical clinical descriptions of the "'anal" character, but has only been a core diagnostic criterion for OCPD since DSM-III-R (see[7,15]). However, there is remarkably little empirical evidence to support the inclusion of hoarding as one of the OCPD criteria. In fact, the equivalent diagnostic category in ICD-10 (Anankastic Personality Disorder) does not include any such criterion.

It also is questionable to what extent the current definition of hoarding in the OCPD criteria (i.e., focusing on non-sentimental worthless objects) actually fits most cases of hoarding that are seen clinically. Sentimental saving is one of the main reasons for hoarding in these patients, who often save both worthless and valuable objects.[3,22,44]

There are at least three relevant questions about the relation between hoarding and OCPD.

Does the hoarding criterion "belong" with the other OCPD criteria? Several studies have examined the internal consistency and factor structure of the OCPD construct and provide useful clues regarding the hoarding criterion. For example, Grilo and coworkers[75] reported modest intercorrelations (ranging from .35 to .62) between the eight OCPD criteria in a sample of 211 outpatients with binge-eating disorder. The hoarding criterion showed some of the smallest correlations (ranging from .19 to .28) with the remaining OCPD criteria. Furthermore, in a principal components analysis that yielded three factors, the hoarding criterion loaded on a separate factor, together with the miserliness item.[75] Although the three factors were intercorrelated, the rigidity and perfectionism factors showed stronger intercorrelations ($r = .51$) than either did with the hoarding/miserliness factor ($r = .27$ and $r = .35$, respectively). A subsequent confirmatory factor analysis in a large sample of 263 patients with binge-eating disorder found support for both 2- and 3-factor solutions.[76] The authors suggested that the hoarding and miserliness criteria might be less indicative of OCPD and that the construct may be improved with their exclusion.

Hummelen et al.[77] examined data from a large sample of 2,237 patients from the Norwegian Network of Psychotherapeutic Day Hospitals; they specialize in the treatment of personality disorders. They found modest reliability for OCPD (Cronbach's $\alpha = .57$) and weak correlations between the hoarding criterion and the other OCPD criteria (range .06–.14). Exploratory and confirmatory principal components analyses did not replicate the factor structure reported by Grilo[75] but, crucially, the hoarding criterion did not load significantly on any of the resulting factors in either exploratory or confirmatory analyses. These authors also concluded that the overall validity of the OCPD construct could be improved by the removal of the hoarding and miserliness criteria.[77]

Overall, these and other similar studies[78–80] suggest that the internal consistency of the OCPD construct is weak, hoarding and misery items tend to have the poorest psychometric properties, hoarding correlates weakly with the remaining OCPD criteria, and validity of the OCPD construct would be improved by the removal of these criteria. Accordingly, the DSM-V Personality and Personality Disorders Workgroup is currently recommending the exclusion of hoarding as a major trait or dimension of OCPD.

TABLE 1. Differences between compulsive hoarding and OCD

	OCD	Compulsive hoarding
Presence of a diagnosis of OCD	• Yes	• Possible as a comorbid condition (approximately 20% of cases), but OCD not most frequent comorbidity • Mood and anxiety disorders more frequent
Presence of obsessions as defined in *DSM–IV-TR*	• Yes, in most cases	• Fears of losing important things resemble and may be functionally similar to obsessions • Absence of intrusive, unwanted and repugnant thoughts, images, or impulses that are actively resisted • Intense distress often triggered when sufferers face the prospect of having to discard possessions
Presence of compulsions as defined in *DSM–IV-TR*	• Yes, in most cases	• Avoidance of discarding and acquisition behaviors may be functionally similar to compulsions
Presence of clinically significant hoarding	• Possible, but rare (approximately 5% of cases) • Clinician needs to ascertain if hoarding is secondary to other OCD themes (e.g., fears of contamination or harm) or an independent (i.e., comorbid) problem. The latter is more common	• Always. Hoarding due to practical or sentimental reasons • If comorbid with OCD, hoarding not secondary to other OCD symptoms or magically linked to classic obsessional fears
Presence of a diagnosis of OCPD	• Possible, in approximately one-fourth of cases	• Possible, in approximately one-third of cases. However, when the hoarding criterion is excluded, compulsive hoarders are not more likely to endorse OCPD than other anxiety disorders • Presence of non-OCPD personality disorders (e.g., dependent PD) is more common
Insight	• It varies, but good in most cases	• More likely to be poor • Hoarding can be egosyntonic, particularly at the initial stages • Becomes increasingly distressing as clutter increases and third parties intervene
Help-seeking behavior	• Many sufferers seek help, although this may take several years	• Often reluctant to seek help as hoarding not seen as problematic • Local authorities and/or significant others often insist they seek help • This may be due to lack of insight and/or lack of awareness and of adequate help
Stability of problem	• Symptoms can wax and wane	• Stable but worsens over time
Prevalence	• Approximately 2%	• Approximately 2–5%
Familial	• Yes	• Yes
Heritable	• Yes (27–47% genetic in adults, higher in children)	• Yes (50% genetic in adults)
Neural substrates	• Fronto–striato–thalamic circuits • Large body of evidence	• Cingulate cortex and ventral frontal and limbic regions. • Limited evidence
Cognitive processes	• Overestimation of threat/responsibility. • Importance/control of thoughts • Perfectionism/need for certainty	• Information-processing deficits: decision-making, categorization, organization, memory difficulties • Emotional attachment to possessions • Behavioral avoidance • Erroneous beliefs about possessions
Reinforcement patterns	• Compulsive behavior in OCD is negatively reinforced via avoidance conditioning (avoiding distress, feared consequences, etc.), but there is no positive reinforcement of OCD symptoms	• In hoarding, there is both avoidance conditioning (avoiding loss, etc.) and positive reinforcement (from acquisition, admiration of possessions, attaching self-related meanings, and identity to objects)
Treatment response (CBT and SRIs)	• Moderate to good • Large body of evidence	• Poor to moderate • Limited evidence

Adapted from Pertusa et al.[22] and Rachman et al.[49].

Is compulsive hoarding in OCD associated with an increased risk for OCPD? There are a number of clinical OCD studies that have examined the relation between the hoarding items of the Yale–Brown Obsessive–Compulsive Scale Symptom Checklist (Y-BOCS-SC) and the presence of personality disorders. Hoarding was associated consistently with increased prevalence of several personality disorders.[22,41,60,81]

Regarding OCPD, several but not all (see[73]) of these studies showed that the presence of hoarding symptoms in OCD was associated with increased frequency of OCPD, even when the hoarding criterion was removed from the analyses.[60,81] This would suggest an association between hoarding symptoms and the remaining OCPD criteria. However, it is important to note the limitations of these studies. First, they recruited samples of OCD patients rather than compulsive hoarding individuals. Second, hoarding was ascertained with two items of the Y-BOCS-SC, which do not capture the different features of the syndrome (i.e., clutter, acquisition, distress, interference, etc.), and thus may provide inadequate assessment of the severity of compulsive hoarding.

To our knowledge, only three studies to date specifically recruited large samples of compulsive hoarding individuals and examined the association between hoarding and OCPD. Frost et al.[41] compared OCD patients with prominent hoarding symptoms ($n = 37$), nonhoarding OCD patients ($n = 20$), anxious controls ($n = 13$), and community controls ($n = 34$). They found equivalent levels of OCPD symptoms in the three clinical groups. They also found that the OCD hoarders scored significantly higher than the OCD nonhoarders on measures of Dependent and Schizotypal PD, further indicating the lack of any specific relation between hoarding and OCPD. The only item on which hoarders scored higher than any of the other groups was the tendency to get lost in the details and lose sight of the big picture. Similarly, Pertusa et al.[22] found that, after the exclusion of the hoarding criterion, the number of endorsed OCPD criteria was comparable in OCD patients with prominent hoarding symptoms, severe hoarders without OCD, OCD patients without hoarding, and anxious controls. In a just completed study, Frost et al.[43] found that among a large sample of carefully diagnosed hoarders ($n = 217$) and nonhoarding OCD patients ($n = 96$), OCPD was diagnosed more frequently among hoarders than nonhoarding OCD patients when the OCPD hoarding criterion was used for diagnosis, but not when it was omitted as a criterion. Patients diagnosed with hoarding were also significantly more likely than nonhoarding OCD patients to be diagnosed with dependent personality disorder. Thus, the specific association between compulsive hoarding (regardless of whether it occurs with or without OCD) and OCPD could be entirely explained by the overlapping item content. These studies also suggest that hoarding is as likely to be associated with other personality disorders as with OCPD.

Is the hoarding criterion of OCPD associated with an increased risk of OCD? Samuels et al.[42] examined data from an epidemiological study of personality disorders in the Baltimore area ($n = 742$). Based on the OCPD hoarding criterion, they estimated the prevalence of compulsive hoarding to be 4% (5% weighted) of the population. They found that none of the individuals classified as "hoarders" met diagnostic criteria for OCD. Conversely, none of the 13 participants who were diagnosed with OCD had pathological hoarding, although 4 of these patients had subthreshold hoarding behavior.

In the study by Hummelen et al.,[77] several OCPD criteria, but not the hoarding criterion, were associated with OCD. Instead, hoarding was associated with paranoid and dependent personality disorders. Wu et al.[15] found that neither hoarding nor any of the other seven OCPD criteria were significantly more frequent in OCD patients than in general psychiatric outpatients. Contradicting this finding, however, Eisen et al.[82] found that the hoarding criterion of OCPD was significantly more frequent in patients with OCD than in patients with other emotional disorders. Thus, there are conflicting results regarding the relation between hoarding and OCPD, but it is important to note that in all these studies hoarding was assessed with a single item, so it is unclear whether individuals endorsing the hoarding criterion have clinically significant hoarding problems.

Summary and preliminary recommendations: The hoarding criterion of OCPD excludes "sentimental" collecting, and thus does not fully correspond with the construct of compulsive hoarding. The available data suggest that the hoarding criterion has poor psychometric properties and weak associations with the other OCPD criteria. In patients with OCD or OCPD, evidence for a specific association between compulsive hoarding (measured with a single item) and the remaining OCPD criteria is mixed. However, recent carefully conducted studies that recruited severe hoarders (with or without comorbid OCD) indicate that the link between hoarding and OCPD could be explained largely by the overlapping item content. They also indicate that hoarding is not more likely to be associated with OCPD than with other personality disorders. Thus, our review indicates that exclusion of the hoarding criterion from OCPD would improve its internal consistency, bring DSM-V closer to ICD-11, and remove some of the confusion around hoarding in DSM-V. This recommendation is in line with the current thinking of the DSM-V Personality and Personality Disorders workgroup.

SHOULD COMPULSIVE HOARDING BE INCLUDED AS A SEPARATE DIAGNOSIS IN DSM-V?

In this section, we focus on the question of whether hoarding should be included as a diagnosis in DSM-V.

We address several criteria for making this decision, drawing in part on the DSM-IV definition of mental disorder, but also including ongoing discussion in the literature about the importance of diagnostic validity and clinical utility.[83]

The condition is a behavioral or psychological syndrome or pattern that occurs in an individual. The entity of hoarding has been described in the literature for more than a century and has its origins in the psychoanalytical descriptions of the "anal" character.[15] The operational definition and provisional diagnostic criteria for compulsive hoarding as a syndrome have been available since 1996 and have been widely adopted by the field. These diagnostic criteria have been recently refined (see above) and seem to have adequate clinical face validity, as they are based on hundreds of cases from around the world that have been fairly consistently described.

Prevalence studies using the proposed diagnostic criteria listed above have not been done. However, a series of recent epidemiological studies have been conducted using reliable and valid psychometric instruments, which closely mirror the proposed diagnostic criteria, such as the Savings Inventory-Revised[28] and the Hoarding Rating Scale Self-Report.[29,84] The prevalence of clinically significant compulsive hoarding is estimated to be in the region of 2–5% of the general population.[20–21,42]

The consequences of which are clinically significant distress or disability. The extant literature provides evidence that compulsive hoarding directly causes significant distress and/or disability. When hoarding is severe enough to meet diagnostic criteria, clutter prevents the normal use of space to accomplish basic activities, such as cooking, cleaning, moving through the house, and even sleeping. Interference with these functions can make hoarding a dangerous problem, putting people at risk for fire, falling (especially elderly people), poor sanitation, and health risks.[3,85–87] In a survey of health department complaints about hoarding, officers judged hoarding to pose significant health risks and in 6% of such cases, hoarding was thought to contribute to the individual's death in a house fire.[3] Pathological hoarding also represents a profound public health burden in terms of occupational impairment, poor physical health, and social service utilization.[24] For example, the work impairment index among hoarders significantly exceeds that of all other anxiety, mood, and substance use disorders.[24] This study also found that 8–12% of hoarding participants had been evicted or threatened with eviction due to hoarding at some point in their lives.[24] A recent study examined the possible link between lifetime hoarding problems and homelessness in a randomly selected sample of 78 homeless people newly admitted to Salvation Army hostels across several major cities in the United Kingdom (Mataix-Cols, Grayton, Bonner, Luscombe, Taylor, and van den Bree, Unpublished Data). Thirteen individuals (17%) endorsed lifetime moderate/severe difficulties on at least one item of the Hoarding Rating Scale-Interview[29] and 6 (7.7%) reported that their hoarding problems, particularly excessive acquisition leading to financial difficulties, had directly contributed to their homelessness (Mataix-Cols et al., Unpublished Data). Hoarding also has a substantial impact on the family members of the sufferers.[84] In addition to these direct consequences of hoarding, some indirect consequences have also been described, such as social isolation or hostility from neighbors, which further add to the problem. Taken together, these direct and indirect consequences of compulsive hoarding are serious enough to warrant its consideration as a mental disorder.

The proposed syndrome is not merely an expectable response to common stressors or losses, or a culturally sanctioned response to a particular event. Common lore suggests that compulsive hoarding could be linked to early material deprivation, but the little research available to date has not strongly supported this. Frost and Gross[39] found that hoarders and non-hoarders did not differ in their responses to the question, "When you were young, was there a period of time when you had very little money?" There was also no difference in ratings of how "impoverished" or "well-off" they described their childhood. Perhaps emotional rather than material deprivation may be important in compulsive hoarding.[88]

A number of studies have found abnormally high levels of trauma or stressful life events among people who hoard,[42,47,89] and that such events are sometimes temporally linked to symptom onset or exacerbation.[52,90] However, once symptoms begin, the course of hoarding is often chronic, with a minority of patients experiencing a remitting and relapsing course.[90] Thus, in most cases, there is no evidence that compulsive hoarding is merely an expectable response to common stressors or losses.

Saving occurs on a continuum, and collecting possessions can range from totally normal and adaptive to excessive or pathological. Most normal children have collections of some sort.[91–93] For example, a cross-sectional study among parents reported that their children began to collect or store objects on average from 25 to 27 months of age.[92] This behavior then showed a monotonic increase, at least until the age of 6, when nearly 70% of normal children display this trait.[92] However, the term "compulsive hoarding" refers to an extreme form of this behavior, which leads to substantial clutter and causes distress and disability (as described in the earlier section). Pathological hoarding in children seems to be easily distinguished from normal saving behavior.[51] Thus, it is clear that it is not simply a culturally sanctioned activity.

The proposed syndrome reflects an underlying psychobiological dysfunction. Research into the psychological and biological processes underlying compulsive hoarding has grown exponentially over

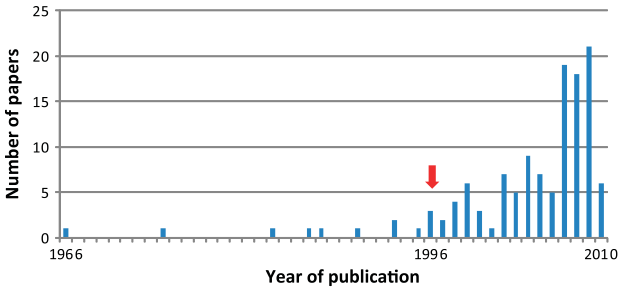

Figure 1. Publication trends in human hoarding research until February 2010. Search performed on PubMed on February 22, 2010. The search included all papers containing the truncated term "hoard*" in the title, the abstract, or the keyword list. Animal studies were excluded from the search. Human studies that included the keyword "hoard*" but were not directly relevant to the hoarding disorder literature were also excluded. As can be seen in the figure (red arrow), the publication of the landmark study by Frost and Hartl,[17] where compulsive hoarding was first defined operationally, marks an inflexion point in the field.

the last decade (Fig. 1), particularly after the publication of the initial operational definition of compulsive hoarding by Frost and Hartl.[17] This literature covers a wide range of topics, including psychopathology, epidemiology, cognitive-behavioral models, genetics, neuroimaging, neuropsychology, personality, and treatment (see[7] for a comprehensive review). For example, psychological research has found that compulsive hoarding stems from four overlapping processes: (a) information-processing deficits relating to decision-making, categorization, and organization, as well as memory difficulties; (b) emotional attachment to possessions; (c) behavioral avoidance; and (d) erroneous beliefs about the nature of possessions.[3,17] Family studies have demonstrated that hoarding runs in families, and a recent twin study has found that this familiality is due to both genetic and non-shared environmental factors.[20] Neuroimaging studies have begun to elucidate the neural correlates of compulsive hoarding. Resting state functional brain imaging studies have revealed that compulsive hoarders have abnormally low activity in the cingulate cortex, as compared to both normal healthy controls and patients with nonhoarding OCD.[5,23] Compulsive hoarders also have abnormal patterns of brain activation during provocation of hoarding symptoms and decision-making tasks, compared to controls.[18,25] Neuropsychological studies have shown that compulsive hoarders have deficits in executive functioning, attention, memory, and categorization.[27,58,61,94] The results of neuroimaging and neuropsychological studies converge to reveal that the pathophysiology of compulsive hoarding involves abnormalities in the neural systems mediating decision-making, attention, organization, and emotional regulation.

The syndrome is not solely a result of social deviance or conflicts in society. In some cases, people with hoarding are not distressed by their behavior, but their families may be distressed about clutter or expenses, and society may be concerned about health hazards or other negative consequences of hoarding. However, given the evidence of associated impairment and underlying disturbance, it seems clear that compulsive hoarding is not solely a result of social deviance or conflicts with society.

The syndrome has diagnostic validity using one or more set of diagnostic validators. Most research into compulsive hoarding has been done in the context of OCD but, increasingly, researchers have focused on compulsive hoarding as a stand-alone problem. As noted above, compulsive hoarding differs from OCD and OCPD in several important ways, but there are limited data on several of the standard diagnostic validators being used for DSM-V. Although there is some evidence that compulsive hoarding differs from other disorders on diagnostic stability, prior psychiatric history and patterns of comorbidity, course of illness, cognitive-emotional correlates, biological markers, and response to treatment, there are limited or no data on familial aggregation, environmental risk factors, and temperament correlates. Although the differences between hoarding and OCD outweigh the similarities, until more data become available, an option to be considered is whether compulsive hoarding should be coded as a variant of OCD.

The syndrome has clinical utility. The inclusion of hoarding as a separate diagnosis has the potential to increase the usefulness of the nosological system and improve clinical utility in a number of ways. As mentioned earlier, compulsive hoarding is a relatively prevalent problem, representing a substantial burden for the sufferers, their families, and society at large. Yet, it remains largely unrecognized and undertreated. Including hoarding as a separate disorder would potentially increase public awareness, improve identification of cases, accuracy of diagnosis, and tailoring of treatment. In fact, recognizing the unique status of compulsive hoarding, researchers are already developing specific psychological interventions for this problem,[26,74,95,96] as these patients do not respond optimally to standardized protocols developed for other disorders, such as OCD.[7]

Including hoarding in DSM-V also would help reduce the current ambiguities in DSM-IV-TR, where hoarding is simultaneously considered an associated symptom of OCD and a diagnostic criterion for OCPD. This would facilitate professional communication, as the proposed criteria have face validity and are easily understood by clinicians. The criteria are also "patient friendly," as in our experience many compulsive hoarders are unhappy with a diagnosis of OCD and feel they do not fit in OCD patient organizations.

In our view, the potential benefits of creating a new diagnosis (e.g., improve clinical communication, provide better patient care, stimulate new research) outweigh the potential harms (e.g., hurt particular

individuals, be subject to misuse, pathologize normal behaviors). It seems highly likely that many sufferers with compulsive hoarding do not present for treatment at all, in part because there is a lack of public awareness that the symptoms represent a valid clinical entity. In our clinical experience, many patients with compulsive hoarding often receive no diagnosis or an inaccurate diagnosis in clinical settings. Hoarding symptoms are often not routinely asked about. Many compulsive hoarders seek help when they have substantial comorbidities, particularly OCD, simply because hoarding has traditionally been associated with OCD. When this happens, treatment is according to available treatment guidelines for OCD, but hoarding symptoms are rarely treated on their own. Treatment failures are frequent.[7] Although compulsive hoarding is often complicated by comorbidity, it occurs often in isolation and is sufficiently disabling on its own to require specific treatment. The creation of a new diagnosis in DSM-V would address much of this unmet need. It would also likely stimulate research into the etiology and treatment of compulsive hoarding using an agreed-upon set of diagnostic criteria. Furthermore, routine exclusion of patients with comorbid compulsive hoarding would also increase the reliability and replicability of OCD studies. In fact, many OCD studies now routinely exclude compulsive hoarders from their samples.

It is also important to consider the potential disadvantages of the creation of a new hoarding disorder. We are not aware of how a diagnosis of compulsive hoarding could be misused in a way that might produce harm, nor is this issue mentioned in the published literature. However, as in many areas of psychopathology, it can be difficult to establish the dividing line between normal or/and pathological behavior, in this case "eccentric" collectionism and compulsive hoarding. Therefore, there is a potential risk of "pathologizing" essentially normal behavior. It is crucial that the proposed diagnostic criteria discriminate between adaptive and maladaptive degrees of hoarding behavior. One problem is that many compulsive hoarders have limited insight into their problem, at least initially, and may deny that they have a problem, let alone a mental disorder. Often, in our experience, third parties, such as spouses or local authorities, insist that these individuals seek help. This may raise ethical issues about coercing people to receive treatment against their will. The public recognition of hoarding is changing, as illustrated by the fact that currently nearly 40% requests for information or help from the Obsessive Compulsive Foundation are for hoarding-related problems (Szymanski, August 2009, Personal Communication). Other important considerations are the social and economic consequences of a new disorder with an estimated prevalence between 2 and 5% of the population. Should all these individuals be in treatment for compulsive hoarding? What are the financial implications for the health systems? Careful weighing of the potential harms of creating a new diagnosis against the potential harms of not creating it is needed.

Several additional considerations may arise when proposing a new disorder for the nomenclature. These include: (1) Is there a need for the disorder; for example, is the syndrome sufficiently common in clinical or population samples that it merits an independent category as opposed to being one example in an NOS category; (2) What is the relation of the proposed disorder with other DSM-V diagnoses; for example, is the disorder sufficiently distinct from other diagnoses?; (3) Are there proposed diagnostic criteria with clinical face validity, reliability, and adequate sensitivity and specificity for the proposed construct?; and (4) Can the criteria be easily implemented in a typical clinical interview and reliably operationalized/assessed for research purposes? In each of these cases, as discussed above, there are data to support the entry of hoarding into the nomenclature. The differentiation from OCD is perhaps the most important concern.

Summary and preliminary recommendations: Compulsive hoarding seems to meet the above criteria to qualify as a new disorder in DSM-V, although data from some of the standard diagnostic validators being used for DSM-V are unavailable. There are important advantages to including compulsive hoarding in DSM-V, but the potential disadvantages need to be considered carefully before final decisions are made.

IF HOARDING WERE TO BE INCLUDED AS A SEPARATE DIAGNOSIS, ARE ANY CHANGES TO ITS PROPOSED CRITERIA WARRANTED? FOR EXAMPLE, MIGHT CHANGES BE NEEDED IN ORDER TO REFLECT GENDER, DEVELOPMENTAL, OR CROSS-CULTURAL CONSIDERATIONS?

The above proposed criteria for compulsive hoarding are widely used and seem to have adequate clinical face validity, as they are based on hundreds of cases from around the world that have been fairly consistently described. The criteria are already being routinely used in research and clinical settings by a number of groups in the United States, United Kingdom, Australia, Italy, Germany, and Japan. However, the reliability, sensitivity, and specificity of the proposed diagnostic criteria have yet to be formally researched. It is pertinent to consider whether the proposed criteria appear to be suitable for both genders, for a range of developmental stages, and in different cultures and ethnic groups.

Compulsive hoarding can affect both men and women. Two epidemiological studies[20,42] found a higher prevalence among men than among women, whereas a third study did not.[21] By contrast, clinical samples are predominantly female.[3] This may suggest that men are more reluctant to come forward with their hoarding problems. Nevertheless, the phenomenology of hoarding is remarkably similar in men and women,

and thus the criteria seem to be equally suitable for both genders (e.g.,[22]).

Clinically significant hoarding problems seem to be more prevalent in older than younger adults and children.[42] The approximate mean age of participants taking part in research studies is around 50 years (e.g.,[22]). However, there is evidence that hoarding problems may start several decades before these individuals present themselves to clinics or research studies. Although the natural history of compulsive hoarding remains to be investigated systematically in prospective studies, several retrospective studies suggest that hoarding symptoms first emerge in childhood or early adolescence, at an average age of 12–13 (e.g.,[19,39,52,97,98]) and start interfering with individuals' everyday functioning by the mid-30s.[22,52,99] Grisham et al.[52] reported that among the different symptoms of hoarding, acquisition had a somewhat later onset than either difficulty discarding or clutter, possibly due to greater financial and physical independence and the means to store a greater volume of possessions. In this study, recognition of the problem typically began more than a decade after initial onset. A recent study of elderly compulsive hoarders found that the initial reported average age of onset was 29.5 years, although when participants were invited to systematically review events over the life span, hoarding problems were recalled to have been present much earlier, in childhood and adolescence.[19] Thus, although most work has been done in adult populations, there is evidence that the seeds of compulsive hoarding are present early in life and span well into the late stages of life. The proposed criteria, therefore, should be largely suitable across the lifespan, although they may need to be adapted for children because they typically do not control their living environment and discarding behaviors (Storch et al., submitted).[51,100]

Although most of the work has been done in English-speaking countries and in predominantly Caucasian samples, the clinical impression from colleagues around the world suggests that hoarding is a universal phenomenon. A recent meta-analysis of 21 studies involving more than 5,000 individuals with OCD worldwide confirmed that hoarding seems to be independent from other OCD symptoms in both English and non-English speaking countries.[38] This included studies from geographically and culturally diverse countries, such as Japan, India, South Africa, and Brazil. Just as in Western countries, OCD patients with hoarding symptoms from other countries have been described as having more severe OCD symptoms, longer illness duration, lower global functioning, poorer insight, more comorbidity, and poorer treatment outcome than OCD patients without such symptoms.[34,97,98,101,102] A recent Japanese study carefully examined the characteristics and severity of hoarding in a large sample of OCD patients.[102] They found that these patients are very similar to their Western counterparts in terms of clinical characteristics, items being hoarded, and extent of clutter. Therefore, although there are no data suggesting that the criteria need modification for different cultures, more research is needed on this issue. For example, it is unclear if hoarding is as much of a problem in developing countries as it is in industrialized ones, in individualistic versus collectivistic cultures, and in urban versus rural communities (where space may be less of an issue). Research on different ethnic groups within Western societies is also lacking.

Summary and preliminary recommendations: Working diagnostic criteria for compulsive hoarding have been available for more than a decade and have been widely adopted by the field. The criteria seem suitable for both men and women, but it is unclear whether the existing criteria may need to be modified for children and for use in developing or non-industrialized countries and other cultures or ethnic groups. We recommend a field trial of the proposed criteria to test their clarity, reliability, validity, and clinician and patient acceptability across the lifespan and in a broad range of cultures and ethnic groups.

IF A SEPARATE DISORDER IS INCLUDED, WHAT SHOULD IT BE CALLED?

To be consistent with the literature, we have used the words "compulsive hoarding" throughout this review. However, although the term compulsive is useful and has been widely adopted by the field, one major disadvantage to using it is that it suggests links with both OCD and OCPD. As we have argued, when not secondary to other OCD symptoms, hoarding is better conceptualized as a separate disorder. The proposed diagnostic criteria are explicit in that all organic and psychiatric pathology, including OCD, need to be excluded before such a diagnosis can be made. Thus, the term compulsive has the potential to be confusing and should perhaps be removed.

Summary and preliminary recommendations: We tentatively suggest naming the new disorder "hoarding disorder."

IF A SEPARATE DISORDER IS INCLUDED, WHERE SHOULD IT BE CLASSIFIED IN *DSM-V*?

The fact that most hoarding research has been done in the context of other disorders, such as OCD or OCPD, and that there are certain similarities between hoarding disorder and OCD, may lead to the suggestion that hoarding disorder should be classified alongside other OC-related disorders. However, this conclusion may be premature as hoarding disorder may also have links with other groupings of disorders, such as various emotional disorders and impulse control disorders (ICDs). For example, depression and several anxiety disorders (particularly, social phobia

and GAD) are frequently comorbid with hoarding disorder.[7,22,33,41,43,60] Furthermore, hoarding symptoms are as strongly correlated with non-OCD symptoms, such as depression and anxiety,[15,57] suggesting a non-specific link with emotional disorders in general. Hoarding disorder has particularly strong links with ICDs. First, the observed egosyntonic nature of some features of hoarding, particularly excessive acquisition, suggests an association with ICDs.[3] Many hoarders feel compelled to collect or acquire free items, as well as to buy excessively.[103] Approximately 61% of hoarders engage in excessive buying,[21,103] whereas just over half excessively acquire free things.[28,103] However, not everyone with hoarding problems reports excessive acquisition. For example, 10–20% of a large sample of hoarders reported acquisition that was within one standard deviation of the nonclinical mean.[103] In addition, high rates of hoarding disorder have been described in samples of compulsive buyers.[104] In a recent epidemiological study, Mueller et al.[21] reported significant correlations between compulsive hoarding and compulsive buying measures, and about two-thirds of participants classified as having compulsive hoarding were also deemed as suffering from compulsive buying. Furthermore, some research suggest that beliefs about possessions and buying are similar to beliefs of those with hoarding disorder.[46]

Preliminary data also suggest a link with other ICDs.[3,33,63,87] For example, Samuels et al.[33] reported a greater frequency of trichotillomania and skin picking among OCD patients with hoarding compared to nonhoarding OCD patients. Frost and co-workers[63] reported high levels of hoarding symptoms in a sample of pathological gamblers. An association between kleptomania and compulsive buying has also been proposed,[105] and anecdotal experience gathered by Steketee and Frost[3] suggests a link between kleptomania and hoarding, but clearly more research is needed. Steketee and Frost[3] speculated that perhaps hoarding is part of a broader category of disorders that are psychopathologies of acquisition, including hoarding disorder, buying, and kleptomania.

A separate review by Phillips et al. (in this issue)[31] further examines relations between hoarding disorder and its "near neighbor" disorders, according to the diagnostic validators provided by the DSM-V Spectrum Study Group.

Summary and preliminary recommendations: Hoarding disorder has ties with OCD, other anxiety and mood disorders, and impulse control disorders, particularly compulsive buying. It is currently unclear where hoarding disorder should be classified in DSM-V. Until we learn more about its etiology, this decision necessarily will require expert consensus. For the time being, given the historical link between hoarding and OCD/OCPD, the fact that some hoarders are seen in OCD clinics, and the conservative approach adopted by DSM-V, it would be reasonable to provisionally list hoarding disorder as a separate OCSD with a similar status as BDD or hypochondriasis, if such a grouping of disorders is included in DSM-V. An alternative to our recommendation would be to include it in an Appendix of Criteria Sets Provided for Further Study. This determination will be guided by forthcoming guidelines regarding inclusion of disorders in such a section.

CONCLUSIONS AND PRELIMINARY RECOMMENDATIONS

Based on the data reviewed above, we draw a number of conclusions and preliminary recommendations:

1. Clinically significant hoarding is prevalent and can vary from mild to life threatening. The personal and public health consequences of hoarding are substantial and it is generally considered difficult to treat. These direct and indirect consequences of hoarding are serious enough to warrant its consideration as a mental disorder.
2. Hoarding as a characterological trait has its origins more than a century ago in the psychoanalytical concept of the "anal character," which later became today's OCPD. However, hoarding has been a core diagnostic criterion for OCPD only since DSM-III-R. In DSM-IV-TR, hoarding is still listed as one of the diagnostic criteria for OCPD. The idea that *extreme* hoarding might warrant consideration of OCD as a diagnosis appears for the first time in DSM-IV in the differential diagnosis section of OCPD. However, hoarding is not explicitly listed as a symptom in the OCD section. This creates confusion as clinicians may experience difficulties deciding when a diagnosis of OCD is appropriate, particularly when hoarding appears in the absence of other prototypical OCD symptoms.
3. Hoarding behavior can occur in the context of several developmental, neurological, and psychiatric disorders. In some cases with OCD, hoarding can be secondary to or explained by other OCD symptoms, such as fear of contamination or harm. In these cases, hoarding should be conceptualized as a compulsion, but probably not as a major (primary) symptom dimension. This should be explicitly mentioned in the text accompanying the OCD section in the *DSM-V*.
4. In the majority of patients with OCD, hoarding cannot be better accounted for by other OCD symptoms. In these cases, the phenomenological differences between hoarding and OCD outweigh the similarities. There may also be important differences in cognitive-behavioral processes, course of the illness, neurobiological substrates, and treatment response. Furthermore, most hoarders do not endorse other clinically significant OCD symptoms, and OCD is not the most common comorbidity. Thus, when

hoarding is not a compulsion, its classification as an OCD symptom may be inadequate and only covers a minority of severe hoarding cases. A new diagnostic category is needed to cover the majority of cases where hoarding occurs in the absence of, or independently from, obsessive-compulsive symptoms.

5. The possibility that this form of hoarding may be a variant of OCD, with unique features, cannot be fully ruled out. However, although the body of evidence is still incomplete, the differences between hoarding and OCD outweigh the similarities.
6. The hoarding criterion of OCPD excludes "sentimental" collecting, and thus does not fully correspond with the construct of compulsive hoarding. The available data suggest that the hoarding criterion correlates weakly the other OCPD criteria and that the specific association between compulsive hoarding (regardless of whether it occurs with or without OCD) and other OCPD criteria could be entirely explained by the overlapping item content. Hoarding is not more likely to be associated with OCPD than with other personality disorders. We recommend the exclusion of the hoarding criterion from OCPD, as this may improve the internal consistency of this diagnosis, bring DSM-V closer to ICD-11, and remove some of the confusion around hoarding in DSM-V. The DSM-V Personality and Personality Disorders workgroup has been consulted about this and concurs.
7. Compulsive hoarding seems to meet the criteria to qualify as a new disorder in DSM-V, although data from some of the standard diagnostic validators being used for DSM-V are unavailable. In our view, the potential benefits outweigh the potential harms of creating a new diagnosis.
8. Working diagnostic criteria for compulsive hoarding as a syndrome have been available for more than a decade and have been widely adopted by the field. They seem to be suitable for both genders and across most of the life span, although they may need to be adapted for use in children. It is also unclear whether the proposed criteria will require adaptation or be relevant to developing or non-industrialized countries, different cultures or ethnic groups. We recommend a field trial of the proposed criteria to test their clarity, reliability, validity, and clinician and patient acceptability across the lifespan in different ethnic groups, and in industrialized as well as non-industrialized countries.
9. If it becomes a separate diagnostic category, we suggest calling it hoarding disorder in order to remove any ambiguities and clearly separate it from hoarding as a compulsion in OCD.
10. If it becomes a separate diagnostic category, the most appropriate "neighborhood" for hoarding disorder is unclear as it has ties with several groupings of disorders, particularly OCD and impulse control disorders. Until we learn more about its etiology, the decision will necessarily require expert consensus. For the time being, given the historical link between hoarding and OCD/OCPD, the fact that some hoarders are seen in OCD clinics, and the conservative approach adopted by DSM-V, it would be reasonable to acknowledge hoarding disorder as an OCSD, if such a group is included in DSM-V. An alternative to our recommendation would be to include it in an Appendix of Criteria Sets Provided for Further Study.

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