

Conflict of Interest Disclosures: The author has completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and reported serving as a consultant in legal matters for law firms representing McNeil Laboratories and Eisai Pharma; and serving as a consultant to Bristol-Myers Squibb and Boeringer-Ingelheim. All activities were related to issues concerning adverse cutaneous reactions to medications.

1. Finkelstein Y, Macdonald EM, Li P, Hutson JR, Juurlink DN. Recurrence and mortality following severe cutaneous adverse reactions. *JAMA*. 2014;311(21):2231-2232.
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4. Finkelstein Y, Soon GS, Acuna P, et al. Recurrence and outcomes of Stevens-Johnson syndrome and toxic epidermal necrolysis in children. *Pediatrics*. 2011;128(4):723-728.
5. Strom BL, Schinnar R, Apter AJ, et al. Absence of cross-reactivity between sulfonamide antibiotics and sulfonamide nonantibiotics. *N Engl J Med*. 2003;349(17):1628-1635.

In Reply Stevens-Johnson syndrome and toxic epidermal necrolysis are rare disorders. To study their recurrence over time, large data sets are needed. This precludes a case-by-case examination of medical records.

Dr Stern suggests that erythema multiforme and other less severe conditions may have been miscoded as Stevens-Johnson syndrome and toxic epidermal necrolysis. A 1995 study by Roujeau et al¹ identified miscoding in 16% of cases.

However, in our study we used the most recent version of the *International Statistical Classification of Diseases, Tenth Revision* codes, which clearly differentiates Stevens-Johnson syndrome (code L51.1) and toxic epidermal necrolysis (code L51.2) from various forms of erythema multiforme (codes L51.0, L51.8, L51.9).

The number of cases of Stevens-Johnson syndrome and toxic epidermal necrolysis in our sample (708 cases among approximately 13 million people over 9 years, or 6 cases per 1 million person-years; Stevens-Johnson syndrome, 4.8 per 1 million person-years; toxic epidermal necrolysis, 1.2 cases per 1 million person-years) is in accord with the baseline rate suggested by previous studies, including the study by Roujeau et al.¹ In addition, the high mortality rate (18%) among our patients is consistent with Stevens-Johnson syndrome and toxic epidermal necrolysis but not mild exanthema.

Even though some cases of Stevens-Johnson syndrome may be unrelated to drugs, the medical literature suggests at least 85% are induced by a drug, whereas toxic epidermal necrolysis is almost exclusively induced by a drug.² A number of studies³⁻⁵ have previously shown that drug exposure is a common scenario leading to Stevens-Johnson syndrome recurrence.

Stern states that a 3-fold increase in hypersensitivity to unrelated drugs is seen in patients with a history of drug allergy. This figure derives from a database study⁶ of 96 patients with sulfonamide allergy, in whom the nature of both the first and subsequent adverse drug reactions was not reported but was

undoubtedly heterogeneous (urticaria, anaphylaxis, delayed hypersensitivity, etc). This estimate has no bearing on the risk of recurrence in patients with documented Stevens-Johnson syndrome or toxic epidermal necrolysis.

We reiterate our assertion that patients with a first episode of Stevens-Johnson syndrome or toxic epidermal necrolysis are at high risk of recurrence, and that clinicians should use care when prescribing medications to this vulnerable population.

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Commitment Devices to Improve Unhealthy Behaviors

To the Editor A Viewpoint by Dr Rogers and colleagues¹ discussed the underuse of commitment devices to improve unhealthy behaviors. The authors underlined 2 basic features of these devices: their voluntary use by patients who want to change behaviors and their reinforcement of consequences related to failed goal achievement by patients.

One of the ways that Rogers et al¹ proposed to increase the uptake of these devices was by requiring patients to opt out of commitment devices. Even though I support nudge interventions to modify population health, I foresee some barriers or precautions to take when generalizing findings from studies on commitment devices.

First, interventions on the default options in which participation is assumed unless individuals opt out have been shown effective,² whereas studies on commitment devices are based on voluntary participation, thereby involving participants who are willing to at least consider a behavioral change. However, a

segment of the population is resistant to adopting new behaviors, as described in the diffusion of innovation theory.³

Although this portion of the population is not included in studies on commitment devices, a negative response to any intervention might be expected. Initial predisposition to change will affect the perception of the intervention and its effectiveness on behavior change.

Second, as commitment devices are implemented in the general population, it is important to carefully consider how these interventions are perceived based on research on framing and behavior change. A commitment device can be perceived positively as a motivator, reinforcing new behaviors (carrot). But the same commitment device can be perceived as a requirement, which unless fulfilled, will lead to the loss of a previously acquired privilege (stick).

Tversky and Kahneman⁴ showed that response to change is more intense when the changes are unfavorable (result in losses) than when they result in improvements. Yet the feeling of constraint can decrease a person's willingness to adopt a new behavior and can shift motivation from intrinsic to extrinsic.⁵ Because long-term change is more effective with intrinsic motivation, this form of nudging for the general population may actually have an unintended negative effect.

As public health policies seek to nudge the population to healthier behaviors, the implementation of commitment devices or other default changes should include careful consideration of patient perceptions.

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In Reply Our Viewpoint described commitment devices and argued that they should be more widely used in health care. Commitment devices enforce voluntarily imposed restrictions on people until they have accomplished their goals or enforce voluntarily imposed penalties if they do not accomplish their goals.

Taking disulfiram in the morning so a person with alcoholism will be sick if he or she drinks alcohol in the evening is an example of a commitment device. Scheduling workouts with a partner to increase the cost of skipping the gym (ie, disappointing friends) is another example of a commitment de-

vice. Recent behavioral science research finds significant demand for commitment devices and that such devices can improve health outcomes ranging from weight loss to smoking cessation.

An obvious question is why would anyone voluntarily impose restrictions on himself or herself. The answer is that some people are self-aware about the fact that owing to limited willpower, they sometimes do not follow through on their best intentions and thus could fail to accomplish their current health goals. These people find commitment devices attractive as a means of precommitting themselves to pursuing healthy future behaviors.

Dr Blondon raises the possibility that encouraging increased use of commitment devices may have some unintended negative consequences. The hypotheses she puts forth can only be tested with data, and we agree that future research is needed. In fact, our Viewpoint called for additional research addressing such important open questions. That said, we respectfully contest Blondon's predictions about what such research would uncover.

Blondon's first proposition is that individuals who would not readily adopt commitment devices without encouragement may react unfavorably if they are urged to adopt them. We would predict just the opposite. Persons who most readily adopt commitment devices are unusually self-aware about the risk that they may not achieve their health goals due to future willpower failures.¹ Such self-aware patients are the most likely to seek out and use other support systems and therefore may be likely to benefit the least from commitment devices.

The second concern Blondon raises is that experiencing the restrictions associated with commitment devices could suppress intrinsic motivation and therefore suppress future demand for commitment devices. A recent study found that the majority (57%) of people who experienced an externally imposed restriction designed to induce more exercise subsequently elected to self-impose the same restriction (ie, use it as a commitment device) to motivate more exercise moving forward.² Thus, the only evidence we know of to date addressing this issue suggests commitment devices do not appear to undermine future motivation.

Even though more research is needed on how best to encourage the use of commitment devices and who will benefit most from them, we believe that they can and should be used to improve societal health outcomes.

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Editor's Note

Clarification of Inaccurate Statement

The editors would like to clarify the last sentence of the first paragraph of the Brief Report entitled "Medical Communication Companies and Industry Grants" published in the December 18, 2013, issue of *JAMA*, as we believe the sentence could be read as suggesting that all medical communication companies participate in certain marketing activities, which is not accurate. The authors disagree with this interpretation and the need for a clarification. The sentence has been modified online to read: "Known best for arranging continuing medical education (CME) programs, they also may develop prelaunch and branding campaigns and produce digital and print publications."

CORRECTION

Clarification: In the Brief Report entitled "Medical Communication Companies and Industry Grants" published in the December 18, 2013, issue of *JAMA* (2013;310[23]:2554-2558. doi:10.1001/jama.2013.281638), the last sentence of the first paragraph in the article requires clarification. It should read: "Known best for arranging continuing medical education (CME) programs, they also may develop prelaunch and branding campaigns and produce digital and print publications." This article was corrected online.

Errors in Clinical Crossroads: In the Clinical Crossroads article entitled "Assessment and Lifestyle Management of Patients With Obesity: Clinical Recommenda-

tions From Systematic Reviews," published in the September 3, 2014, issue of *JAMA* (2014;312[9]:943-952. doi:10.1001/jama.2014.10432), several errors occurred. On page 944, in the third paragraph of the left column, the second sentence should have read "Her only medication is paroxetine, 50 mg/d." On page 945, the second-to-last sentence of the second paragraph under "Taking an Obesity-Focused History" also should have stated that Ms T is taking paroxetine, not fluoxetine. On page 950, in the paragraph under "Recommendations for Ms T," the third sentence should have stated that Ms T should try to accumulate at least 150 minutes of moderately vigorous physical activity on a weekly basis [not a daily basis] and discuss with her physician the substitution of paroxetine [not fluoxetine] with an alternative antidepressant. This article was corrected online.

Guidelines for Letters

Letters discussing a recent *JAMA* article should be submitted within 4 weeks of the article's publication in print. Letters received after 4 weeks will rarely be considered. Letters should not exceed 400 words of text and 5 references and may have no more than 3 authors. Letters reporting original research should not exceed 600 words of text and 6 references and may have no more than 7 authors. They may include up to 2 tables or figures but online supplementary material is not allowed. All letters should include a word count. Letters must not duplicate other material published or submitted for publication. Letters not meeting these specifications are generally not considered. Letters being considered for publication ordinarily will be sent to the authors of the *JAMA* article, who will be given the opportunity to reply. Letters will be published at the discretion of the editors and are subject to abridgement and editing. Further instructions can be found at <http://jama.com/public/InstructionsForAuthors.aspx>. A signed statement for authorship criteria and responsibility, financial disclosure, copyright transfer, and acknowledgment and the ICMJE Form for Disclosure of Potential Conflicts of Interest are required before publication. Letters should be submitted via the *JAMA* online submission and review system at <http://manuscripts.jama.com>. For technical assistance, please contact jama-letters@jamanetwork.org.

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