Falsification and pharmacovigilance: What do patients get to see and what should they do with it?

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Main points: Recent legislation assumes that visual information can have direct effects on the behaviour of people. It starts from the assumption that a symbol could improve the reporting of side-effects and that a logo has an influence on the online buying of unreliable medicines. Legal requirements also suggest that patients could and should verify authentic packaging, recognize tampering, and identify individual packs.

I think that it is unlikely that a modification in the visual presentation has much influence on these actions of people. The fundamental problem of the legislation is that it prescribes standardized solutions. It does not describe what needs to be achieved, it does not use adequate criteria, it does not indicate an appropriate process, and it does not specify relevant performance levels. If we want to 'enable people to act appropriately', then it is necessary to pay attention to these four elements of effective communication.

Recent legal requirements influence visual information for patients

The 'Falsified medicines directive' (2011/62/EU) and the 'Pharmacovigilance regulation' (No 1235/2010) will influence some of the information that patients receive about medicines. In both the directive and the regulation, several forms of visual communication are mentioned.

The Falsified medicines directive demands three safety features: verification of authenticity, identification of individual packs, and provide evidence of tampering. The 'verification of authenticity' and 'evidence of tampering' will be seen by patients. Some identification features might be visible, others are probably not. The directive also asks for a 'common logo' (Article 85c(3) of Directive 2001/83/EC.), an 'awareness campaign to warn of the risks of purchasing medicinal products from illegal sources via the Internet' (Note 26 of Directive 2011/62/EC.), and 'information campaigns' about the dangers of falsified medicinal products (Article 85d of Directive 2001/83/EC.).

The pharmacovigilance regulation asks for a 'symbol' and suggests a 'black triangle' that will be explained in the package leaflet (article 23(5) of Regulation (EC) No 726/2004). There will be a 'standard web-based structured forms' (article 25 of Regulation (EC) No 726/2004) and a 'web-portal for the dissemination of information on medicinal products'. (article 26 of Regulation (EC) No 726/2004)

I'm pleasantly surprised that the European Parliament and the Council take visual communication seriously and include it directly into the legislation. In the next years, patients are likely to notice changes in packaging, new logos on websites, forms on websites, digital medicine portals, and different campaigns. All of these artefacts need to be designed and developed.

Where are we now?

The visual artefacts are in different stages of development at the moment. The three safety features are being developed, discussed, produced, and tested.

The common logo has been developed and two preliminary designs are depicted below. There has been a public consultation on these logos, and the results of this consultation have been published.

The symbol has been agreed upon: a black triangle ▼ (Selection of a symbol, 2013). The aim of this triangle is described as: "Patients and healthcare professionals should be able to easily identify medicinal products that are subject to additional monitoring in order to allow them to share with the competent authorities and the marketing authorisation holder any information they have from the use of the medicinal product and in particular to report suspected adverse reactions." The black triange is explained in the package leaflet (QRD-template version 9, March 2013) as:

> " ▼ This medicine is subject to additional monitoring. This will allow quick identification of new safety information. You can help by reporting any side effects you may get. See the end of section 4 for how to report side effects."

The databases and reporting systems are available. For example the 'European Database of suspected adverse drug reaction reports' (EudraVigilance, 2014).

I'm not sure how far the information campaigns and awareness campaigns are. Their timing needs to be considered in relation to the introduction of the safety features on the packaging.

People, actions, and criteria: Are the expected outcomes and criteria related to the chosen media?

I'm a bit worried about the sustained – but unsupported – confidence that the European Parliament and Council have in the effects of visual information. The criteria that are mentioned indicate that there is a substantial discrepancy between the expectations and the actual results. Three examples are:

- A common logo must be '*recognisable across the Union*' (Falsified Medicines Directive, point 25; article 85c, point 3). There are very few logos at the moment that are truly recognisable across the European Union, and it needs to be questioned if this is possible at all.
- An abstract symbol '*can identify*' or will '*easily identify*' a medicine that is subject to additional monitoring (point 17 of Regulation (EC) No 1235/2010; point 2 of Regulation (EC) No 198/2013). It is expected that this 'allows them *to share* any information they have from the use of the medicinal product and in particular to report suspected adverse reactions'. However, there is little relation between the shape of the symbol and its meaning. This is likely to make both the 'identification' as well as 'the sharing of information' difficult.
- Raising public awareness in an 'awareness campaign' (Falsified Medicines Directive, point 26) can effectively warn of the risks of purchasing medicines via the internet.

In the legislative texts, there are several descriptions of 'people who need to look at visual information'. The directive refers to people as 'public', or 'general public'. Furthermore, it mentions 'consumer awareness', 'patients', and 'healthcare professionals'. The differences between these groups are not made clear. For example, the difference between 'Patient' and 'Consumer' is important, because their meanings change according to the situation. A person who uses 'prescription only medicines' is a patient, but if this person buys these medicines in a digital store, he or she becomes a consumer.

The combination of criteria that are not directly related to the visual presentation, in combination with the vague descriptors of people who need to undertake actions, reduces the practical value of this legislation.

It is now implied that 'all patients' (regardless of their intentions, background knowledge, and practical needs) need to be able to 'recognise a digital logo' (regardless of its context). All patients must be able to report all side effects, regardless of the type of medicine or the severity of the reaction. And the awareness campaigns are not directed at anyone in particular.

The actual consequences of the legislation are therefore very hard to determine. It is not clear what is expected from whom, because the criteria and specific groups of people are not directly related to eachother. This makes it very hard to implement, and even harder to control.

Reactions from patients

The only way to find out if the expectations are relevant to patients, is to ask real patients what their opinions are, observe their actions, and ask for reactions. These are the questions that people who took part in usability tests have asked me.

- "Why do I need to check if a medicine is authentic? I thought that that was a job for a pharmacist. I just trust my pharmacist." [Concequence: trust is impaired and people start to question the role of genuine pharmacies unnecessarily.]
- "Why does each pack need to be identified? So that big brother can see exactly what I'm taking?" [For some types of medicines, unique identifiers are a costly solution that is unlikely to prevent falsifications.]
- "Why do I need to know about tampering? My pharmacists would not give me anything that he has not checked, I hope." [Consequence: some patients will have more problems to open their packs.]
- "Buying medicines over the internet should be forbidden: the risk is simply too high. You never know what you'll get." [Consequence: patients are already aware of the difference between reliable pharmacists and the unreliable digital equivalents. That knowledge just needs to be confirmed and extended, not introduced as a new fact.]
- "Such a logo won't work: it's too easy to copy. Even if a site has many logos, you still don't know if you can trust them." [Consequence: yet another logo is added to website, which is unlikely to enhance to trust in internet-purchasing.]
- "This 'black triangle' symbol just means that they have not tested a medicine enough. It is obviously not safe enough yet, but they just want to cover their backs." [Consequence: Patients have to learn the meaning of another symbol in another context. The benefit for a patient remains unclear.]

There are two problems with the current legislative approach.

1. The choice of a standardized symbol (▼) makes it impossible to develop alternatives that could be more effective. The introduction of a common logo might work for a while,

but it requires very substantial efforts to enforce it in the digital realm. It blocks the development of schemes that might be more effective.

2. None of the visual solutions that are mentioned in the legislation could achieve the intended performance because they ignore the current practical context and the actual problem.

An additional approach: user centered and performance based.
In order to really 'enable people to act appropriately', we need to design situations in which people are able to make suitable decisions. It needs to be clear 'who does what' in the whole process from manufacturing medicines to taking/using them. The following tasks should be considered:
- Patients must be able to check if a medicine is authentic, and bring it back to a pharmacy if it is not. [Is it likely that patients can do this? All patients? All medicines? What do pharmacists have to do with illegal copies of medicines.]
- Patients must be able to identify the code on an individual pack, and communicate this number to others. [Is this really a task for patients?]
- Patients must be able to recognize tampered packs, and report this. [How often does this happen in practice, and what would be an acceptable level of returned medicines?]
- Patients must know the risks of buying medicines at a digital shop. [All patients? All medicines? Who are most vulnerable? What are the most risky situations?]
- Prevent illegal sales of medicines. [What are the factors that influence the highest risks?]
- Motivate patients to report side effects. [It is not enough at the moment?]

A combination of knowledge (informing, training, instructing), design (visual and tangible), process (step by step), and system (the different relations between stakeholders) should be considered. This depends on situations (regional traditions, illness, availability of shops and pharmacies, access to internet), problems (risks), and approach (campaigns, packaging, websites, ...). An integrated approach in which all possible means are applied to achieve required performance levels seems an option that needs to be considered.

Preventing progress by standardizing 'solutions' that are not optimally effective should probably be avoided. Patients have to learn what an abstract standardized symbol means, click on a 'recognisable logo' to check the reliability of a digital shop, and relearn how to look at packaging. All require effort of patients that is not really essential for their activities.

References

Common logo
Public consultation: http://ec.europa.eu/health/files/falsified_medicines/commonlogo_consult.pdf
Responses to the public consultation:
http://ec.europa.eu/health/human-use/falsified_medicines/developments/2013-02_common_logo_pc_en.htm

EudraVigilance (2014)
European Medicines Agency: http://www.adrreports.eu/en/index.html
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