Infographics

Infographics visualise data or ideas, conveying complex information to an audience in a way that can be quickly understood'. They can synoptically represent essential features, flows and relationships. They are a growing presence in academia[12] (see the #VisualAbstract hashtag on Twitter). A 2018 study of A&E doctors[3] found they preferred infographics summarising journal articles; these lowered their cognitive loads and did not worsen retention. Producing infographics is demanding, requiring authors to understand the big picture of how complex data and concepts relate to each other, and then rework that big picture into a new form for an audience. Consequently, as a sophisticated act of synthesis and communication, infographics offer powerful learning opportunities for students.
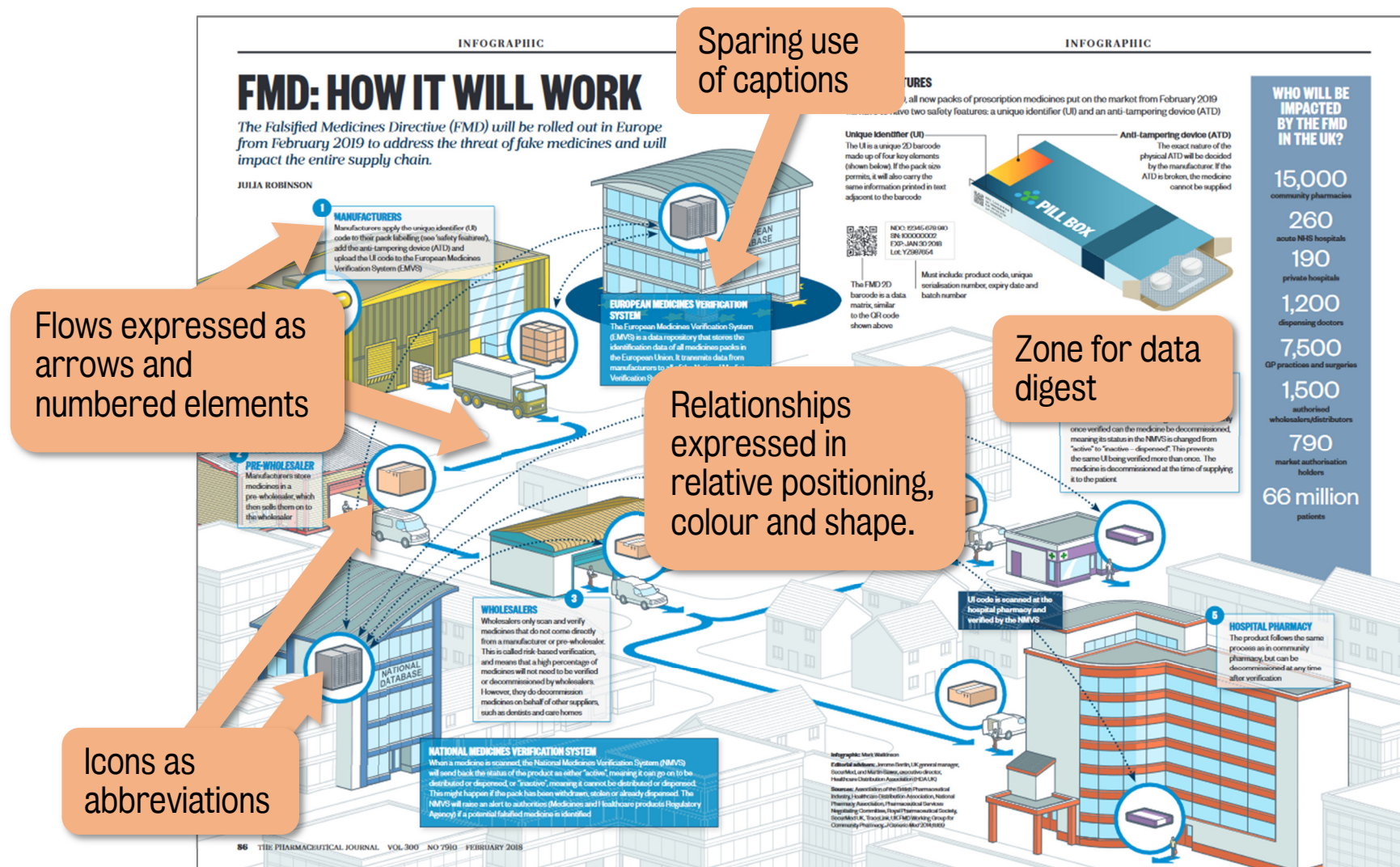

Figure 1: Watkinson, M. (2018). Falsified medicines directive: how it will work. Available from: https://www.pharmaceutical-journal.com/download?ac=1075110

Opportunities in education	Good to know
Representing ideas and data in different ways is helpful when learning difficult concepts[4].	A real or well-conceived audience[5] - e.g. peers or policy makers - can help students focus on effective communication and make the task more meaningful.
Infographics are a measure against regurgitating information (not associated with significant learning).	To come to a shared understanding of standards, students can apply the assessment criteria to examples[6] as part of a guided marking activity[7].
Rubrics exist for assessing infographics[8]. Good criteria help students maintain focus on concepts and avoid over-diversion into technical skills.	If working in groups at a distance, students can use networked platforms for authoring and web meeting.
No need for special software or skills - students can author in familiar software (see for example https://www.surgeryredesign.com/resources)	Having a real or imagined audience in mind, and specifying their needs, helps to focus communication.
Groupwork gives students an opportunity to articulate their interpretations and representations for each other, deepening their learning.	Giving peer feedback helps develop judgment, and exchange practice and interpretations[910].
Assessors (including peer markers, where arranged) often find marking this kind of work very enjoyable.	Inexperienced students need support balancing the effort put into concepts and communication.

[1] Ibrahim, A., 2018. Seeing is believing: using visual abstracts to disseminate scientific research. Nature. https://www.nature.com/articles/ajg2017268

[2] STEM Literacy Infographics. Research and publications. http://science-infographics.org/research-and-publications/

[3] Martin, Lynsey J., Alison Turnquist, Brianna Groot, Simon Y.M. Huang, Ellen Kok, Brent Thoma, and Jeroen J.G. van Merriënboer. 2018. "Exploring the Role of Infographics for Summarizing Medical Literature." *Health Professions Education*, March. https://doi.org/10.1016/j.hpe.2018.03.005.

[4] Land, Ray, Glynis Cousin, Jan H. F. Meyer and Peter Davis. 2005. Threshold concepts and troublesome knowledge (3): implications for course design and evaluation. In: Rust, C. 2005. Improving student learning, diversity and inclusivity. Oxford: Oxford Centre for Staff and Learning Development. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.644.7648&rep=rep1&type=pdf

[5] Fung, Dilly. 2017. *A Connected Curriculum for Higher Education*. UCL Press. https://doi.org/10.14324/111.9781911576358.

[6] Tucker, C. 2013. Student Designed Infographics: Process & Products. https://catlintucker.com/2013/11/student-designed-infographics-process-products/

[7] Bloxham, Sue, Birgit den-Outer, Jane Hudson, and Margaret Price. 2015. "Let's Stop the Pretence of Consistent Marking: Exploring the Multiple Limitations of Assessment Criteria." *Assessment & Evaluation in Higher Education*, March, 1–16. https://doi.org/10.1080/02602938.2015.1024607.

[8] Nuhoğlu Kibar, Pınar, and Buket Akkoyunlu. 2017. "Fostering and Assessing Infographic Design for Learning: The Development of Infographic Design Criteria." *Journal of Visual Literacy* 36 (1): 20–40. https://doi.org/10.1080/1051144X.2017.1331680.

[9] McConlogue, Teresa. 2014. "Making Judgements: Investigating the Process of Composing and Receiving Peer Feedback." *Studies in Higher Education*, February, 1–12. https://doi.org/10.1080/03075079.2013.868878.

[10] Carless, David, and David Boud. 2018. "The Development of Student Feedback Literacy: Enabling Uptake of Feedback." *Assessment & Evaluation in Higher Education*, May, 1315–25. https://doi.org/10.1080/02602938.2018.1463354.