# Portraying Your Data

## A guide to creating infographics

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### Key messages

- Understanding and acting on various forms of data are key to tackling a wide range of problems.
- Data can be overwhelming, and an important component of the nutrition data value chain is to communicate the insights effectively and efficiently.
- Visual storytelling can be a powerful tool to translate insights gathered in order to engage people to act on important nutrition data and also to help policymakers arrive at their decisions quickly.

From the moment we wake up to the time we go to sleep, we are bombarded with data from innumerable sources. We collect data points almost subconsciously, but on their own they don't mean anything. Data is only as useful as it is understandable.[1]

### But how do humans make sense of data?

Two ways of understanding data are through stories and visuals. According to a study conducted by neuroscientists, words lit up only two parts of the brain, but when they conveyed a narrative, they activated more than two.[2] This research showed how "stories ... stimulate the brain and even change how we act in life."[3]

If humans make better decisions based on the stories they engage emotionally with, and if human brains can process visuals more rapidly than text, how might we use visual storytelling – a tool that combines both stories and visuals to engage people and make them act upon important nutrition data?

> "Evidence-based narratives are gaining precedence for driving change"

While there are many ways out there for visual storytelling, evidence-based narratives are gaining precedence for driving change and influencing laypeople and decision-makers alike. Storytelling with data includes three key elements: **data, visuals and narrative**. Unlike the presentation of mere statistics, data storytelling increases memorability, is more persuasive and can engage the viewer more.[4] The shift toward data-driven decision-making is transforming how companies organize, operate, manage talent and create value.

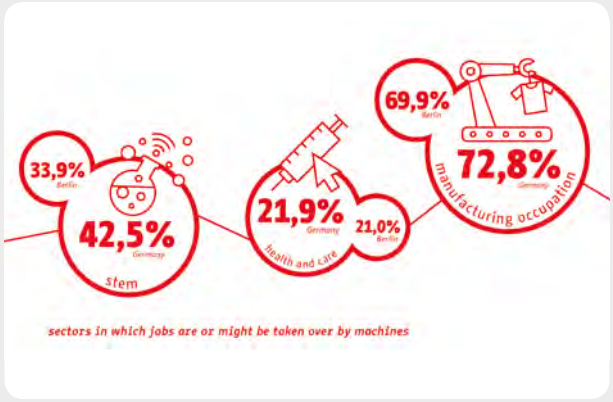
A good infographic, one of the many tools used for storytelling with data, combines a strong narrative with engaging visuals so as to present significant insights. When combined with an action-oriented title or subtitle, the infographic becomes even more memorable.[5] Infographics can therefore be a powerful tool for translating insights into actionable advice, and can be directly useful for decision-making purposes.[6]

> "The five attributes of a great infographic are contrast, hierarchy, accuracy, relevance and truth"

**FIGURE 1:** The Food of Art by Nadeem Haidary


The Food of Art by Nadeem Haidary analyzes masterpieces for their nutrition content; here the visual and the data together make a compelling narrative

**FIGURE 2:** An example of a digital poster




The information is presented effectively without the larger context in this infographic designed by Jana Eger
**Credit:** © Copyright SenIAS (www.berlin.de/arbeit-4-punkt-0/online-dialog/artikel.609914.php)

**FIGURE 3:** Caloric Consumption by Nadeem Haidary


In this infographic, the data is not just a number but a more immersive way of storytelling

## What is an infographic?

An infographic or information graphic is a visual representation of information or data.[7]

The five attributes of a great infographic are contrast, hierarchy, accuracy, relevance and truth.[8] Unlike data visualizations, infographics explain data rather than just showing it. They are often confused with digital posters – their 'simpler cousins', which are an effective format of graphic communication used when a simple message has to be communicated.[9] In contrast to digital posters, however, infographics expand the essence of the data by adding context and metaphor.[10]

Infographics are ideal launchpads for an immersive style of storytelling. Infographics can be animated and made interactive for screens. They can be painted as murals, and parts of them can be made tactile for the viewer to interact and engage with. They can even be transformed into spatial installations where the audience experience the data physically. The opportunities are endless.

## Getting started

Before starting to design an infographic, it's useful to address the what, the who and the how.

### *What is it?*

Michael Bierut, partner at the design consultancy Pentagram, says: "The great thing about graphic design is that it is almost always about something else. And if I can't get excited about whatever that something else is, I really have trouble doing good work as a designer." As with any kind of design, designing an effective infographic means understanding the content clearly and being interested in the insights it conveys.

### *Who is the infographic for?*

Clearly defining who the infographic is for determines its tone and the style, while also helping in the building of the narrative – which could be explanatory (seeking to objectively educate or inform), editorial (suggesting value judgments), persuasive (seeking to influence or sway) or exploratory (testing multiple alternative hypotheses).[11]

### *How is it going to be used?*

Is it to be printed? If yes, at what scale? The level of detail for a billboard versus a flyer will be different. Is it to be viewed on a screen? These might be static, animated or interactive. Is it going to be used in a presentation? Presentations are usually accompanied by an explanation, and hence would not require as much detail as would be necessary in the case of a print version. Other details such as color modes (CMYK or RGB), paper sizes, paper orientation and file formats should be ascertained before moving forward.

## The design process

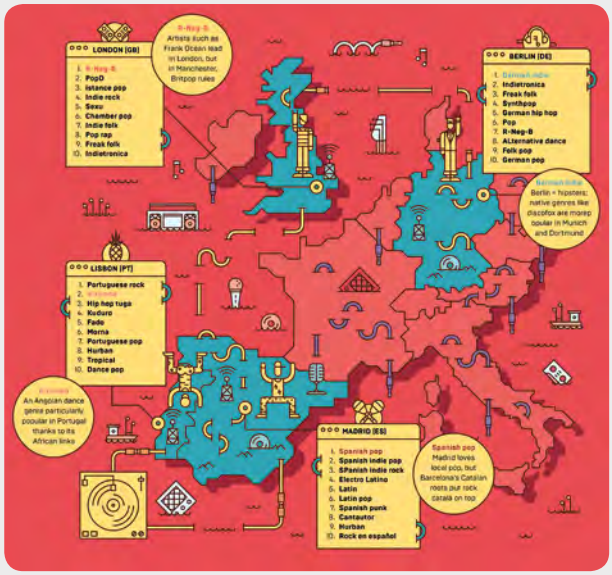
Though an iterative process, designing an infographic from start to finish can be divided into four major steps.

### *Step 1: Gather information*

Understanding the material helps in turning the data and the insights into a convincing infographic.

This step involves combing through the entire content, reading up on everything related and finding the narrative. All the material is processed – edited and cut for using in the infographic as messaging or as cues for visuals. This is followed by a discussion with the team and/or the client.

**FIGURE 4:** Target audience definition




Defining whom the infographic is for helps in determining the approach to be taken
**Credit:** Infographic designed by relajaelcoco for The Wire Magazine

**FIGURE 5:** The influence of the chosen medium


As this infographic 'Data for Culture' shows, the medium influences the design
**Photo:** K. Szewczyk CC by 4.0 Medialab Katowice

*Step 2: Develop prototype*

Once the narrative is agreed upon, all the material processed for it is taken and made into a tiered structure. The central argument is supported by other portions of information. A hierarchy like this allows for the infographic to have a clear focus but also permits the viewer to move around and find correlations on their own. According to Gareth Cook, a Pulitzer Prize-winning journalist, this is a crucial part of their persuasiveness. Finding stories on their own gives the viewers confidence that you are giving them the whole story.[13]

Once the hierarchy and the information flow are determined, the wireframe (a visual representation of the infographic's structure) is developed and a rough layout is composed, using placeholders for the final text and the visuals. The developed wireframe is used as a tool for discussion with the team and/or the client to bring everyone onto the same page and uncover issues with the narrative, if any.

*Step 3: Illustrate*

Once the wireframe is finalized, the format for presentation is chosen and a visual approach is decided. The visual approach might depend upon the brand guidelines or on any other specifications the client might have. The format is also chosen based on the brand tone, the type of content and/or the user. Some of the most common formats are: *vectors* (a type of graphical representation using lines to construct the outlines of the objects), *illustrations, photographs, data visualizations* or a combination of all of these. After a rough draft is sketched out, the illustrations are finished digitally using software packages such as Adobe Photoshop and Adobe Illustrator.

*Step 4: Iterate*

The infographic is now in its penultimate form and goes through the last stages of changes. A fail-safe way of knowing if your infographic is effective is by showing it to people who haven't been a part of the creation process. A compelling infographic strikes a balance between providing sufficient context and a focused message, so that viewers can move around it without getting disoriented. For data visualizations especially, the 'squint eye test' is a good method to test if the

### Color modes

The color mode or image mode determines how colors combine based on the number of channels in a color model. Different color modes result in different levels of color detail and file size.

For instance, CMYK (cyan, magenta, yellow, black) has four channels. This color mode is used for images in a full-color print. RGB (red, green, blue) by contrast has three. This mode is used for images on the web or in emails to reduce file size while maintaining color integrity.[12]

most important information jumps right through when one squints and observes it.

### Is your infographic lying?

Information is curated during the process of visualizing it, but excluding certain data or transforming data from one format to another may pose a danger of distortion. There is also a danger of oversimplifying complex data. As a user or a viewer, it is important to look for any bias (unconscious or otherwise) that might exist, and to interrogate the credibility of the sources and the semantics.[15]

There is a certain credibility attached to visuals. According to John Burn-Murdoch, data journalist for the Guardian, one of the reasons this happens is because of our education system. We are encouraged to critique texts, while the visuals present the final results. People trust images. But with trust comes responsibility, and as with research investigations, the design process also needs "to focus on specific investigative questions, to conduct rigorous analyses, and to communicate the most important and actionable results to a specific audience in ways that are appropriate to their level of knowledge."[16]

### Designing infographics for nutrition

One of the key messages of the 2015 Global Nutrition Report was: "Although a great deal of progress is being made in reducing malnutrition, it is still too slow and too uneven."[17] A multisectoral approach is the need of the hour if truly disruptive solutions are to be delivered. How do we collaborate with other sectors when different sectors speak different jargons? How do we develop a common language? In such situations, storytelling

### Techniques for telling stories with data graphics[14]

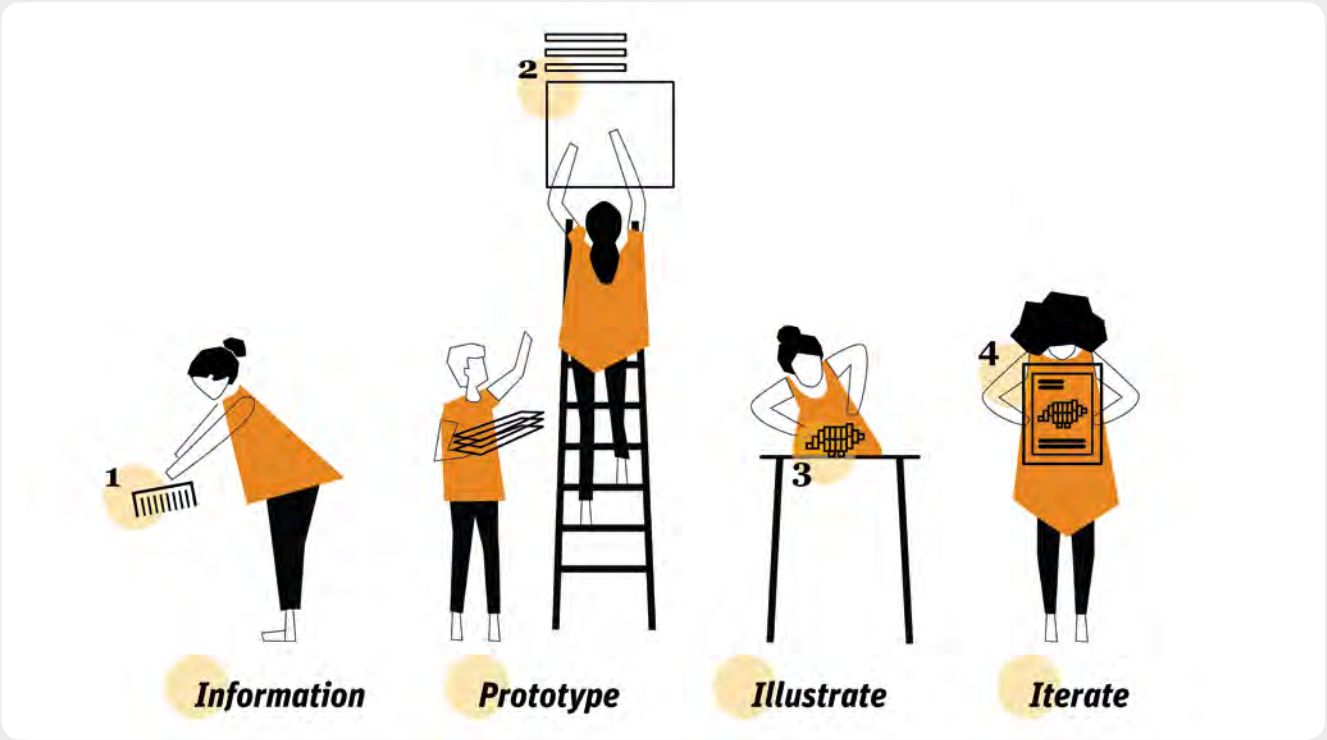
#### Visual narrative tactics

1. *Visual structuring* (consistent visual platform, progress bar, etc.)
2. *Highlighting* (color, size, boldness etc.)
3. *Transition guidance* (matching on content, etc.)

#### Non-visual tactics

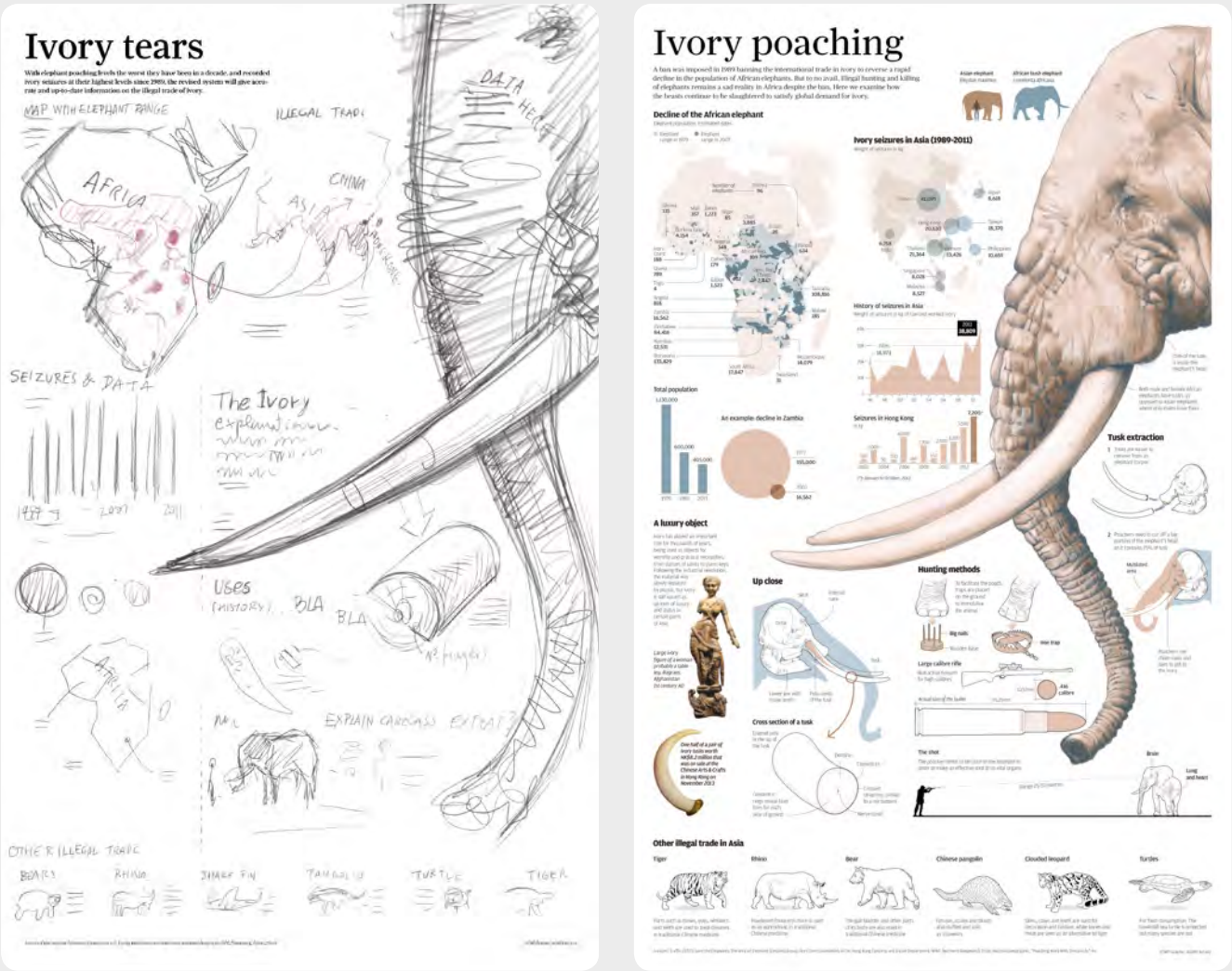
1. *Ordering* (ways of directing the path viewers take – this could be a linear path imposed by the designer, a user-directed path where the user chooses to go down one path among multiple alternatives, or no paths at all)
2. *Interactivity*
3. *Messaging*

**FIGURE 6:** The four steps in the making of an infographic




The making of an infographic, although not a linear process, can be divided into four major steps. **Credit:** Illustration and design by Anne Milan

**FIGURE 7:** An example of a finished infographic (right) and the wireframe (left)




The finished infographic uses a combination of illustrations, vectors and data visualization to give the larger context
**Credit:** Infographic by Adolfo Arranz for South China Morning Post

tools can prove useful. Storytelling through visuals has been an intrinsic part of human existence since the beginning of time. What are cave paintings but insights gathered from a sample set and then visualized using the simplest tools available? Visuals are powerful, and cut across the boundaries of sector-specific jargon. Perceived meanings of certain signs, symbols and colors are deeply ingrained culturally, and when deployed in an infographic can be used to our advantage in bridging the gap.

"What are cave paintings but insights gathered from a sample set and then visualized using the simplest tools available?"

Laying out complex nutrition data without communicating key insights is a missed opportunity. For example, imagine that a nutrition label contains data, but the insights are missing. How do consumers decide what is actually healthy for them? How do they choose between two products? Proposals such as 'My Dream Food Label' by New York Times journalist Mark Bittman and Werner Design Werks Inc. explore the idea of conveying key insights, in addition to the nutrition data, in order to prompt consumers to action.

To communicate key insights, researchers and data analysts need to collaborate with visual designers and information visualizers. Different actors taking part in the design process will bring together different perspectives and will enrich infographics and other storytelling tools before they reach the decision-makers.

Next time you are using data, consider adding a compelling story to it, and then process it to highlight the narrative. This will help you portray your data in the best possible light to initiate action.

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"Next time you are using data, consider adding a compelling story to it"

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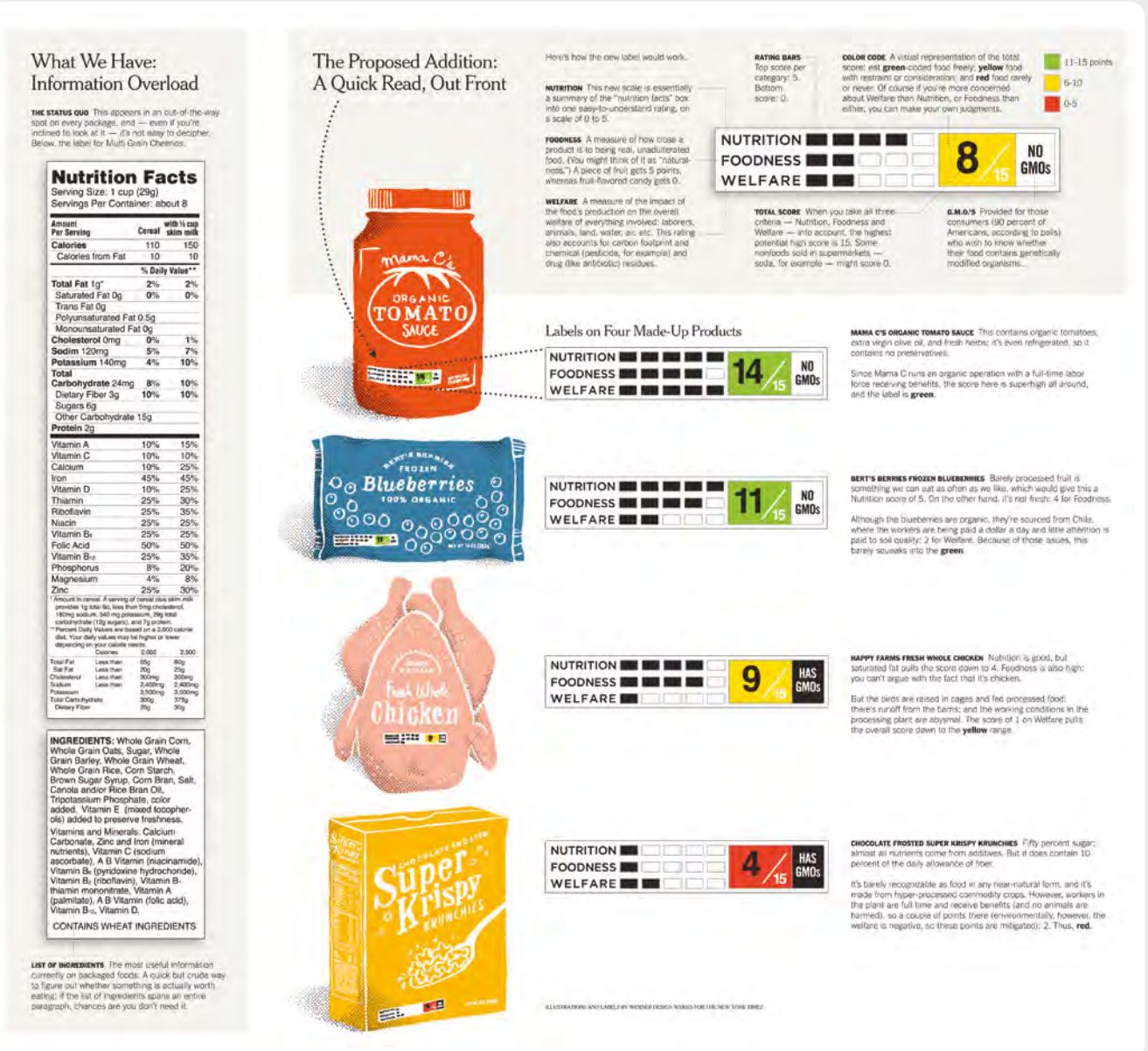
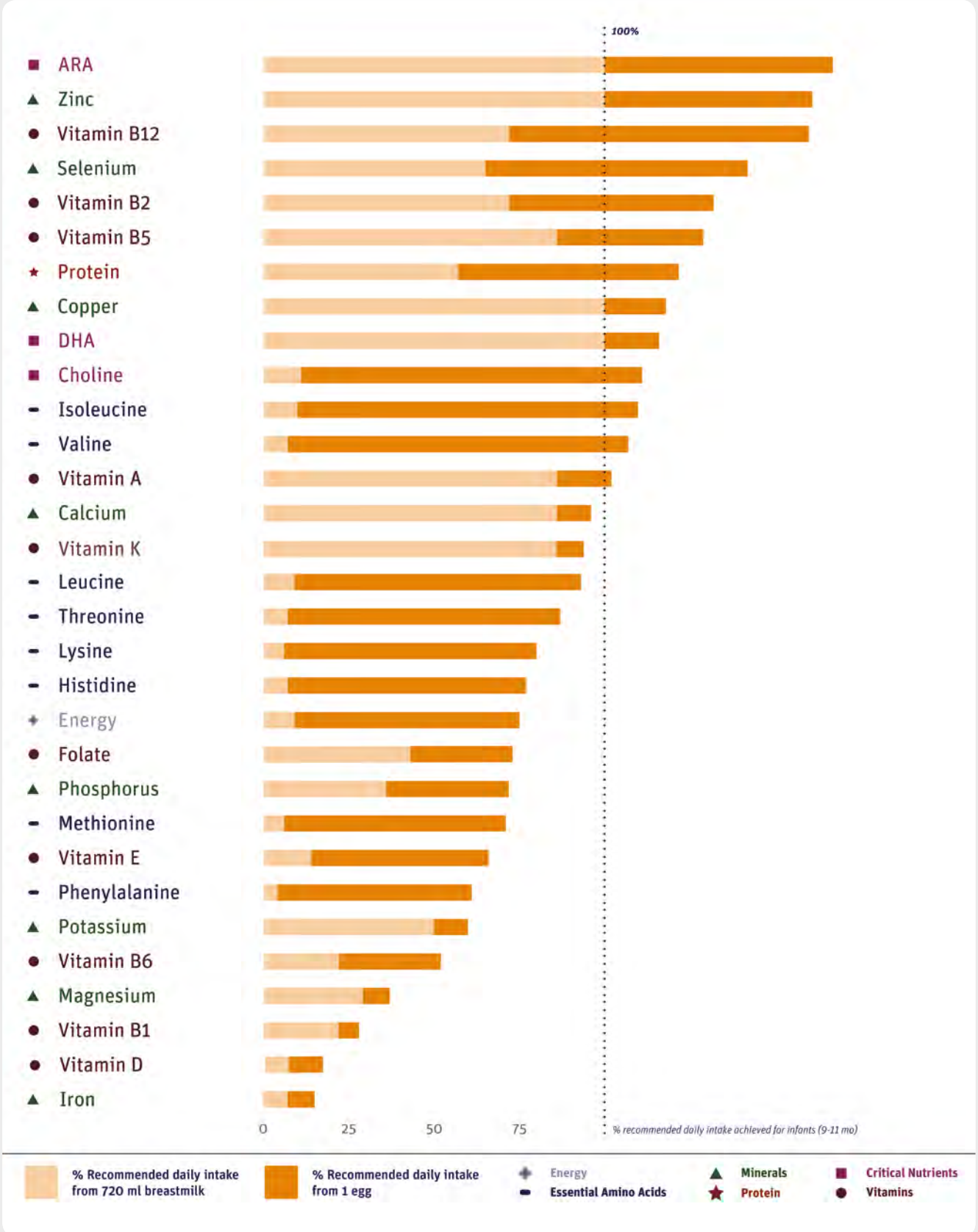
**FIGURE 8:** 'My Dream Food Label'




Design studio: Werner Design Werks, Inc. Content creation: Mark Bittman, Sharon Werner and Sarah Forss. Art directors: Matthew Dorfman and Erich Nagler, New York Times

**FIGURE 9:** Nutrients delivered by one egg to a young breastfeeding child 9–11 months old




Data visualization by Anne Milan for *Sight and Life*

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