NICE and computable guidelines

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What are computable guidelines?

"...a representation of written guideline recommendations in computer readable [interpretable] format..."

Michaels M. Adapting Clinical Guidelines for the Digital Age: Summary of a Holistic and Multidisciplinary Approach.

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Why do we need computable guidelines?

We need to move our guidelines away from long form, narrative content in static web pages or PDFs, so that it can be more easily picked up by clinical system suppliers. This will enable us to:

Focus on what matters most

Guidelines that are implemented in clinical systems, ensure that patients are treated, with our guidelines, based on their clinical presentations.

Provide useful and useable advice

Clinicians will be presented with our guidelines more easily, based on their patient mix. It will also ensure they are provided with the most up to date guidance.

Constantly learn from data and implementation

Ensuring that our guidelines are picked up in clinical systems enables us to learn from its implementation, by using the generated real-world data.

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How do we achieve it?

Building on existing work from digital living guidelines

- In May 2022 the NICE content advisory board (CAB) set up “collaborathons”, bringing together clinicians, academics and industry experts working in computable guidance.
- The aim: to explore a range of technical approaches to transition NICE towards production of standards-based computable decision support.
- Initial focus was on type 2 diabetes.
- Two “collaborathons” were held in November 2022 and March 2023.
- Following the collaborathon 1, 3 workstreams were formed, user stories and trigger event, information model and definitions, horizon-scanning and output format.
- Collaborathon 2 consolidated progress across workstreams.
- These were known as the NICE Computable Implementation Guidance (NCIG) Group.

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Digital Adaption Kits

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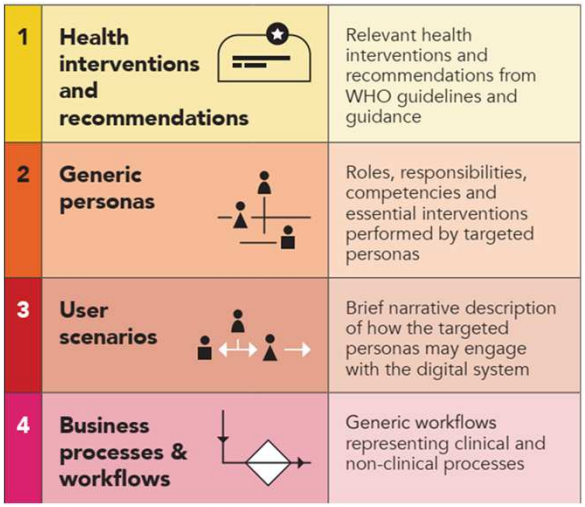
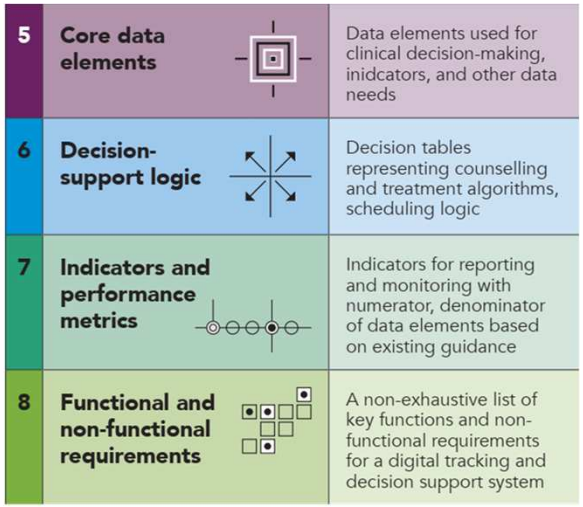
Digital Adaptation Kits (DAKs)

Digital Adaptation Kits (DAKs) are part of the WHO's SMART guidelines initiative to ensure evidence-based guideline content is accurately reflected in the digital systems countries are adopting.

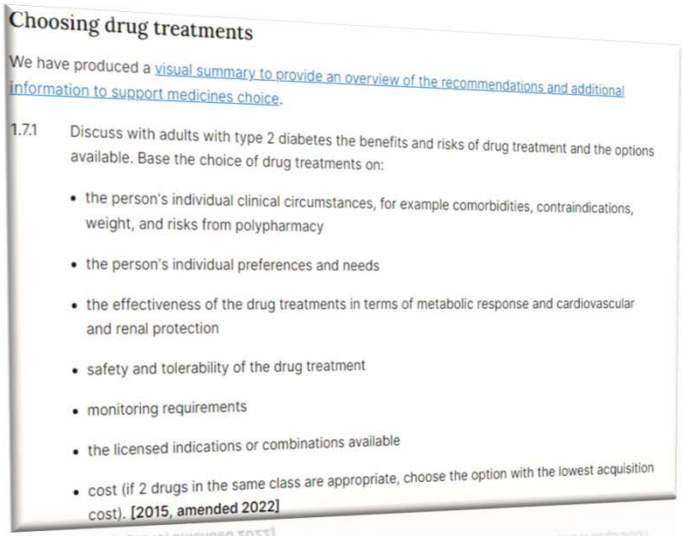
The DAKs are software-neutral, operational, and structured documentation based on WHO clinical, health system and data use recommendations to systematically and transparently inform the design of digital systems.





Current “process”

Guideline



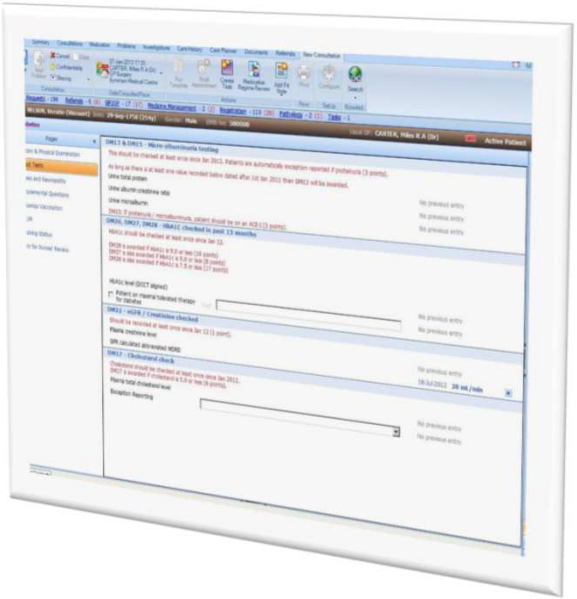
Choosing drug treatments

We have produced a visual summary to provide an overview of the recommendations and additional information to support medicines choice.

1.7.1 Discuss with adults with type 2 diabetes the benefits and risks of drug treatment and the options available. Base the choice of drug treatments on:

- the person's individual clinical circumstances, for example comorbidities, contraindications, weight, and risks from polypharmacy
- the person's individual preferences and needs
- the effectiveness of the drug treatments in terms of metabolic response and cardiovascular and renal protection
- safety and tolerability of the drug treatment
- monitoring requirements
- the licensed indications or combinations available
- cost (if 2 drugs in the same class are appropriate, choose the option with the lowest acquisition cost). [2015, amended 2022]

GP template



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QRisk2 in TPP “fixed” but up to 270,000 patients affected

Up to 270,000 patients have been affected by errors in a cardiovascular disease risk digital calculator, which is being blamed on a “code mapping" issues.

“…the company [TPP] said some of these may have received faulty readings that meant their risk of heart attack or stroke was slightly overestimated or underestimated.” Digital Health, 2016

Guideline

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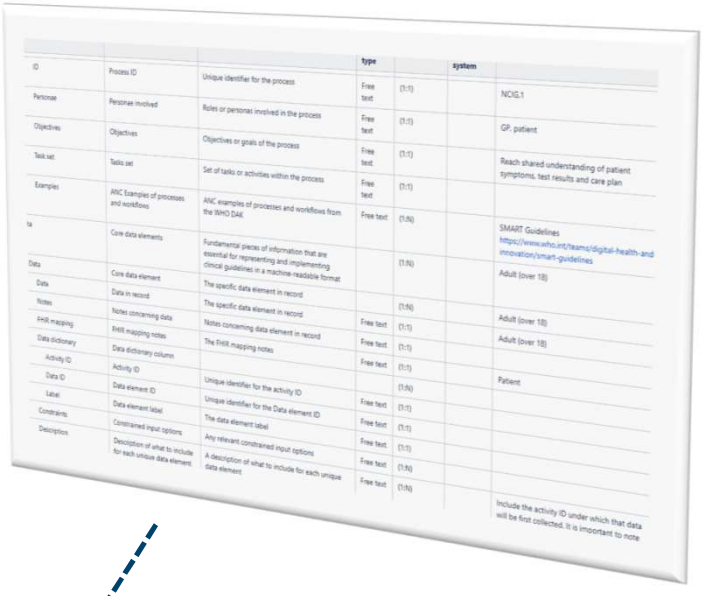
DAK



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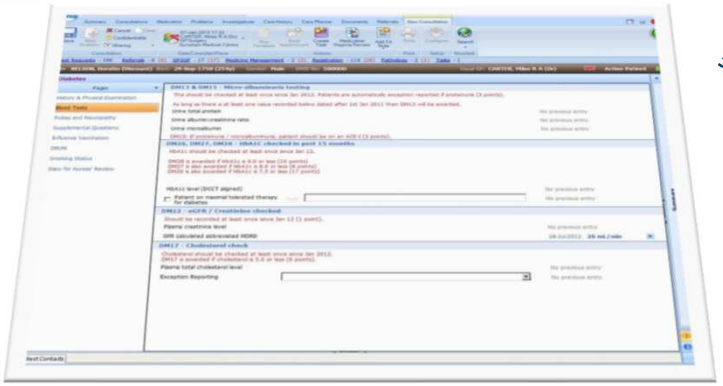

Moving from supplier interpreting NICE guidelines for their systems to NICE making guidelines computable.

Collaborate

Continued collaboration

The NCIG will progress with one stream of work, while a NICE team composed of data and analytics and quality standards and indicators colleagues will progress another in parallel.

NCIG (working on type 2 diabetes)

- Agreeing and completing a DAK data model.
- Developing GP template based on the DAK.
- Developing analytical scripts based on the DAK
- Feeding into work by the PRSB and NHSE.

- NICE members on the NCIG.
- Weekly meetings.
- Formal face to face in October.
- Sharing and commenting on each piece of work.

NICE (working on CKD quality standard)

- Using an agreed DAK data model populating for CKD.
- Testing the CKD DAK with interested GPs
- Exploring assistive technologies to produce DAKS e.g AI.
- Proposing how this can be applied to NICE's portfolio.

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Next steps

- Initial NCIG group to carry on with development of DAK for type 2 diabetes as well as additional outputs and discovery work.
- NICE to lead and publish a DAK for CKD quality standard by January 2024 followed by testing.
- Explore computability as a use case for AI.
- Explore secondary care use cases.
- Recommendations to NICE on how we approach computable guideline development in the future.

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10