How AI is Being Used in Medical Communications

PRESENTED BY

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costello medical

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  What medical writing is and how I got into it

- **How is AI Being Used in Medical Communications?**
  Key areas where AI is currently being applied and what the future could bring

Medical Communications and My Career Path

My Career Path

2010-2014 → BA and MSc in Natural Sciences (Chemistry) a the University of Cambridge

2014-2018 ♦ Industrial PhD in Medicinal Chemistry with GSK and the University of Strathclyde

2018 ♦ Joined Costello Medical as an Analyst/Medical Writer

A global healthcare agency.

We provide scientific support in the analysis, interpretation and communication of clinical and health economic data.

Our Clients

| Pharmaceutical Companies | Medical Device Companies | Public Sector Bodies | Non-Profit Organisations |

Our Services

Evidence Development | Value and Access

Medical Communications

What is Medical Communications?

Communicating medical and scientific data and information...

...to a variety of different **audiences**...

... in a range of different **formats**

MedComms at Costello Medical

Medical Affairs

Scientific quality within the art of medical communications and engagement

Publications

From strategic planning right through to publication

Creative

Enhancing the science with compelling graphic, digital, and motion design solutions

What We Do

- Scientific communication platforms
- Strategic publication planning
- Publications development
- Medical affairs strategic planning
- Omnichannel strategy
- Advisory boards
- Investigator meetings
- Medical information materials
- Scientific congress coverage
- Medical education and events
- Patient engagement
- Health policy

Medical Writing

Medical writers work to translate complex scientific data into accessible and informative content, ensuring accuracy and clarity for their target audience

Publication

Developing manuscripts (articles) for scientific journals, and abstracts and presentations for congresses

Educational

Developing materials for educating healthcare professionals and patients, such as continuing medical education content and patient information leaflets

Regulatory

Creating documents required by regulatory agencies for drug approval, such as clinical trial reports and regulatory submissions

Promotional

Producing promotional materials for healthcare products, including brochures, slide decks, and digital content

Medical Writing

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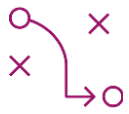| Publication	Educational	Regulatory	Promotional
Developing manuscripts (articles) for scientific journals, and abstracts and presentations for congresses	Developing materials for educating healthcare professionals and patients, such as continuing medical education content and patient information leaflets	Creating documents required by regulatory agencies for drug approval, such as clinical trial reports and regulatory submissions	Producing promotional materials for healthcare products, including brochures, slide decks, and digital content

Publications

Medical Affairs

Areas I've been involved
in at Costello Medical

Pursuing a Career in MedComms

Why a career as a medical writer?

I was really interested in the blend of science and communication and work where I would be able to get down into the details of a topic

What were my Motivations?

I wanted to use my scientific background and skills and work at a point in the healthcare pipeline where I could bring value

How my PhD gave me relevant experience for my role?

My PhD helped me understand where my skills lay and what I wanted to do with them; a PhD isn't needed for my job, but I wouldn't have found this career path without doing my PhD first, and equipped me with the needed critical thinking, data analysis, and scientific writing skills

TOPS TIPS!

- TIP 1: Do some writing!

  My etymology blog:
  www.chemtymology.co.uk

- TIP 2: Talk to people!

Skills Required to be a Medical Writer

Scientific Writing & Attention to detail

Verbal Communication

Scientific Knowledge & Literacy

Analytical

Team player & Collaborative

My Career Path

2018 — Joined Costello Medical as an Analyst/Medical Writer

2020-2021 — I received a Postgraduate Certificate in Clinical Trials at the London School of Hygiene and Tropical Medicine, University of London

2021 — Promoted to Senior Medical Writer

2022 — Promoted to Publication Manager

Joined AI Taskforce

2023 — I received my Certified Medical Publication Professional (CMPP) qualification

2024-Present — Role change to Principal Medical Writer

How is AI Being Used in Medical Communications?

Developing Publications with a Medical Writer
The Process

Authors discuss publication contents with each other and medical writer

Medical writer writes a draft

Authors review and send comments

Submit to journal once authors are happy

Medical writer revises draft

Integrating AI into Publication Development
Concerns

1. CONFIDENTIALITY:
- Unpublished data from out clients is highly confidential, particularly if it is on individual patients from clinical trials
- Confidential material should not be uploaded to a tool where it can be used to train a model
  - At Costello we have an internal chatbot running the ChatGPT API
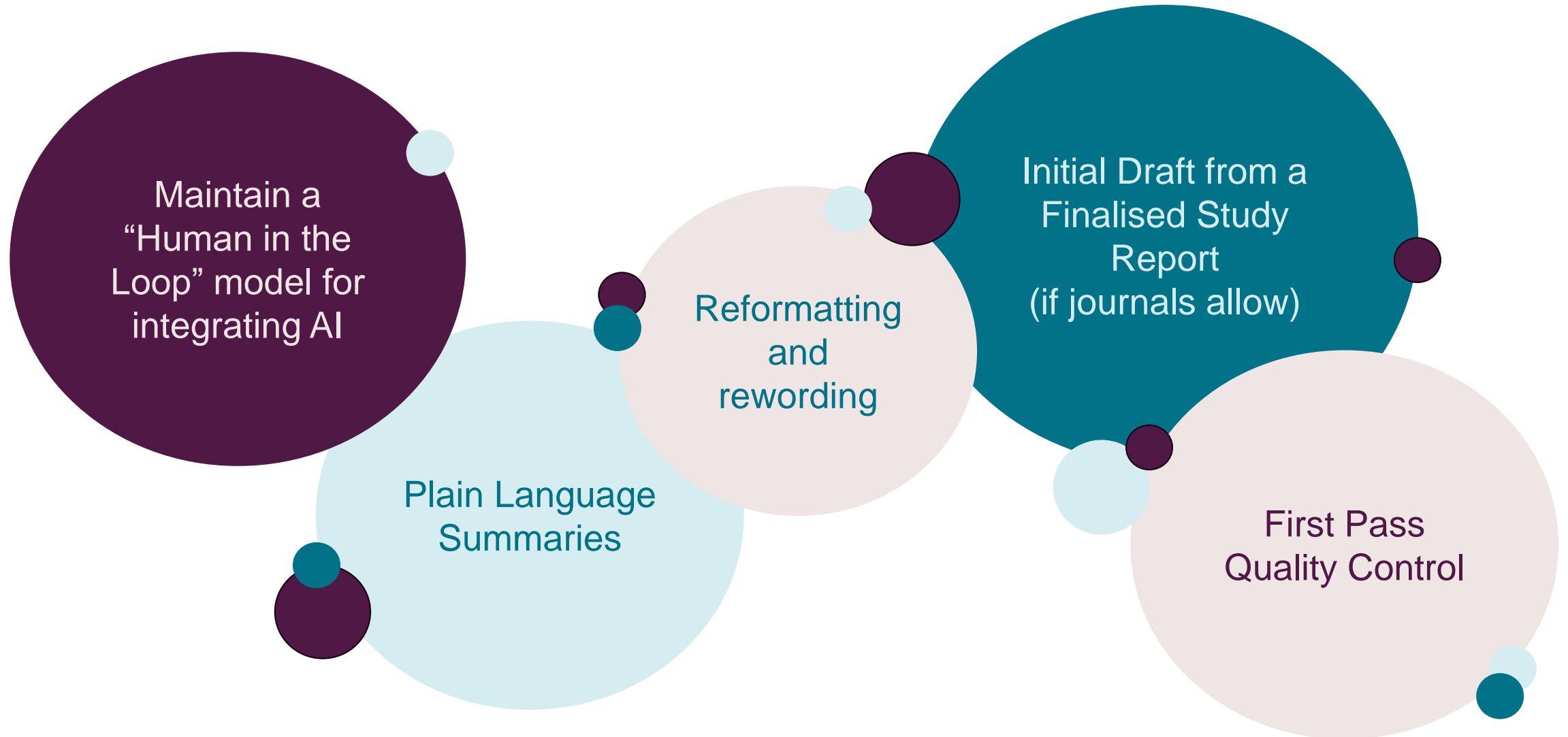
2. WRITING FROM SCRATCH:
- **Introducing Errors and Bias:** If outputs are used without confirmation errors and biases existing on the internet or introduced by the AI model can be perpetuated

3. TRANSPARENCY AND GUIDELINES:
- **Journal Guidelines**: Journals have varied guidelines, mostly requiring disclosure that AI has been used, and how, which can vary. For example, some state that if AI is used in the writing process, it should only be used to improve readability and language
- **Inadvertent Plagiarism:** If text is written without referring to the original references, we may be plagiarising without knowing it

Integrating AI into Publication Development
What Can We Do?

Maintain a "Human in the Loop" model for integrating AI

Plain Language Summaries

Reformatting and rewording

Initial Draft from a Finalised Study Report (if journals allow)

First Pass Quality Control

Summarising Information: Congress Coverage

A lot of information is disseminated at scientific conferences and it we are often involved in projects helping to summarise key insights that are relevant to a particular audience
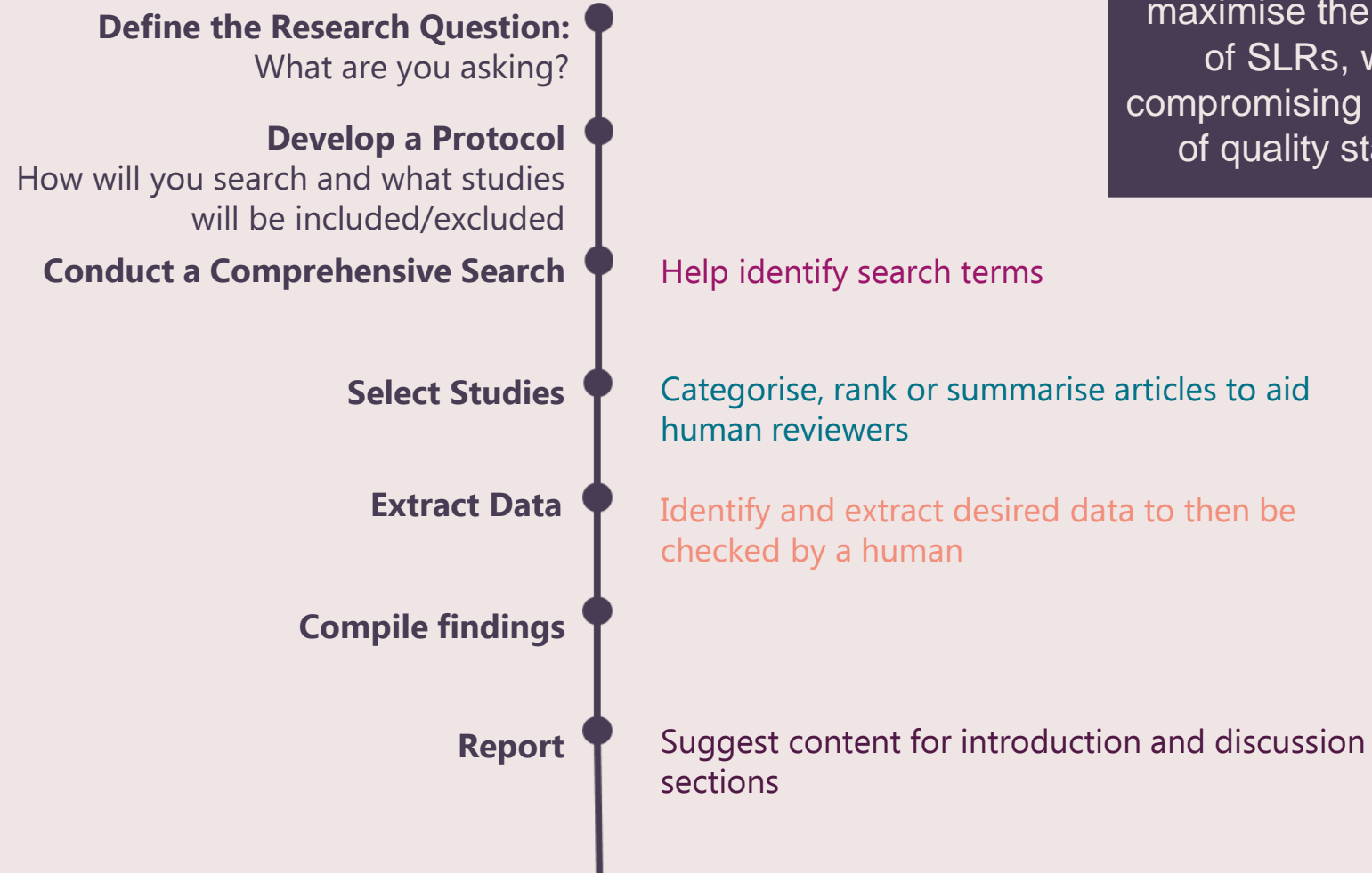
HOW AI CAN HELP

- Search through an abstract book to identify abstracts related to your topic of interest or that answer specific questions

- Identify trends in meeting content

- Summarise abstracts and posters into a desired format

- Summarise insights from attendees (if provided in a suitable format with sufficient context – the quality of the input determines the quality of the output)

- Generate first drafts of reports

Summarising Information: Systematic Literature Reviews
Systematic Literature Reviews (SLRs) are the gold standard for collating and summarising published research

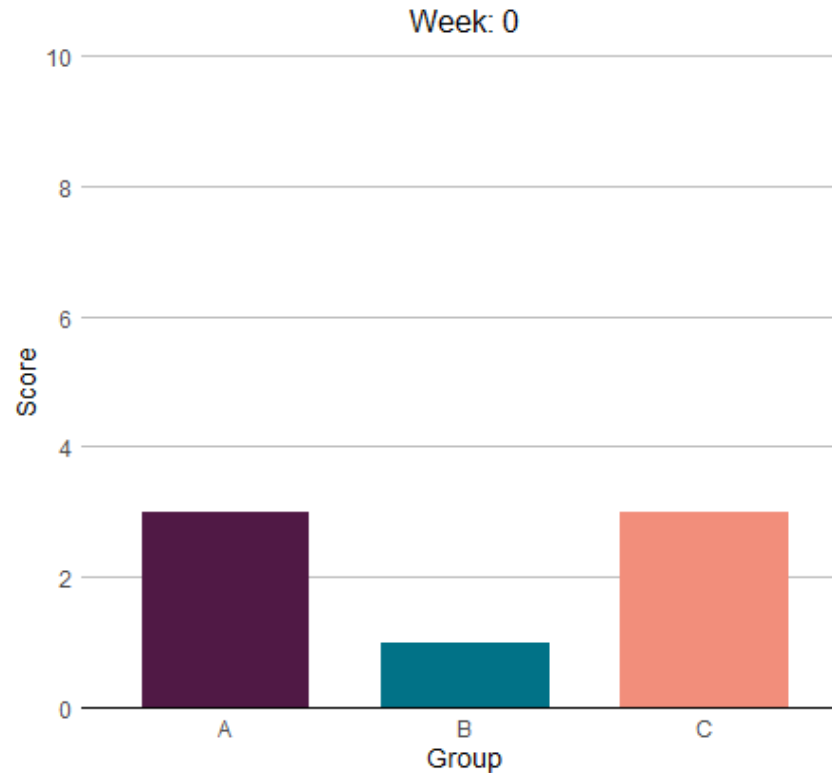## Summary of Process & How AI Can Help

We should aim to AI to maximise the efficiency of SLRs, without compromising the highest of quality standards

Define the Research Question:
What are you asking?

Develop a Protocol
How will you search and what studies will be included/excluded

Conduct a Comprehensive Search — Help identify search terms

Select Studies — Categorise, rank or summarise articles to aid human reviewers

Extract Data — Identify and extract desired data to then be checked by a human

Compile findings

Report — Suggest content for introduction and discussion sections

How I've Been Using AI

Creating Efficiencies

Doing what we could already do, faster

- Reformatting information so I can focus on the meaning rather than the process
- Helping to interpret confusing communications (poorly typed, lack of context, unknown abbreviations) so I can start actioning things sooner

Unlocking Possibilities

Things that were technically possible, but I didn't know how

- Unlocking the power of Microsoft Excel: writing formulae and explaining how functions work
- Coding! So many possibilities, but I've been using it for:
  - VBA code to create time-saving macros in Microsoft Office applications
  - R to create animated figures to increase engagement with scientific data

The Future of AI in MedComms

Streamlining Content Creation

The MedComms industry is moving towards an "Omnichannel" approach

- This acknowledges that people like to consume information in different ways and at different times, and they should be receiving consistent messaging wherever they get their information, whether than be websites, emails, social media, or in-person meetings

- By ensuring that healthcare professionals and patients are getting consistent and coherent information regardless of which channels they prefer, the impact of this information will be optimised

How AI can help!

A key challenge of this approach is creating and adapting content for different channels and audiences, AI could help:

| Adaptation | Maintaining consistency | Translation |

◆ Thank you for listening! ◆