Introduction to Medical Writing

Medical Journal of Therapeutics Africa
http://www.mjota.org
What Is Scientific Writing? What is Biomedical Writing?
Definition of Scientific Writing

Anything written about anything connected with science
Definition of Biomedical Writing

Anything written about anything that is connected to LIFE
Biomedical Writing

- Biomedical literature
  - medical, biological, chemical, pharmaceutical journals
  - healthcare journals, magazine, books
  - training materials for pharmaceutical employees

- US Government Databases
  - NLM: Medline abstracts and full-text articles
  - CDC: MMWR, disease statistics
  - NIH: grant proposals, disease data
  - FDA: drug, device, biologic marketing documents
Why are medical writers needed?

• Because pharmaceutical and healthcare data exists

• “It’s the data, stupid!”
Where are medical writers needed?

- Pharmaceutical companies
- Advertising agencies
- Continuing education (CE) companies and CME companies
Careers in Scientific Writing
Why train as a medical writer

• To work as a medical writer
• To write pharmaceutical and healthcare scripts
• To work as a scientist and get grants
Riding The Wave Of The Future

- Ancient Egyptians believed the writer should have the highest status of any non-Pharaoh.
- The 3 accusers of Socrates were a politician, a poet, and a rhetorician.
- In our Information Age the writer translates information.
Become a Medical Writer!

- Profession for cautious brilliant scientists who love
  - Language
  - Medical science
  - Regular paychecks
What Do Medical Writers Do?

• Communicate primary data about
  – Disease and disease therapies and devices
  – Preclinical and clinical research
  – Health trends

• To audiences
  – Professional
  – General
Documents Medical Writers Prepare

• Regulatory documents
  – to market drugs, devices and biologics to regulatory agencies in the US (FDA), Europe (EMEA)

• Marketing (also called publication) documents
  – to describe diseases, therapies and devices to professional and general audiences
MJoTA Medical Writer Definition

“Medical writers are trained scientists who translate data that they have analyzed, and may have created, into prose, tables and figures, on behalf of a sponsor from the private or public sector.”
Evolution of Medical Writers

• In Antiquity
  – Cave paintings
  – Ancient parchments
  – Religious texts
  – “Generation of Animals” by Aristotle

• Clinical trials created mountains of data that need translating
Medical Writer Training

• USP Master of Science in Biomedical Writing, only US graduate degree program (36 credits)
• Certificates
  – Professional societies: DIA, AMWA, EMWA
  – Unaffiliated companies: Pharmed Associates
  – Univ Chicago Graham School of Journalism (3 credits)
  – USP (12 credits)
Employment As A Medical Writer

• Work for someone else
  – Pharmaceutical companies
  – Medical communications companies
  – Advertising agencies

• Work for yourself
  – Short-term contracts
  – Individual jobs
Where Medical Writers Hang Out

- Professional societies for medical writers
  - American Medical Writers Association (amwa.org)
  - European Medical Writers Association (emwa.org)
  - Drug Information Association (DIAhome.org)
- Professional organizations for writers
  - National Writers Union (nwu.org)
Data For Medical Writers

- Centers for Disease Control (CDC)
- National Institutes of Health (NIH)
- Food and Drug Administration (FDA)
- World Health Organization (WHO)
- Clinical Trials Registry
- Patent Office
Resources For Medical Writers

- Medline, run by the National Library of Medicine, also known as PubMed, www.nih.nlm.gov
Good writing
Dodgson’s Rule

In good writing, words are invisible
Primary elements of good writing

• Identify your audience
• Define your question
• Have sharp tools
  – Style guide
  – Dictionary
  – Functional computer
• Read, revise, revisit
Identify your audience

- Is your audience
  - Trained professionally in health sciences or healthcare?
  - Tertiary educated but unfamiliar with health sciences and healthcare

- What does your audience know about the field?
- Which vocabulary is familiar to your audience?
Define your question

- What is happening in your field of interest?
- What would your audience like to know?
Secondary elements of good style

- Ensure verbs, subjects, objects match
- Excise unneeded words
  - Jargon eg, transparence, thinking out of box, pushing envelopes
  - Adjectives (very, highly, particularly, numerous, varied, keep significantly if have p value)
  - Adverbs
Nick Virgilio Haiku
lily:
out of the water...
out of itself
2
5
4

Virgilio © 1999
heat before the storm:
a fly disturbs the quiet
of the empty store

Nick Virgilio©1999
my spring love affair:
the old upright Remington
wears a new ribbon

Nick Virgilio©1999
town barberpole
stops turning:
autumn nightfall

Nick Virgilio©1999
How to write haiku
The Marine Major
waiting for the family

Alone at nightfall

Alone at nightfall
waiting for the family -
the Marine Major.

Approaching the house,
after the family arrived

Approaching the house,
after the family is seated -
the Marine Major.

Approaching the house,
after the family was seated -
the Marine Major.

Summer nightfall:
a Marine Major tells me
my brother was killed

The Marine Major
tells me my brother was killed:
The summer nightfall.
The first firefly -
little did we know
my little brother would die

The first firefly -
the first cicada - and then
my little brother died

Mother and father,
a Marine Major waits to tell them

The Marine Major
tells me my brother was killed

The Marine Major
waiting unseen

Waiting unseen
till the family is seated -
the Marine Major.

Approaching the house
Summoned from hiding,
after the family is seated -
the Marine Major.

Waiting in the car

The marine major,
Across the street
in his car, the Marien Major

The summer nightfall
a Marine Major

The summer nightfall:
a Marine Major alone
waits for the family.

Waiting in hiding
till the family is seated
The first cicada -
my mourning mother

The first firefly...
then cicadas

The first firefly...
then the cicada - and then
my little brother dies

The first firefly...
the first cicada - and then
my little brother dies.

Killed in action
was all I heard

The Marine Major
approaches me

The Marine Major
with a telegram in hand,
waits for the family.

The darkened house:
a Marine Major
waits for the family

The Marine Major
waiting for the family
They were happy

The family arrived
Approaching our house
with a telegram in

Approaching our house
with a telegram in hand -
the Marine Major.

The long summer drought:
an empty rain barrel
filling up with oak leaves
my dead brother...
hearing his laugh
in my laughter

Nick Virgilio © 1999
flag-covered coffin:
the shadow of the bugler
slips into the grave

Nick Virgilio © 1999
Thanksgiving alone: ordering eggs and toast in an undertone

Nick Virgilio © 1999
autumn twilight:
the wreath on the door
lifts in the wind
Nick Virgilio©1999
Medical Writing

Definition
Medical writing
Anything living, or was
Cave walls, pregnant deer

Dodgson©2005
Define your question.
Know your audience. Answer,
With no extra words

Dodgson©2005
Snow falling outside
Attention to detail grasped:
Oak leaves gone, millions
5
7
5

Dodgson©2005
Driving over bridge
Choir, “My redeemer liveth!”
Writing done, I know.

Dodgson©2005
US medwriters
Times New Roman. Ten days off,
Judgment has no “e”
Last Day of Socrates
From Plato’s Republic
Athens Spring trial
Rhetorician, senator, poet, accused him
Ship from Declos seen
Socrates’ sons, friends gather
Dawn to dusk farewell

Dodgson©2005
Hemlock ground, dissolved:
“Walk until your limbs feel numb”
His immortal soul

Dodgson © 2005
FDA Documentation
An oxymoron?

Pharmaceutical ethics…

Gatekeepers are you

Dodgson © 2006
Ethical treatments:
Pass IRBs, EICs;
Help sick, do least harm
Demographics first
“Does it work?” Efficacy
Safety, always last
Few adverse events
Three thousand patients better
FDA smiles, nods

5
7
5

Dodgson © 2005
NDA filed! Done!
Dancing, Porsches leave early.
Drug stopped. VPs shrug
Ear Infection
He wakes, “My ear hurts.”
Fever, phone, “Get in the car!”
He holds Mommy’s hand.
Diabetes
Constant drinks, weight lost
T1DM. Insulin.
Parents always tired.

Dodgson©2005
He parks close, “Morning!”
Computer on, phones lunch in.
“T2DM? How?”

Dodgson©2005
First hormone treatment
First protein sequence known, prized
Life needs insulin
Diet! Exercise!
Lower blood sugar, weight, stress……
Normal A1c

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