Guidance for writing MMWR articles

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How You Can Fulfill the MMWR Editor's Dreams:

How You Can Fulfill the MMWR Editor's Dreams:

with submissions that are

- innovative,
- scientifically rigorous,
- useful,
- and well written

Sections of a Scientific Article

Title

Abstract

Introduction

Methods

Results

Discussion

Journal Article

Title

Abstract

Introduction

Methods

Results

Discussion

Journal Article	MMWR Full Report (1400 word max)
Title	Title
Abstract	Introductory ¶
Introduction	Methods
Methods	Results
Results	Actions Taken*
Discussion	Discussion
	Summary Box

*when appropriate

Journal Article

Title

Abstract

Introduction

Methods

Results

Discussion

MMWR Full Report

(1400 word max)

Title

Introductory ¶

Methods

Results

Actions Taken*

Discussion

Summary Box

*when appropriate

MMWR Notes from the Field

(500 word max)

Title

Brief Introduction

Description of investigation

Magnitude/extent of event

Outcomes

Preliminary conclusions

Actions that were, are being, or should be taken based on the findings in the report.

Outbreak Investigation

Outbreak Investigation

Special Case

Outbreak Investigation

Special Case

Tell the Story (a “chronological narrative”)

Outbreak Investigation

Special Case

Tell the Story (a “chronological narrative”)

- **Preliminary Investigation**
- **Full Investigation**

Regardless of format, think from the editors' point of view:

Editor's Dream:

Every article submitted to the journal presents information that is new and useful

How do you know if something is “new and useful”?

Short answer:
Do a thorough literature review.

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One caveat. . .

Consulting with a SME provides additional assurance that what you think is new really is new.

What’s better than consulting with a SME?

Having a SME as a co-author

How do you get a SME to be a co-author. . ?

Examples of “new and useful” in MMWR articles

Short Sleep Duration by Occupation Group — 29 States, 2013–2014

***Weekly* / March 3, 2017 / 66(8);207–213**

The American Academy of Sleep Medicine and the Sleep Research Society have determined that adults require ≥7 hours of sleep per day to promote optimal health (*1*). Short sleep duration (<7 hours per day) has been linked to adverse health outcomes including cardiovascular disease, obesity, diabetes, depression, and anxiety, as well as safety issues related to drowsy driving and injuries (*1*,*2*). Additional research has found that sleep duration varies by characteristics such as race, education, marital status, obesity, and cigarette smoking (*3*). Work-related factors such as job stress, work hours, shift work, and physically demanding work have been found to be associated with sleep duration and quality (*4*–*6*). All of these work factors vary by industry and occupation of employment, and the prevalence of short sleep duration has been shown to vary by broad industry and occupation category (*7*). **To provide updated and more detailed information about which occupation groups have the highest prevalences of short sleep duration**, CDC analyzed data from currently employed adults surveyed for the 2013 and 2014 Behavioral Risk Factor Surveillance System (BRFSS) in 29 states. Among 22 major occupation groups, the highest prevalences of short sleep duration were among workers in the following five groups: Production (42.9%), Healthcare Support (40.1%), Healthcare Practitioners and Technical (40.0%), Food Preparation and Serving-Related (39.8%), and Protective Service (39.2%). The significant differences among occupation groups in the prevalence of short sleep duration suggest that work-related factors should be further evaluated as they might relate to sleep.

New

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New

Useful

Methadone Prescribing and Overdose and the Association with Medicaid Preferred Drug List Policies — United States, 2007–2014

Weekly / March 31, 2017 / 66(12);320–323

Drug overdose is a leading cause of injury death in the United States; 47,055 fatal drug overdoses were reported in 2014, a 6.5% increase from the previous year (1), driven by opioid use disorder (2,3). Methadone is an opioid prescribed for pain management and is also provided through opioid treatment programs to treat opioid use disorders. Because methadone might remain in a person's system long after the pain-relieving benefits have been exhausted, it can cause slow or shallow breathing and dangerous changes in heartbeat that might not be perceived by the patient (4,5). In December 2006, the Food and Drug Administration issued a Public Health Advisory that alerted health care professionals to reports of death and life-threatening adverse events, such as respiratory depression and cardiac arrhythmias, in patients receiving methadone (4); in January 2008, a voluntary manufacturer restriction limited distribution of the 40 mg formulation of methadone.* **CDC analyzed state mortality and health care data and preferred drug list (PDL) policies to 1) compare the percentage of deaths involving methadone with the rate of prescribing methadone for pain, 2) characterize variation in methadone prescribing among payers and states, and 3) assess whether an association existed between state Medicaid reimbursement PDL policies and methadone overdose rates.** The analyses found that, from 2007 to 2014, large declines in methadone-related overdose deaths occurred. Prescriptions for methadone accounted for 0.85 % of all opioid prescriptions for pain in the commercially insured population and 1.1% in the Medicaid population. In addition, an association was observed between Medicaid PDLs requiring prior authorization for methadone and lower rates of methadone overdose among Medicaid enrollees. **PDL policies requiring prior authorization might help to reduce the number of methadone overdoses.**

New?

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Resurgence of Progressive Massive Fibrosis in Coal Miners — Eastern Kentucky, 2016

Weekly / December 16, 2016 / 65(49);1385–1389

Coal workers' pneumoconiosis, also known as "black lung disease," is an occupational lung disease caused by overexposure to respirable coal mine dust. Inhaled dust leads to inflammation and fibrosis in the lungs, and coal workers' pneumoconiosis can be a debilitating disease. The Federal Coal Mine Health and Safety Act of 1969 (Coal Act),* amended in 1977, established dust limits for U.S. coal mines and created the National Institute for Occupational Safety and Health (NIOSH)–administered Coal Workers' Health Surveillance Program with the goal of reducing the incidence of coal workers' pneumoconiosis and eliminating its most severe form, progressive massive fibrosis (PMF),† which can be lethal. The prevalence of PMF fell sharply after implementation of the Coal Act and reached historic lows in the 1990s, with 31 unique cases identified by the Coal Workers' Health Surveillance Program during 1990–1999. Since then, **a resurgence of the disease has occurred**, notably in central Appalachia (Figure 1) (*1*,*2*). This report **describes a cluster of 60 cases of PMF identified in current and former coal miners** at a single eastern Kentucky radiology practice during January 2015–August 2016. This cluster was not discovered through the national surveillance program. This ongoing outbreak highlights an urgent need for effective dust control in coal mines to prevent coal workers' pneumoconiosis, and for improved surveillance to promptly identify the early stages of the disease and stop its progression to PMF.

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New

Useful

Notes from the Field: Use of Social Media as a Communication Tool During a Mumps Outbreak — New York City, 2015

***Weekly* / January 20, 2017 / 66(02);60–61**

On August 16, 2015, a case of parotitis in a resident of the Rockaways neighborhood of Queens, New York City (NYC), was reported to the NYC Department of Health and Mental Hygiene (DOHMH) as a suspected mumps case. Subsequent investigations by DOHMH discovered an outbreak of mumps in the Rockaways, with 52 confirmed and probable mumps cases. **DOHMH conducted a Facebook advertisement campaign providing information about mumps and the outbreak**, which was targeted to Facebook users in the Rockaways neighborhood. The advertisement was shown to 86,111 persons during an approximately 2-week period and provided a timely and inexpensive means of effectively communicating with a large, targeted population.

New?

▪ ▪ ▪

▪ ▪ ▪

Social media provided a timely and inexpensive means for successfully and rapidly communicating with a large population in the target demographic and facilitating public engagement with DOHMH about the mumps outbreak, and therefore, **might be useful for disseminating messages to a targeted population during future outbreaks.**

Useful

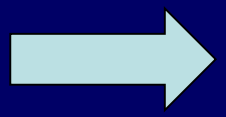
If you do a thorough literature review, it is unlikely that consulting with a SME will help you determine whether your study adds new/useful information to the literature.

True

False

Let’s move from
“new and useful”
to
“scientifically rigorous”

scientific rigor



Methods section

Characteristics of a strong Methods section

- Clearly present and define all analysis variables
- Respect chronology
- Describe original methods in detail; otherwise give references
- Study methods are appropriate to the study objectives
- Statistical methods are appropriate

Definitions

catastrophic outcome due to marijuana use:

“death or severe bodily injury directly or indirectly nonvehicular related with marijuana use or the behavior that caused the subsequent catastrophic outcome” **?????**

Definitions

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This isn't a definition:

A ratio has a numerator and a denominator; a definition of a ratio needs to specify what the numerator and denominator are.

Definitions

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Poverty status was defined by using the poverty income ratio (PIR), an index calculated by dividing family income by a poverty threshold specific to family size. The PIR is reported in three levels: below the poverty level, one to less than two times the poverty level, and two or more times the poverty level.

Are statistical methods appropriate?

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Orthogonal polynomial contrasts were used to identify significant increases or decreases across ordinal demographics (e.g. age group), and pairwise t-tests identified differences by subgroup (e.g. sex).

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- **Perhaps ask the statistician to write the statistical methods portion of the paper.**

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When that happens:

if the definitions/statistical methods have been published previously, describe them briefly and provide a reference.

The scientific rigor of a paper is reflected mostly in which section?

1. Introduction
2. Methods
3. Results
4. Discussion

OK:

new, useful, and scientifically rigorous

What about well written. . ?

The most damaging writing “errors” are ones that appear to reflect scientific flaws:

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Purpose:
Investigation goals were to examine clinical presentation and treatments associated with substance use among persons presenting with fentanyl-positive urine drug screen among the state’s substance-using population

Methods:
To gain more information about fentanyl use among substance-users in the area that Hospital A predominantly serves, we obtained information on drug-related deaths from the county medical examiner’s office

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Do "time-dependent" and "time-varying" mean the same thing?

Avoid this confusion by providing clear definitions in the Methods section.

Varying the terminology you use is a good idea even if it might cause some confusion, because it helps to hold the reader's interest.

True

False

British Medical Journal:

- Is it new?
- Is it true?
- Do we care?

British Medical Journal:

- Is it new?
- Is it true? = scientifically rigorous
- Do we care?

British Medical Journal:

- Is it new?
- Is it true? = scientifically rigorous
- Do we care? = useful

What about “well written”. . ?

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Doesn’t BMJ care if a paper is well written?

Bottom line

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(probably dozens to hundreds of hours)