Cochrane Airways

Impact report

July 2015

Trusted evidence.
Informed decisions.
Better health.

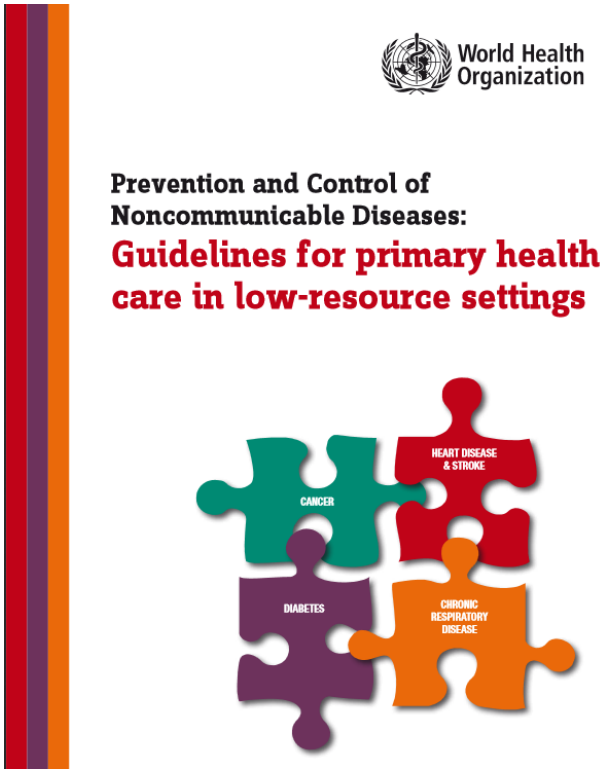
Impact of Cochrane Airways

The main focus of our work is to provide a comprehensive overview of RCTs in asthma, COPD and other respiratory diseases. Cochrane Airways encompasses everyone who is involved in the production of good-quality systematic reviews - the editorial team and our established network of authors and editors. Cochrane Airways evidence underpins international guidelines and informs future research – and many Cochrane Airways contributors are responsible for these endeavours. Wider impact is achieved by contributing to projects with other organisations. We engage with the public about respiratory research and advocate for good methods and good evidence.

Comprehensive overview of respiratory RCTs

Guidelines

Over the past two years, 422 reviews have contributed to 32 international guidelines. The Co-ordinating Editor sits on the SIGN/BTS asthma guideline group executive, with responsibility for the devices section of the guideline following the publication of the first Cochrane Airways Review on spacers versus nebulisers for the delivery of medication during an asthma attack. The Co-chair of the guideline group, John White, is an Editor with Cochrane Airways. The SIGN/BTS guidelines are currently being updated and new Cochrane Reviews will be used to answer key questions relating to tiotropium, a newly licenced treatment for asthma and other key questions. Francine Ducharme is part of the Canadian Guideline Group. Anne Chang is author of the CICADA: Cough in Children and Adults: Diagnosis and Assessment, Australian Cough Guidelines summary statement, and the Australian Asthma Handbook. Ian Yang is on the guideline committee for the COPD-X plan, the Australian and New Zealand Guidelines for the management of Chronic Obstructive Pulmonary Disease. For all these Australian guidelines, there are other Cochrane Airways authors and all of these cite Cochrane Reviews. These close ties enable us to draft, update and publish relevant Cochrane Reviews in time for the guideline teams.



We have provided guidance on search strategies and conducted literature searches for guideline teams such as the World Health Organisation, and Canadian Respiratory Guidelines.

Chris Cates, Emma Welsh and Liz Stovold worked on the WHO Noncommunicable diseases and mental health guidelines for primary health care in low-resource settings.

We worked closely with National Institute for Health and Care Excellence (NICE) on two questions featured in the current guideline for Asthma Diagnosis and Management, due to be published in 2015. We provided data from RCTs of telehealthcare interventions which are now being used to update the Cochrane Review. Cochrane Airways will be acknowledged. We are advising NICE on their next programme of work, but this is confidential. This demonstrates the impact not only of individual Cochrane Reviews, but also of having funded researchers available to provide bespoke data and attend guideline development meetings.

Highlighting research gaps

Cochrane Reviews make recommendations for future research and we direct author teams to make these as specific as possible. However there is rarely sufficient information to conclusively answer a specific question and conclusions for practice must be based on evidence in the review rather than opinion.

A recent overview on "Interventions for bronchiectasis" (Welsh 2015) was able to summarise the available evidence for treating bronchiectasis. The authors prepared an evidence table which highlighted evidence gaps. By taking a broad overview, they were able to prioritise research questions across the entire treatment landscape (see final column in table below). Cochrane Groups could map treatments for specific disease areas in this way going forward; however, we see this as a distinct task from preparing reviews.

Intervention	Cochrane review	Number of included studies (number of participants)	Potential new studies[1]	BTS guideline recommendation (evidence grade: A-D)	Overview team recommendations for new Cochrane reviews, or changes to existing reviews	Overview team suggested research priorities based on evidence presented in this evidence map
Pharmacological interventions						
Antibiotics	**Long term** (Evans 2007)	9 (378)	Altenburg 2013; Anthony 2014; Chen 2013; Haworth 2014; Liu 2012; Lourdesamy 2014; Murray 2011; Rogers 2014 (aka Serisier 2013a); Serisier 2013b; Valery 2013; Wilson 2013a; Wong 2012	- Recommended for people with ≥ 3 exacerbations per year requiring antibiotics or exacerbations causing significant morbidity (C). Start on low dose (C), determine regimen by sputum microbiology (nebulised C and oral D) - Insufficient evidence for...	Separate review for macrolides	High 1. Targeted antibiotic treatment for colonisation or recurrent infection with the same organism (e.g. Pseudomonas, Haemophilus) 2. Non-targeted macrolide treatment
	Short term (Wurzel 2011)	1 (74)	Antoniu 2013; Barker 2014; Chang 2013; De Diego 2013	- Recommended: high-dose specific antibiotics (B to C). If no previous bacteriology, first-line treatment amoxicillin 500 mg 3 x daily (B) or clarithromycin 2 x daily (C) for 14 days, while waiting for sputum microbiology (D) - IV antibiotics considered for...	Expand to include head-to-head trials and dual antibiotic therapy. Subgroup: inpatients vs. outpatients	High 1. Treatment duration 2. Dual therapy vs. monotherapy for pseudomonas 3. Outpatient vs. inpatient therapy 4. Routes of administration e.g. prolonged infusion vs. 3 x daily or oral vs. IV
Vaccines	**Pneumococcal** (Chang 2009)	1 ongoing study (O'Grady 2013)	None identified	No recommendation	Update if new trials	Low
	Influenza (Chang 2007)	0	None identified	No recommendation	Update if new trials	Low
Bronchodilators	**LABA** (Sheikh 2001)	0	None identified	Assess bronchodilator reversibility and prescribe accordingly (D)	Expand to include head-to-head trials	Low

Informing practice and research

Pulmonary rehabilitation for chronic obstructive pulmonary disease

This review showed that pulmonary rehabilitation is effective, and the authors stated that no more research is needed to answer the fundamental question of whether pulmonary rehabilitation is useful (McCarthy 2015). The authors went on to state that "future research studies should focus on identifying which components of pulmonary rehabilitation are essential, its ideal length and location, the degree of supervision and intensity of training required and how long treatment effects persist."

Intravenous magnesium sulfate for treating adults with acute asthma in the emergency department

This review concluded that treatment with a bolus of magnesium sulfate was effective in adults with acute asthma who have not responded sufficiently to oxygen, nebulised short-acting beta$_2$-agonists and IV corticosteroids (Kew 2014). Because reporting and conduct of trials varied, it was not possible to draw conclusions for subsets of people and the review team made specific recommendations for future research such as reporting adverse events and subgrouping results on the basis of accepted severity classifications. We know from talking to local chest physicians that this treatment is used in some hospitals and not in others – now the evidence is on the CDSR to support future treatment decisions.

Self-management for patients with chronic obstructive pulmonary disease

As with to the pulmonary rehabilitation review, this review on self-management in COPD showed that the intervention is effective, but it was unable to tease apart the most important components (Zwerink 2014). Health service providers may wish to have more detail about this, but provision of self-management interventions is context specific and not something that the review authors could possibly advise on within this Cochrane Review. The team have prepared a

new protocol to examine and evaluate the components parts of self-management and push the debate forward.

Changing practice

The recent overview of Cochrane Reviews of interventions for bronchiectasis (Welsh 2015) has informed the development of an integrated primary/secondary care pathway that will be piloted in the North West of England. The Lancaster University and University Hospitals of Morecambe Bay team are developing a funding bid that will be submitted to NIHR.

The asthma self-management Cochrane review (although not yet published - raw data was supplied) has been used by NICE (National Institute for Clinical Excellence) to inform clinical indicators and underpin their 2014 guideline for the 'Quality and outcomes framework for asthma clinical care' across the UK (Roy 2011). The same research was also used to inform 'Quality Outcome Measures' for paediatric asthma action plans for the non-profit Primary Care Medical Home Group in the United States of America (2014).

Home care outreach nursing for COPD Cochrane review was used to justify the continued employment of two outreach nursing staff employed at The Queen Elizabeth Hospital , Adelaide, South Australia (Wong 2012).

A review published on continuous positive airways pressure (CPAP) for obstructive sleep apnea (OSA) in the BMJ in 1997 stated there was not enough reliable evidence in support of CPAP (Wright 1997). This review threatened services and a Cochrane Review was published two years later which re-examined the evidence and showed that CPAP was effective (White 2001). The Cochrane Review helped support clinical services which are important to many people with OSA. The lead author of both reviews, John Wright, went on to become a Cochrane Airways Editor and the review is being updated with many new trials.

Reviews as precursors of clinical trials

Evidence translation in COPD

TARGET (Trans-Australian Respiratory Gap reduction and Evidence Translation) is a research initiative based on the foundation of Cochrane Reviews to underpin evidence for clinical practice in the areas of pneumonia, deep vein thrombosis (DVT), COPD, asthma and smoking. A NHMRC (National Health and Medical Research Council) funding application will be submitted in 2016.

In COPD, some of this work is already underway in the Adelaide Collaboration on Chronic Obstructive Respiratory Disease (ACCORD). ACCORD was "formed in 1998 to develop and implement a guideline for COPD management of hospital inpatients, while attempting to address previously reported barriers to such interventions" (Smith 2004). The ACCORD study is currently being updated and will use electronic guidelines and apps to improve the management of COPD with Cochrane reviews underpinning the evidence. The team will take guidelines to the next level for clinical practice to incorporate electronic dissemination strategies through novel technology (augmented reality or interactive print), apps for smart phones and tablets as well as integration into the new EPAS electronic patient medical record system. Cochrane Reviews that are being used to underpin this evidence include all those that are used to inform inpatient and outpatient clinical management of COPD, as well as holistic treatment following discharge (about 20 to 30 Cochrane Airways Reviews). The previous ACCORD work was awarded the NICS (National Institute of Clinical Studies) Cochrane user award in 2004.

Steroids and the risk of pneumonia in COPD

The review on steroids for COPD first highlighted the risks of ICS, particularly for pneumonia. Since then, there have been large Cochrane Reviews on pneumonia and ICS and pneumonia is included as a standard outcome for Cochrane Reviews on drugs to treat COPD. The large trial Withdrawal of inhaled glucocorticoids and exacerbations of COPD (WISDOM) (Magnussen 2014), was completed and lead to a change in the GOLD guidelines in COPD stating that gradual withdrawal of inhaled steroids over three months doesn't increase the risk of exacerbations in the medium term (http://www.wikijournalclub.org/wiki/WISDOM).

Spacers and asthma

The SIGN/BTS asthma guidelines advocate the use of spacers to deliver beta-agonists, rather than nebulisers, in most children with acute asthma. This is based on a Cochrane Review on this topic and has changed practice (Cates 2013).

Advocating good methods and evidence

Working with stakeholders

Emma Welsh has been involved in the production of a Sense About Science guide on "Making sense of allergy" released in June 2015 and brought together Cochrane UK and Cochrane authors to provide expert input. Cochrane Evidence was advocated in the guide and a section on systematic reviews was included. The Cochrane Editorial Unit also prepared a special collection of allergy reviews which were made available round the world free of charge to accompany the launch. Cochrane colleagues were involved as experts and promoted the guide which included a comment on a front page piece in the Telegraph.


Making sense of allergies

Confusion about allergies is putting people needlessly at risk say experts and medical charities.

In Making Sense of Allergies, a guide published today by Sense About Science [1], allergy specialists and charities warn that essential information and life-saving actions are being diluted in a sea of over diagnosis.

- There has been a rapid rise in allergies across developed countries. The percentage of children diagnosed with allergic rhinitis and eczema have both trebled in the last 30 years. Allergies are now better diagnosed and their incidence in populations has risen. But there is concern that allergy has also become a catch-all diagnosis for unexplained symptoms, and this rise has been accompanied by a lot of non-medical diagnosis and treatment.
- Most allergy tests and natural treatments offered on the high street and online have no scientific basis. These ineffective tests and other kinds of self-diagnosis are creating a large proportion of


Partnering to put Cochrane evidence into context

posted on: 2015-06-09 05:12

Tags: Current news, Committees & Working Groups, Fields, Funding & Partnerships, Media coverage, Review groups, T

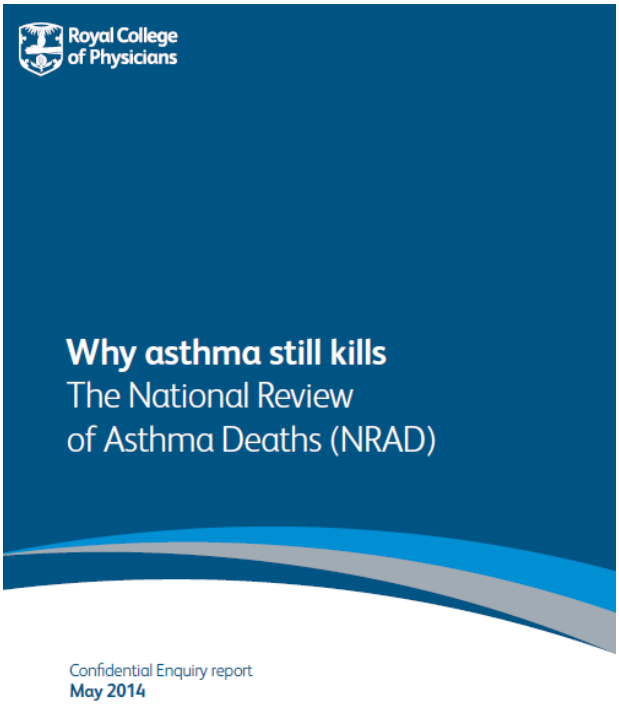
'Partnerships' is the latest buzzword in Cochrane's vocabulary but what does this mean practically? Emma Welsh, Managing Editor at Cochrane Airways, shares her perspective on an allergy partnership.


The Telegraph

Parents falling for allergy myths is leaving children malnourished

While 40 per cent of people claim to have a food allergy, only five per cent actually do

A suite of Cochrane Reviews has shown that there is an increased risk of death when long-acting beta2-agonists are used without concomitant inhaled corticosteroids, and for this reason, combination inhalers (i.e. inhalers with both treatments in the same inhalers) are now used instead of the separate inhalers. The Cochrane Reviews are cited in the Royal College of Physicians' report: Why asthma still kills The National Review of Asthma Deaths (NRAD). Cochrane Airways' Co-Ed (Chris Cates) attended a networking presentation at the House of Commons which reported the results of the NRAD. At the networking event, Chris met the Asthma UK Bereavement Support Officer who was later able to collate comments from people bereaved by asthma for inclusion in our prioritisation project and a service provider from the South West of England.



Media interest

'Asthma drug supresses growth' was press released and generated media interest. It was the 5th most popular story across Cochrane in 2014. The two reviews behind the headlines had the 4th and 8th highest altmetric score across the CDSR : Inhaled corticosteroids in children with persistent asthma: effects on growth (Altmetric score of 173) and Inhaled corticosteroids in children with persistent asthma: dose-response effects on growth (Altmetric score of 112) (Zhang 2014, Pruteanu 2014)


NHS choices Your health, your choices

Health A-Z | Live Well | Care and support

Steroid asthma inhalers restrict children's growth

Share: Save: Subscribe: Print:

Thursday July 17 2014

"Children who use inhalable steroids for asthma grow slower than their peers in the first year of taking the medication," The Guardian reports. While this is an accurate report of the science, the effect found by researchers was small. On average, a reduction of around half a centimetre per year was seen, compared to children taking a placebo or other asthma medication.

Inhalers are used to prevent and relieve symptoms


The Telegraph

Asthma inhalers make children half a centimetre

Children who use corticosteroids inhalers to control asthma are likely to be 0.5cm shorter than they should be, because the drug stunts growth, a major review has found


Mail Online

Asthma inhalers 'stunt growth': Most widely-used device found to reduce height in first year of use

- Asthma remedies cut growth rates by about half a centimetre in first year
- But the effect is less pronounced thereafter and is not cumulative
- Parents urged to continue letting their children used asthma inhalers

By DAILY MAIL REPORTER

PUBLISHED: 23:30, 16 July 2014 | UPDATED: 08:17, 17 July 2014

NATIONAL POST

'Half a centimetre in growth is a small price to pay for medicine which may save your child's life'

A review update of physical training for asthma showed that exercise is well-tolerated among many people with asthma (Carson 2013). There was a lot of media interest which showed a positive message about the health and wellbeing benefits of exercise among people with asthma as long as symptoms are under control.

Evidently Cochrane

Sharing health evidence you can trust

RESPIRATORY

Exercise and asthma: what does the evidence say?

BY SARAH CHAPMAN // OCTOBER 10, 2013 // 1 COMMENTS TWEET SHARE

Some people with asthma find their symptoms are worse when they exercise, or restrict their physical activity for fear that this will be so. Others report that their asthma symptoms are better when they are fit. Several reviews from the Cochrane Airways Group have recently been published on aspects of exercise for people with asthma.

Bernard McCarthy helped promote his review update of Pulmonary rehabilitation for COPD (McCarthy 2015)

Irish Medical Times

NEWS OPINION FEATURES EDITORIAL LETTERS BLOGS CLINICAL TIMES

You are here: Home / Clinical Times / Significant improvements in COPD from pulmonary rehabilitation

Significant improvements in COPD from pulmonary rehabilitation

March 18, 2015 by admin Leave a Comment

The effectiveness of pulmonary rehabilitation for patients with chronic obstructive airways disease (COPD) has been confirmed in a new Cochrane Review led by a team from the School of Nursing and Midwifery at NUI Galway.

The two-year project — led by college lecturer Bernard McCarthy, **Dr Dympna Casey**, **Prof Declan Devane**, **Prof Kathy Murphy**, Edel Murphy and the internationally renowned Canadian pulmonologist Dr Yves Lacasse — brought together the findings of 65 randomised control trials involving 3,822 participants for inclusion in the analysis.

"At this time, COPD is an incurable, life-limiting condition

Pic: Getty Images

John P Erwin III MD @HeartOTXHeartMD 3,014 followers — RT @CochraneAirways: New #Cochrane review out: Pulmonary rehabilitatio chronic obstructive pulmonary disease http://t.co/bw344nTPzV

Martijn A. Spruit @pulmonary_rehab 727 followers — PR relieves dyspnea and fatigue, improves emotional function and enhances the sense of control over condition in COPD http://t.co/ue7Z7bptxA

ERS publications @ERSpublications 2,213 followers — Check out updated systematic review on pulm rehab for COPD @EU_COPD @COPDdoc @atscommunity @lunguk @wenurses @ERSTalk http://t.co/2ZwweSjtu2 24-Feb-2015

American Thoracic @atscommunity 8,599 followers — MT @CochraneAirways: Updated systematic review on pulm rehab for #COPD @EU_COPD @COPDdoc @lunguk @WeNurses @ERSTalk http://t.co/rxoNiQNs9a

Nick Hopkinson @COPDdoc 3,658 followers — Check out updated systematic review on pulm rehab for COPD @EU_COPD @COPDdoc @atscommunity @lunguk @wenurses @ERSTalk http://t.co/2ZwweSjtu2 24-Feb-2015

GLOBALLY GASPING

Breathing is essential to life and is something we take for granted everyday. But for 65 million people breathing is a struggle, a gasp, why is this the case? Our aim is to generate awareness about the fourth biggest killer in the world, Chronic Obstructive Pulmonary Disease.

73

Score in context

Puts article in the top 5% of all articles ranked by attention

Review stories

We are running a project to identify review stories at an early stage and promote reviews to a new audience and working together with Cochrane Communications and External Affairs Department (CEAD) to increase dissemination and also to share new angles on the reviews. Cochrane CEAD is in the process of pitching review stories to the Guardian and Science Media Centre as well as Evidently Cochrane Blog and specific author teams are invited to record Cochrane podcasts.

Twitter and Facebook

We currently have 1476 followers on Twitter @Cochrane Airways – we have gained 350 followers in the last 6 months. Emma Welsh tweets all new published reviews along with statements from the abstract about the results and conclusions, the tweets also appear on Facebook allowing us to reach a new audience. We have 530 Facebook followers – many of them from Egypt, so we reach a different audience in this way.

We started the hashtag #CochraneTopTips as a way to share tips mainly on methodology/statistics and other practical tips on how to do a Cochrane Review.

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Conversations

We have made our first steps in having conversations on Twitter. A recent tweet from someone running a trial on singing for COPD triggered a conversation and we currently have a review proposal from a team who saw this conversation on Twitter under consideration.

A new author, Rawabi Aljadani, wanted to get involved with Cochrane but she did not have a review team to work with and it was not possible to match her up with an ongoing review team. However, now we have social media and working internationally has never been so easy, so it seemed a good time to try out the possibility of finding co-authors over the web too. Rawabi put together a review team over twitter and wrote about it for the Cochrane blog.

Engaging clinicians and researchers about Cochrane Evidence

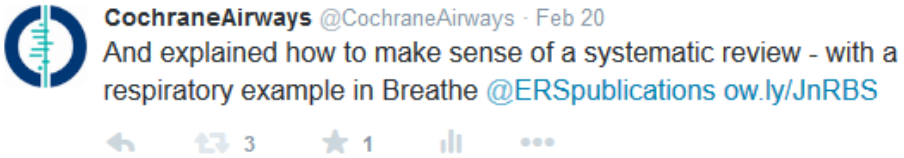
Cochrane Airways has always provided formal and informal training for authors. One case study takes place at a group of hospitals in Adelaide in Australia led by one of our authors Brian Smith, and Associate Editor, Kristin Carson. The Cochrane Reviews undertaken are often used as the research projects for Advanced Respiratory Trainees undergoing their training or as part of PhD or Masters student projects. Clinical staff also undertake Cochrane Reviews as a way to expand their skills but also to improve/inform clinical care (doctors, specialists, nursing staff, physiotherapists, allied health professionals, trainees, students etc.). Thus Cochrane Reviews are regularly used as part of professional development and also for attraction and retention of health professionals within our institutions.

Co-ordinating editor, Chris, delivered a teaching session about critical appraisal of research literature to four London academic GP trainees in 2013. He used a flawed RCT of zinc for the common cold, which he had identified while performing a Cochrane Review. This RCT highlights many important issues to consider when appraising a paper and the teaching was very well received. Subsequently, the academic GP trainees were asked to disseminate critical appraisal training more widely to GP trainees throughout London and many used this paper and Chris' session as a basis for delivering their own teaching.

We have hosted eight GPs in training over the past four years at the Cochrane Airways office and they have worked on priority reviews with our in-house research assistant.

We published an article to help respiratory doctors in training throughout Europe understand a Cochrane Review in a European Respiratory Society Journal aimed at continuing professional development (CPD) (Cates 2014).

We held a priority setting workshop which was attended by 12 patients and carers and 5 healthcare professionals. There was a brief introduction to systematic reviews and one of the attendees is now writing a Cochrane Review.



Summaries of reviews in journals

With the Cochrane CF group we prepare quarterly Cochrane Corners in the journal Paediatric Respiratory Reviews and will be sharing snippets of reviews in Thorax.

Our reviews are frequently picked up by others and shared. For example, seven Cochrane Airways Reviews cited in a BMJ 'State of the Art Review' Aaron SD, Management and prevention of exacerbations of COPD, BMJ 2014;349:g5237. Three summaries of Cochrane Airways reviews were published in Evidence Based Medicine (Allinson 2014, Colice 2014, Thompson 2014): A summary of the spacers versus nebulisers review was published by the Priority Updates from the Research Literature from the Family Physicians Inquiries Network and nurse versus physician led care in 2014 (Kirley 2014, Dewey 2014). Four of our reviews were highlighted in a CRD evidence briefing on COPD self-care: Centre for Reviews and Dissemination. Self-care support for people with COPD. July 2014.

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