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RESEARCH

CHRISTMAS 2014: FOUND IN TRANSLATION

SearCh for humourIstic and Extravagant acroNyms and Thoroughly Inappropriate names For Important Clinical trials (SCIENTIFIC): qualitative and quantitative systematic study

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Abstract

Objectives To describe the development of acronym use across five major medical specialties and to evaluate the technical and aesthetic quality of the acronyms.

Design Acronyms obtained through a literature search of Pubmed.gov followed by a standardised assessment of acronym quality (BEAUTY and CHEATING criteria).

Participants Randomised controlled trials within psychiatry, rheumatology, pulmonary medicine, endocrinology, and cardiology published between 2000 and 2012.

Main outcome measures Prevalence proportion of acronyms and composite quality score for acronyms over time.

Results 14 965 publications were identified, of which 18.3% (n=2737) contained an acronym in the title. Acronym use was more common among cardiological studies than among the other four medical specialties (40% *v* 8-15% in 2012, P<0.001). Except for within cardiology, the prevalence of acronyms increased over time, with the average prevalence proportion among the remaining four specialties increasing from 4.0% to 12.4% from 2000 to 2012 (P<0.001). The median combined acronym quality score decreased significantly over the study period (P<0.001), from a median 9.25 in 2000 to 5.50 in 2012.

Conclusion From 2000 to 2012 the prevalence of acronyms in trial reports increased, coinciding with a substantial decrease in the technical and aesthetic quality of the acronyms. Strict enforcement of current guidelines on acronym construction by journal editors is necessary to ensure the proper use of acronyms in the future.

Introduction

Acronyms—abbreviations formed from the initial components of a phrase or word[1]—improve the perception of complex, written information.[2 3] Within the health sciences, researchers' use of acronyms holds a long tradition, with the likely intention of branding their work into the minds of fellow researchers, clinicians, editors, or lay people.[4]

The use of acronyms in health sciences has been subject to intense debate.[5] Authors have advocated against such use as they claim it has turned into MMMMM—a major malady of modern medical miscommunication[6]—and asserted that positive sounding acronyms are misused in clinical trials with negative outcomes.[7 8] It has been suggested that editors should insist on eliminating the use of positive sounding acronyms[9] or even bring a HALT (help acronyms leave (medical) trials) to the use of acronyms altogether.[10]

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This heated controversy seems to be based on opinion rather than founded on rigorous scientific research. Few quantitative studies of this important topic exist, and to our knowledge studies on the technical and aesthetic quality of acronyms are virtually absent. We describe the extent and quality of acronym use within different medical specialties.

Methods

We included five major medical specialties in the analysis: cardiology, endocrinology, rheumatology, pulmonary medicine, and psychiatry. For each specialty we selected a disease that was central to the discipline and identified the most appropriate MeSH term for that disease. Using these MeSH terms, we searched PubMed for studies containing acronyms in their title that did not refer to a method (for example, randomised controlled trial). We restricted the search to randomised controlled trials in humans, reported in English, and published during 2000-12.

Acronym identification

In the included studies we looked for the meaning of the acronym in several sources in the order of title, abstract, full text, and trial registration (if any). AP, MBH, and MRH performed the initial search, further aided by CG, TBS, KSL, PMM, LHVM, and DD in identifying acronyms. In case of any uncertainty by the single reviewer, the information was double checked by both MBH and MRH.

Acronym evaluation

The evaluation consisted of both positive (BEAUTY, Boosting Elegant Acronyms Using a Tally Yardstick) and negative (CHEATING, obsCure and awkHward usE of lettArs Trying to spell somethING) criteria (box). We used a two step Delphi method to agree on these criteria.[11] The final score assigned to each acronym was obtained by adding the BEAUTY and CHEATING score.

To assess the inter-rater reliability of the combined score we rescored 100 randomly selected acronyms.[12 13] We also subjectively evaluated whether the acronym could be considered as "cool" (for example, had a witty cultural reference) or pretentious, or the quality of the language of the full title had suffered in a strained attempt to make the acronym fit better. We did not include these subjective measures in the overall score.

Finally, we identified a list of honourable and dishonourable mentions that for some reason did not obtain a particularly high or low score but still deserve to be highlighted.

Analysis

We reported the proportion of acronym use and the median quality score of acronyms over time. We reported the 25 highest and lowest scoring acronyms and the honourable and dishonourable mentions selected by the reviewers. One way analysis of variance was used to compare overall scores between different medical specialties. To determine if the prevalence of acronyms in cardiology was higher than that in the other specialties, we performed a χ^2 test. The change in quality of acronyms over time was assessed using a Spearman's rank correlation. For the top and bottom 25 acronyms, we identified the impact factor of the publishing journal in the year of publication, total number of citations, and average yearly citations.[14] We compared the 25 highest and lowest scoring acronyms using an unpaired Student's *t* test after log transformation.

Results

A total of 14 965 publications were identified, most of which were within the disciplines of cardiology (n=5063) and endocrinology (n=4994). Overall, 18.3% (n=2737) of the publications contained a total of 1149 unique acronyms (table 1⇓). The prevalence proportion of acronyms increased over time for all specialties, except for cardiology (P<0.01, fig 1⇓).

Excluding 197 acronyms where we could not identify the full meaning, 952 acronyms underwent further evaluation. The median quality score was 6.5, with scores ranging from −18 to 22 (interquartile range 3.0-10.5). One way analysis of variance showed that the correlation between score and medical specialty was not statistically significant. Tables 2⇓ and 3⇓ present the 25 highest and lowest scoring acronyms. Over the study period the acronym quality score declined significantly (P<0.01, fig 2⇓). The honourable and dishonourable mentions are listed in tables 4⇓ and 5⇓.

The intraclass correlation coefficient of the combined score was 0.91 (95% confidence interval 0.86 to 0.94), indicating almost perfect agreement.

Overall, 4.4% (n=42) of the acronyms contained poor language in an attempt to improve on the acronym, 11.5% (n=109) were designated as "cool," with cardiology and pulmonary medicine in the lead with 12.9% and 10.7%, respectively, and psychiatry, rheumatology, and endocrinology following with 2.8%, 5.8% and 9.8%, respectively. Although 12.8% (n=122) of all acronyms were classified as excessively pretentious, this proportion varied between specialties: from psychiatry (19.4%), rheumatology (15.4%), pulmonary medicine (14.3%), endocrinology (13.9%), to, lastly, cardiology (11.8%).

The top 25 acronyms were published in journals with a median impact factor of 10.2 (interquartile range 6.8-28.9), whereas the bottom 25 had a median impact factor of 6.1 (3.3-11.4). This difference failed to reach significance (P=0.05). The top 25 acronyms had more total citations (median 69 *v* 29, P=0.02), whereas citations per year did not differ significantly (median 14 *v* 7, P=0.09).

Discussion

This quantitative and qualitative systematic study showed an increasing use of acronyms in the manuscript titles of four major medical specialties coinciding with a noticeable decline in the quality of the acronyms over time.

Cardiologists' obsession with acronyms is well documented and has been the subject of in-depth analysis.[6 8 15-18] Although the "10 commandments of acronymology" was suggested in 2003,[6] these were never formally adopted by any cardiological society. No biologically plausible reason explains the apparent obsession with acronyms in cardiology. It may be hypothesised that fierce academic competition spurred the origin of such use, and that new researchers have been subject to peer pressure and assigned acronyms at all cost to avoid academic marginalisation and ridicule. Another hypothesis is a reversal of the process: cardiologists may first concoct a clever acronym and then design a trial to fit that acronym.

Between the top 25 and bottom 25 acronyms, studies with good acronyms had more citations than studies with poor acronyms. For manuscript titles with good acronyms we observed a non-significant trend towards publication in journals with a

Criteria used for evaluation of acronyms

Positive criteria

BEAUTY—Boosting Elegant Acronyms Using a Tally Yardstick

Scores calculated:
1.5 points for each letter of acronym correctly used—that is, letters in the acronym that corresponded to the first letter in a word of the title

5 points if acronym was a real word

2 points if acronym related to the specialty of study

Negative criteria

CHEATING—obsCure and awkHward usE of lettArs Trying to spell somethING

Scores calculated:
−2 points for each letter incorrectly used—that is, not the first in a word

−1 point for each letter that was almost correctly used—that is, followed a correctly used letter

−1 point for each word in the full title not accounted for in the acronym (not counting prepositions and adverbs)

−2 points for each letter in the acronym that could not be attributed to a word in the full title

higher impact factor. Bibliometric assessment of academic production is closely associated with successful funding,[19 20] as well as personal satisfaction, pride, and peer prestige of researchers.[21-23] In line with our findings, a study found that using an acronym was associated with a twofold increase in annual citation rate.[24] Furthermore, the length of a manuscript's title has been identified as an independent predictor of citation rate.[25] In that study, however, the authors failed to account for acronymisation in their regression model. This possibly represents a strong confounder, and we are confident that adjusting for acronym use would eliminate the apparent signal from title length.[25] A causal relation cannot be inferred from our results though, and the issue of reverse causality remains a concern. We cannot exclude that well chosen and aesthetically satisfying acronyms increase the impact factor of the journals publishing them. However, we find it reassuring that acronyms that are technically correct and aesthetically satisfying are seemingly appropriately rewarded.

The Tolstoy manoeuvre

We observed several examples of what we designate the Tolstoy manoeuvre: if the title appears to quote extensive passages from *War and Peace* (>1400 pages), authors can fit any desired acronym by cherry picking letters. A striking example is ADJUST (Abatacept study to Determine the effectiveness in preventing the development of rheumatoid arthritis in patients with Undifferentiated inflammatory arthritis and to evaluate Safety and Tolerability, table 3). Incidentally, this represents a failed Tolstoy manoeuvre, as the "J" is not accounted for.

The good

Good acronyms are thoughtful, well designed, orthographically correct, and aesthetically satisfying. Acronyms such as CHARISMA, PREDICTIVE, and CAPTIVATE (table 3) are excellent examples and all likely to serve the purpose of the acronymisation to a meaningful extent. For pure inventiveness and imagination, some very good acronyms were included on the honourable mentions list, such as HI-5, DESSERT, and RATPAC (table 4).

The bad

The RATIONAL, RECOVER, and EXAMINE (table 3) acronyms may at first glance appear quite reasonable. On further examination, however, these acronyms reveal themselves to be poorly constructed. Consider the completely wonderful RATIONAL acronym, derived from "aspiRin stAtins or boTh for the reductIon of thrOmbin geNeration in diAbetic peopLe." Orthographically, a worse acronym than this is literally impossible to construct. Although the acronym signifies that the study presents rational, clinically important data, as in "rational pharmacotherapy" or "rational allocation of resources," such connotations seem disproportionate to the findings of the study.[26]

The ugly

We identified several acronyms that were seemingly randomly put together at the authors' discretion and did not remotely resemble a recognisable word or phrase. Prominent examples include POLMIDES, ARMYDA-5, and METGO (table 3). The dishonourable mentions list includes abominations such as SU.FOL.OM3 and P-No SOS (table 5), leaving acronymologists around the world wondering why the authors bothered in the first place.

We conclude that the prevalence of acronyms in reports on clinical trials is increasing at the expense of their semantic and aesthetic quality. Given the academic importance of acronyms, we are surprised by the lack of effort dedicated to their construction. The growth of acronym use, especially those of poor quality, should be resisted.[27] We believe that strict governance of current guidelines by journal editors will result in an aesthetic improvement and better use of acronyms.

Contributors: AP, JH, and PD were responsible for the overall planning of the study. AP and TBS performed the statistical analyses and data management. All authors made major contributions to the planning of the study, data collection, and subsequent reporting of the work. PD, AP, and JH primarily drafted the manuscript. All authors revised the manuscript for important intellectual content and approved the final version. AP is the guarantor. The study design; collection, analysis, and interpretation of data; writing of the article; and decision to submit for publication were independent of any funding body. All researchers had access to all the data.

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Ethical approval: Not required.

What is already known on this topic

The use of acronyms by medical researchers to brand their studies in the minds of clinicians and fellow researchers is subject to controversy

The use of acronyms may be associated with a higher annual citation rate

What this study adds

The proportion of trials within major disease entities in rheumatology, endocrinology, pulmonary medicine, and psychiatry that uses acronyms is increasing

The technical and aesthetic quality of acronyms is decreasing

Data sharing: Statistical code and datasets are available from the corresponding author at apottegaard@health.sdu.dk.

Transparency: The corresponding author (AP) affirms that the manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies are disclosed.

1 Webster's dictionary. 2014. www.webster-dictionary.org/definition/acronym.
2 Laszlo S, Federmeier KD. The acronym superiority effect. *Psychol Bull Rev* 2007;14:1158-63.
3 Playfoot D, Izura C. Imageability, age of acquisition, and frequency factors in acronym comprehension. *Q J Exp Psychol 2006* 2013;66:1131-45.
4 Berkwits M. Capture! Shock! Excite! Clinical trial acronyms and the 'branding' of clinical research. *Ann Intern Med* 2000;133:755-62.
5 Berlin L. TAC: AOITROMJA? (the acronym conundrum: advancing or impeding the readability of medical journal articles?). *Radiology* 2013;266:383-7.
6 Fred HL, Cheng TO. Acronymesis: the exploding misuse of acronyms. *Tex Heart Inst J Tex Heart Inst St Lukes Episcop Hosp Tex Child Hosp* 2003;30:255-7.
7 Orlowski JP, Christensen JA. The potentially coercive nature of some clinical research trial acronyms. *Chest* 2002;121:2023-8.
8 Cheng TO. What is the ZAHARA study? Acronymania is an incurable Disease Afflicting MAiNly the cardiologisTs (ADAMANT). *Int J Cardiol* 2009;137:289; author reply 290.
9 Isles AF, Pearn JH. Acronyms confuse everyone: combating the use of acronyms to describe paediatric research studies. *J Paediatr Child Health* 2014; published online 6 Jun.
10 Oransky I. HALT: Help acronyms leave (medical) trials. 2006. www.boston.com/yourlife/health/diseases/articles/2006/08/13/halt_help_acronyms_leave_medical_trials/.
11 Dalkey N, Helmer O. An experimental application of the Delphi method to the use of experts. *Manag Sci* 1963:9;458-67.
12 Müller R, Büttner P. A critical discussion of intraclass correlation coefficients. *Stat Med* 1994;13:2465-76.
13 Uebersax J. Intraclass correlation and related methods. 2014. www.john-uebersax.com/stat/icc.htm.
14 Thomson Reuters. Web of knowledge. 2014. www.webofknowledge.com.
15 Cheng TO. What is the THAMES study? [Letter.] *Eur Heart J* 1994;15:720.
16 Cheng TO. Use of the acronym SMART in a title is not very smart. *Am J Hypertens* 1997;10:141-2.
17 Cheng TO. PASTA is good, but SUSHI is better. *Catheter Cardiovasc Interv Off J Soc Card Angiogr Interv* 2000;49:478-9.
18 Cheng TO. What's in a name? Another unexplained acronym! *Int J Cardiol* 2010;144:291-2.
19 Svider PF, Mauro KM, Sanghvi S, Setzen M, Baredes S, Eloy JA. Is NIH funding predictive of greater research productivity and impact among academic otolaryngologists? *Laryngoscope* 2013;123:118-22.
20 Nishijima DK, Dinh T, May L, Yadav K, Gaddis GM, Cone DC. Quantifying federal funding and scholarly output related to the academic emergency medicine consensus conferences. *Acad Med J Assoc Am Med Coll* 2014;89:176-81.
21 Yue W, Wilson CS, Boller F. Peer assessment of journal quality in clinical neurology. *J Med Libr Assoc* 2007;95:70-6.
22 Bhattacharjee Y. Citation impact. Saudi universities offer cash in exchange for academic prestige. *Science* 2011;334:1344-5.
23 Murphy EJ. Citations: the rules they didn't teach you. *Lipids* 2011;46:307-9.
24 Stanbrook MB, Austin PC, Redelmeier DA. Acronym-named randomized trials in medicine—the ART in medicine study. *N Engl J Med* 2006;355:101-2.
25 Falagas ME, Zarkali A, Karageorgopoulos DE, Bardakas V, Mavros MN. The impact of article length on the number of future citations: a bibliometric analysis of general medicine journals. *PloS One* 2013;8:e49476.
26 Macchia A, Laffaye N, Comignani PD, Comejo Pucci E, Igarzabal C, Scazziota AS, et al. Statins but not aspirin reduce thrombotic risk assessed by thrombin generation in diabetic patients without cardiovascular events: the RATIONAL trial. *PloS One* 2012;7:e32894.
27 Cheng TO. Acronymophilia. *BMJ* 1994;309:683-4.

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Tables

Table 1| Basic search algorithm and results

Specialty	MeSH term	No of studies	No (%) with acronym in title	Total No of acronyms
Cardiology	Myocardial infarction	5063	1912 (37.8)	804
Endocrinology	Diabetes mellitus, type 2	4994	618 (12.4)	299
Rheumatology	Arthritis, rheumatoid	1404	114 (8.1)	69
Pulmonary medicine	Pulmonary disease, chronic obstructive	1691	86 (5.1)	50
Psychiatry	Depressive disorder, major	2284	150 (6.6)	49
Total*		14 965	2737 (18.3)	1149

*Differs from sum as studies might be related to more than one keyword.

Table 2| **25 best acronyms according to composite BEAUTY and CHEATING criteria (see box for details of scoring)**

Total score	Acronym	Full name*	Specialty	Publication year	Impact factor	No of citations†	Citations /year†
22.0	PREDICTIVE	Predictable Results and Experience in Diabetes through Intensification and Control to Target: An International Variability Evaluation	EN	2008	31.7	28	4.7
20.5	PERISCOPE	Pioglitazone Effect on Regression of Intravascular Sonographic Coronary Obstruction Prospective Evaluation	EN	2008	31.7	375	53.6
19.5	IMMEDIATE	Immediate Myocardial Metabolic Enhancement During Initial Assessment and Treatment in Emergency care	CA	2012	30.0	44	14.7
18.5	PRECISION	Prospective Randomized Evaluation of Celecoxib Integrated Safety versus Ibuprofen Or Naproxen	CA	2009	4.4	36	6.0
18.0	BARRICADE	Barrier approach to restenosis: restrict intima to curtail adverse events	CA	2011	6.8	10	2.5
17.5	BRONCUS	Bronchitis Randomized on NAC Cost-Utility Study	PU	2005	23.4	274	27.4
17.5	CAPTIVATE	Carotid Atherosclerosis Progression Trial Investigating Vascular ACAT Inhibition Treatment Effects	CA	2009	28.9	60	10.0
17.5	PRISM-PLUS	Platelet Receptor Inhibition in Ischemic Syndrome Management in Patients Limited by Unstable Signs and Symptoms	CA	2000	10.9	46	3.1
17.0	DECREASE	Dutch Echocardiographic Cardiac Risk Evaluation Applying Stress Echocardiography	CA	1999	28.9	816	51.0
17.0	CHARISMA	Clopidogrel for High Atherothrombotic Risk and Ischemic Stabilization, Management, and Avoidance	CA	2004	3.7	126	11.5
17.0	CADILLAC	Controlled Abciximab and Device Investigation to Lower Late Angioplasty Complications	CA	2002	29.1	801	61.6
17.0	INTERCEPT	Incomplete Infarction Trial of European Research Collaborators Evaluating Prognosis post-Thrombolysis	CA	2000	10.2	49	3.3
17.0	MR-IMPACT	Magnetic Resonance Imaging for Myocardial Perfusion Assessment in Coronary Artery Disease Trial	CA	2008	8.9	216	30.9
16.0	PLASMA	Phospholipase Levels and Serological Markers of Atherosclerosis	PU	2009	30.8	72	12.0
16.0	InTIME	Intravenous NPA for the treatment of infarcting myocardium early	CA	2000	3.8	108	7.2
16.0	IMPACT	Improving Mood with Psychoanalytic and Cognitive Therapies	PS	2011	2.1	9	2.3
16.0	MICRO-HOPE	Microalbuminuria Cardiovascular Renal Outcomes - Heart Outcomes Prevention Evaluation	CA	2000	10.2	-	-
16.0	BRIDGE	Blacks Receiving Interventions for Depression and Gaining Empowerment	PS	2013	2.5	2	1.0
16.0	APHRODITE	Active Prevention in High-Risk Individuals of Diabetes Type 2 in and Around Eindhoven	EN	2011	8.1	13	3.3
16.0	CRUISE	Can Routine Ultrasound Influence Stent Expansion	CA	2000	10.9	217	14.5
15.5	SENIORS	Study of the Effects of Nebivolol Intervention on Outcomes and Rehospitalisation in Seniors with Heart Failure	CA	2005	7.3	548	54.8
15.5	CAPTORS	Collaborative Angiographic Patency Trial Of Recombinant Staphylokinase	CA	2000	2.4	19	1.3
15.5	DESMOND	Diabetes Education and Self Management for Ongoing and Newly Diagnosed type 2 Diabetes	EN	2008	12.8	158	22.6
15.5	ESSENCE	Efficacy and Safety of Subcutaneous Enoxaparin in Non-Q-Wave Coronary Events	CA	1997	27.8	1089	60.5
15.5	COMPETE	Computerization of Medical Practices for the Enhancement of Therapeutic Effectiveness	EN	2009	7.7	66	11.0

CA=cardiology; EN=endocrinology; PU=pulmonary medicine; PS=psychiatry.

*Capitalisation is identical to that done by authors of single study.

†Source: Web of Knowledge.[14]

Table 3| **25 worst acronyms according to composite BEAUTY and CHEATING criteria (see box for details of scoring)**

Total score	Acronym	Full name*	Specialty	Publication year	Impact factor	No of citations†	Citations/year†
−18.0	METGO	A 48-week, randomized, double-blind, double-observer, placebo-controlled multicenter trial of combination METhotrexate and intramuscular GOld therapy in rheumatoid arthritis: results of the METGO study	RH	2005	7.4	57	5.7
−18.0	PERFORM	Prevention of cerebrovascular and cardiovascular Events of ischaemic origin with teRutroban in patients with a history oF ischaemic strOke or tRansient ischaeMic attack	CA	2011	38.3	68	17.0
−16.5	TYPHOON	Trial to assess the use of the CYPHer sirolimus-eluting coronary stent in acute myocardial infarction treated with BallOON angioplasty	CA	2011	6.8	50	12.5
−14.5	T-VENTURE	inhibitory effect of valsartan against progression of lefT VENTricUlaR dysfunction aftEr myocardial infarction	CA	2009	2.7	11	1.8
−13.5	POLMIDES	Prospective randomised pilOt study evaLuating the safety and efficacy of hybrid revascularisation in MultI-vessel coronary artery DisEaSe	CA	2011	0.5	2	0.5
−13.0	BEAUTIFUL	morBidity-mortality EvAlUaTion of the If inhibitor ivabradine in patients with coronary disease and left ventricULar dysfunction	CA	2008	28.4	355	50.7
−12.0	CILON-T	Influence of CILostazol-based triple antiplatelet therapy ON Ischemic Complication after drug-eluting stenT implantation	CA	2011	14.2	83	20.8
−12.0	AMEthyst	Assessment of the Medtronic AVE Interceptor Saphenous Vein Graft Filter System	CA	2008	7.4	15	2.1
−11.0	EUCATAX	Efficacy and safety of a double-coated paclitaxel-eluting coronary stent	CA	2011	2.3	3	0.8
−11.0	RATIONAL	aspiRin stAtins or boTh for the reductIon of thrOmbin geNeration in diAbetic peopLe	EN	2012	3.7	6	2.0
−10.5	ARMYDA-5 PRELOAD	Antiplatelet therapy for Reduction of MYocardial Damage during Angioplasty	CA	2010	14.3	26	5.2
−10.5	METOCARD-CNIC	Effect of METOprolol in CARDioproteCtioN during an acute myocardial InfarCtion	CA	2012	4.5	7	2.3
−10.5	SIRTAX	SIRolimus-eluting stent compared with pacliTAXel-eluting stent for coronary revascularization	CA	2005	44.0	373	37.3
−9.0	FABOLUS PRO	Facilitation through Aggrastat By drOpping or shortening Infusion Line in patients with ST-segment elevation myocardial infarction compared to or on top of PRasugrel given at loading dOse	CA	2012	6.6	33	11.0
−8.5	REGENT	Myocardial Regeneration by Intracoronary Infusion of Selected Population of Stem Cells in Acute Myocardial Infarction	CA	2009	9.8	196	32.7
−8.5	ORLICARDIA	ORLIstat and CArdiovascular risk profile in patients with metabolic syndrome and type 2 DIAbetes	EN	2004	2.9	29	2.6
−8.0	SCANDSTENT	Stenting Coronary Arteries in Non-Stress/Benestent Disease	CA	2006	11.4	69	7.7
−8.0	RECOVER	REstoration of COronary flow in patients with no-reflow after primary coronary interVEntion of acute myocaRdial infarction	CA	2012	4.5	4	1.3
−8.0	Carbostent	Carbofilm-coated stent versus a pure high-grade stainless steel stent	CA	2004	3.1	21	1.9
−7.0	VINO	Value of First Day Angiography/Angioplasty In Evolving Non-ST Segment Elevation Myocardial Infarction: An Open Multicenter Randomized Trial	CA	2002	6.1	95	7.3
−7.0	METIS	The effects of METhotrexate therapy on the physical capacity of patients with ISchemic heart failure	CA	2009	3.3	4	0.7
−7.0	STLLR	Stent deployment Techniques on cLinicaL outcomes of patients treated with the cypheRstent	CA	2008	3.9	59	8.4
−6.5	COMFORTABLE	Comparison of Biolimus Eluted From an Erodible Stent Coating With Bare Metal Stents	CA	2012	3.3	6	2.0
−6.5	EXPIRA	Impact of Thrombectomy with EXPort Catheter in Infarct-Related Artery during Primary Percutaneous Coronary Intervention	CA	2009	12.5	143	23.8

Table 3 (continued)

Total score	Acronym	Full name*	Specialty	Publication year	Impact factor	No of citations†	Citations/year†
−6.5	EXAMINE	EXamination of cArdiovascular outcoMes with alogliptIN versus standard of carE in patients with type 2 diabetes mellitus and acute coronary syndrome	CA	2011	4.7	26	6.5

CA=cardiology; EN=endocrinology; RH=rheumatology.

*Capitalisation is identical to that done by authors of single study.

†Source: Web of Knowledge.[14]

Table 4| **Honourable mentions**

Acronym	Full name*	Specialty
CHAMPION	Cangrelor versus standard tHerapy to Achieve optimal Management of Platelet InhibitiON	CA
ONTARGET	Ongoing Telmisartan Alone and in Combination With Ramipril Global End Point Trial	CA
EXAMINATION	Clinical Evaluation of the Xience-V stent in Acute Myocardial INfArcTION	CA
RATPAC	Randomised Assessment of Treatment using Panel Assay of Cardiac markers	CA
ALBATROSS	Aldosterone Lethal effects Blocked in Acute myocardial infarction Treated with or without Reperfusion to improve Outcome and Survival at Six months follow-up	CA
ENIGMA	Evaluation of Nitrous oxide In the Gas Mixture for Anesthesia	CA
PROTECT	Patient Related OuTcomes with Endeavor versus Cypher stenting Trial	CA
A to Z	Aggrastat to Zocor	CA
DOCTORS	Debulking Of CTO with Rotational or directional atherectomy before Stenting	CA
DISPERSE	Dose conflrmation Study assessing anti-Platelet Effects of AZD6140 vs. clopidogRel in non-ST-segment Elevation myocardial infarction	CA
ADMIRAL	Abciximab Before Direct Angioplasty and Stenting in Myocardial Infarction Regarding Acute and Long-term Follow-up	CA
4D	Die Deutsche Diabetes Dialyse Studie	CA
VESPA	Verapamil Slow-Release for Prevention of Cardiovascular Events After Angioplasty	CA
ALIVE	Azimilide Postinfarct Survival Evaluation	CA
LIFE	Losartan Intervention For Endpoint reduction in hypertension	CA
OPERA	Omapatrilat in Persons with Enhanced Risk of Atherosclerotic events	CA
HERO	Hirulog Early Reperfusion Occlusion	CA
MANTRA	Monitoring and Actualization of Noetic Training	CA
HI-5	Hyperglycemia: Intensive Insulin Infusion in Infarction	CA
CHEER	Chest pain evaluation in the emergency room	CA
ILLUMINATE	Investigation of Lipid Level Management to Understand its Impact in Atherosclerotic Events	EN
SERENADE	Study Evaluating Rimonabant Efficacy in Drug-Naive Diabetic Patients	EN
CaRESS	Cardiovascular risk education and social support	EN
DESSERT	Diabetes Drug Eluting Sirolimus Stent Experience in Restenosis Trial	EN
SLIM	Study on Lifestyle intervention and Impaired glucose tolerance Maastricht	EN
PLUTO	PLavix Use for Treatment Of Diabetes	EN
T-4	Treating to Twin Targets	RA

CA=cardiology; EN=endocrinology.

*Capitalisation of letters is identical to that done by authors of single study.

Table 5| **Dishonourable mentions**

Acronym	Full name*	Specialty
SOLSTICE	LoSmapimod treatment on inflammation and InfarCtSizE	CA
MI FREEE	Post-Myocardial Infarction Free Rx Event and Economic Evaluation	CA
SU.FOL.OM3	SUpplementation with FOLate, vitamins B-6 and B-12 and/or OMega-3 fatty acids	CA
PRODIGY	PROlonging Dual-antiplatelet treatment after Grading stent-induced Intimal hyperplasia study	CA
TAXUS	Treatment of De Novo Coronary Disease Using a Single Paclitaxel-Eluting Stent	CA
ANTIBIO	Antibiotic Therapy in Acute Myocardial Infarction	CA
STRATEGY	Single High-Dose Bolus Tirofiban and Sirolimus Eluting Stent Versus Abciximab and Bare Metal Stent In Acute Myocardial Infarction	CA
P-No SOS	Primary angioplasty in acute myocardial infarction at hospitals with no surgery on-site	CA
VICTORY	VeIn-Coronary aTherOsclerosis and Rosiglitazone after bypass surgerY	EN
CAPPP	Captopril Prevention Project	EN
MAXIMA	Maintenance of Haemoglobin Excels IV Administration of C.E.R.A.	PU
ADJUST	Abatacept study to Determine the effectiveness in preventing the development of rheumatoid arthritis in patients with Undifferentiated inflammatory arthritis and to evaluate Safety and Tolerability	RA

CA=cardiology; EN=endocrinology; RH=rheumatology; PU=pulmonary medicine.

*Capitalisation of letters is identical to that done by authors of single study.

Figures

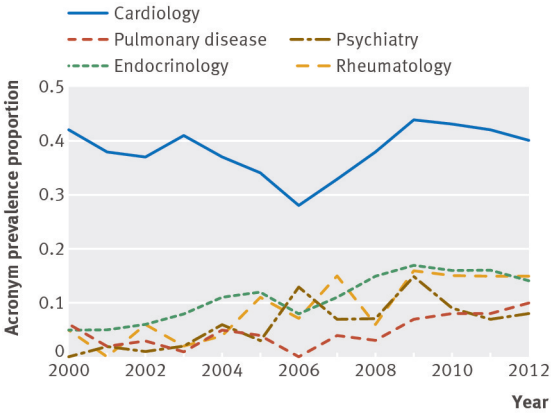

Fig 1 Prevalence proportion of acronyms over time

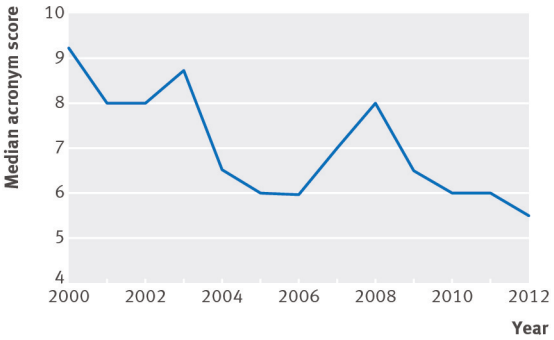

Fig 2 Median quality score for acronyms by year