Bibliometric Evaluation of RIVM's Centre for Infectious Diseases Control (2009 update)

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Contents

Executive summary

Bibliometrics is the field of sciences that deals with the development and application of quantitative measures and indicators, based on bibliographic information. This report contains preliminary results of a bibliometric study of the research output of RIVM-CIB, covering the period 1995-2008. The research output on which this study is based is necessarily retrieved from the Citation Indexes, as this study covers both an output as well as an impact assessment.

All in all, we can say that RIVM CIB performs well as viewed from a bibliometric perspective. The output in terms of numbers of publications in international reviewed journals has increased since 1995 in about 5 years from 50 to 100 per year. From 2000 to 2005 this has been stable at about 100 per year. Since 2005 the production has increased to about 120 publications per year. This is probably due to an increase of research staff since 2004.

The impact of their work has suffered slightly from the increased production until around 2000 but has increased since. The recently reached level of 1.6, where 1 is the world average, is considered a very good performance, particularly combined with the observed production. In the most recent years the performance has decreased slightly but this seems to coincide with an increased production. This altered publication strategy may have caused this small performance dip, but we will only be able to tell after some years from now.

As far as the research profile is concerned, the RIVM CIB not surprisingly focuses mainly on microbiology and infectious diseases. In those subfields they also reach a normalized impact above world average.

Another significant finding is found in the collaboration analyses. We found that the international collaboration covers 40% of the output, whereas only less than 15% covers the output only from within RIVM. The largest amount (45%) is covered by the national collaboration output. The impact of the international collaboration is most particularly high in the cases where the first author is from RIVM. This means that the level of their performance internationally is primarily due to the output in which RIVM takes the lead.

1 Introduction

Below we present the description of the methodology and indicators used in the bibliometric study carried out on the scientific output of the RIVM-CIB, covering the period 1995-2008. It is to a great extend based on the earlier report (1995 - 2005) and updated with the three most recent years.
The study is based on a quantitative analysis of scientific articles published in journals and serials processed for the Web of Science, Thomson Scientific It assesses the publication output, impact, cognitive orientation, and scientific collaboration of both scientists working at the RIVM-CIB, by using bibliometric techniques.

The methodology applied in this study is similar to the one adopted in earlier studies on academic research in the Netherlands, Germany, and Belgium. In this report the process of data collection, the methodology applied and its theoretical background will be briefly summarised. For more details we refer to the report on an earlier study on physics research in the Netherlands (Van Leeuwen et. al. 1996, available via our website) and to other publications (e.g., Moed, De Bruin and Van Leeuwen, 1995, Van Raan, 1996).

Chapter 2 gives the main lines of **data collection**, while in **Chapter 3** the various **indicators** applied in this study are described. **Chapter 4** presents the '**overall' results** for RIVM-CIB as a whole. **Chapter 5** contains concluding remarks concerning the results of the bibliometric analysis of RIVM-CIB.

2 Data collection

The data collection was performed by CWTS by using the address field in the database of the Web of Science. We collected more than 4000 publications by entering the name of RIVM and its variants in the period 1995-2005. We listed the variants of the address returned by the database and had the RIVM expert to exclude departments from the RIVM that were not relevant for this study. Thus the amount of publications was diminished by half. Subsequently, the 2000 remaining papers were checked by RIVM experts item by item and only the relevant papers for the object of the study (the Center for Infectious Diseases Control, CIDC) were selected. Thus the entire CIDC output contained almost thousand papers in 1995-2005.

The selection procedure of the individual papers was done through a web form and checked via a printed list by RIVM experts.

For the update of 2006-2008 data, CWTS provided a list to RIVM with candidate publications. RIVM checked and selected the relevant RIVM CIB publications. These were added to the output data.

3 Bibliometric indicators

3.1 Output and impact indicators

We calculated the following indicators. The numbering of the indicators corresponds to the position these indicators have in the data tables.

The *first* indicator is the total number of papers published by a group during the entire period (***P***). We considered only *normal articles*, *letters*, *notes*, and *reviews*. Meeting abstracts, corrections and editorials are *not* included. In a few cases we found papers published in a journal for which no citation data are available, or in a journal that is not assigned to any field of science[1]. Such papers are not considered in the calculation of the indicators. The *second* indicator concerns the total number of citations received (***C+sc),*** including self-citations. A self-citation to a paper is a citation given in a publication of which at least one of the authors (either first author or a co-author) is also an author of the cited paper (again either first author or a co-author). The *third* and *fourth* indicators indicate the average number of citations per publication calculated corrected for self-citations (***CPP***) and including self-citations (***CPP+sc***). The *fifth* indicator is the percentage of articles *not cited* during the time period considered, self-citations excluded (***%Pnc***).

A next indicator is the mean (world-wide) citation rate of the journals in which the institute/group has published (***JCSm,*** the mean **J**ournal **C**itation **S**core), taking into account the type of paper (e.g., normal article, review) as well as the years in which the institute/group's papers were published. For instance, the number of citations received in 1999-2002 by a *letter* published by an institute/group in 1999 in journal X, is compared to the average number of citations received during the *same* period (1999-2002) by *all letters* published in the *same* journal (X) in the *same* year (1999). Generally, an institute/group publishes its papers in several journals rather than one. Therefore, we

1 Fields of sciences are determined by the ISI classification of journals in so-called Journal Subject Categories. Field-specific impact scores are calculated on the basis of this classification scheme.

calculated a weighted average ***JCS*** indicated as ***JCSm***, with the weights determined by the number of papers published in each journal.

A further indicator represents the mean citation rate of the fields in which the institute/group is active (***FCSm,*** the mean **F**ield **C**itation **S**cor**e**). Our definition of sub-fields is based on a classification of scientific journals into *categories* developed by ISI. Although not perfect, it is at present the only classification that can be automated consistently in our data-system. In calculating ***FCSm***, we used the same procedure as for the calculation of ***JCSm***, with journals replaced by fields. In most cases, an institute/group is active in more than one field of science. In those cases, we calculate a weighed average value, the weights being determined by the total number of papers the institute/group has published in each field.

Thus, ***JCSm*** and ***FCSm*** are 'intermediate' statistics and are not printed in the data-tables. These indicators constitute an international average of a specific (combination of) journals or field(s), respectively. In this way, we can obtain an indication of the international position of a research institute/group, in terms of its impact compared to a 'world' average (fields of science are defined as sets of journals, the ISI 'journal categories'). This is done in the *sixth* and *seventh* indicators. Here we compare the average number of citations to an institute/group's oeuvre (***CPP***) to the relevant journal and field mean citation scores (***JCSm*** and ***FCSm***, respectively), by calculating the ratio for both.

If the ratio ***CPP/JCSm*** is above 1.0, the mean impact of an institute/group's papers exceeds the mean impact of all articles published in the journals in which the particular institute/group has published its papers. And similarly, if the ratio ***CPP/FCSm*** is above 1.0, the institute/group's oeuvre is cited more frequently than an 'average' publication in the field(s) in which the institute/group is active. About 80 percent of all indexed papers is authored by scientists from the United States, Canada, Western Europe, and Japan. Therefore, the 'world' average is dominated by the Western world.

The *eighth* indicator of our standardised set of bibliometric indicators is ***JCSm/FCSm***. If the value if this indicator is above 1.0, the mean citation score of the journals in which the institute/group has published exceeds the mean citation score of all papers published in the field(s) to which the journals belong.

We applied a statistical test developed by Glänzel (1992). With this test we establish whether the average impact of an institute/group's oeuvre (***CPP***) differs significantly from the average impact of all papers in the institute/group's journals (***JCSm***), or from the world citation average (***FCSm***) in de field(s) in which the institute/group is active. We refer to Appendix I for a short explanation (further details in Schubert and Glänzel, 1983; Glänzel, 1992). If an institute/group has a citation per publication ratio (***CPP***) significantly above (below) the average field (***FCSm***) or journal citation score (***JCSm***), this is indicated in the tables by means of a '+' ('-') symbol directly after the numerical value of the indicators ***CPP/FCSm*** and ***CPP/JCSm***.

The *ninth* indicator is the percentage of self-citations (***% Selfcits***), relative to the total number of citations received. The percentage of self-citations to an institute/group's oeuvre is influenced by a number of factors. Important factors are: research field; type of articles; age distribution of the articles published by an institute/group; size of the institute/group and number of articles published by the institute/group; and the extent to which the papers published by an institute/group are cognitively related.

3.2 Research profiles: analysis of cognitive orientation

The cognitive orientation or research profile of a research centre is analyzed by classifying its papers according to scientific (sub-)fields. In the Citation Indices, publications are classified by means of the journal in which they appear into (sub-)field categories such as '*Genetics & heredity*', '*Oncology*', '*Virology*, and so on. These CI subject categories are attached to each publication of a research unit. Subsequently, these publications are aggregated for each CI subfield, and output and impact indicators are computed separately for these aggregates. The purpose of this procedure is to show how frequently a centre has published papers in various subfields of science, what the impact

of the centre is in its main subfield(s), and how the impact of the centre in its main subfields of science compares to its impact in (for the centre) more peripheral subfields of science.

If a paper appears in a journal that is classified in more than one subject category, the paper (and its citations) is distributed over the subject categories. Thus, a paper with 7 citations published in a journal categorized in three subject categories is counted as 0.33 publication with 2.33 citations in each subject category.

For publications in each subject category, the impact is compared to the mean field citation score (***FCSm***), as described in above. At the subject category level, relatively low numbers of publications prevent frequent use of statistical tests. As an indication, if the ratio ***CPP/FCSm*** is lower than 0.8, the impact is said to be 'low' (graphically indicated by a 'white' bar), if the ratio is higher than 1.2, the impact is designated as 'high' (graphically indicated by a 'black' bar), while a ratio between 0.8 and 1.2 is called 'average' (subsequently indicated by a 'shaded' bar).

Fields indicated in the research profile with an '*' or '#' indicate respectively fields covered by the Social Sciences Citation Index (SSCI), and by the Arts & Humanities Citation Index (A&HCI), respectively.

3.3 Scientific cooperation profiles: analysis of scientific collaboration

Indicators for scientific collaboration are based on an analysis of all addresses in papers published by a research unit. Each paper is classified in one of three categories. First, we identified all papers authored by scientists sharing the same address, i.e., from the same research unit or institute. These papers are classified as '***institute only***', as they involve no collaboration or only 'local' (i.e., within the institute) collaboration. The remaining papers are classified as '***national collaboration'*** when there are different addresses but from the same country, and as ***'international***' when the papers contain addresses from at least two *different countries*. For example, if a paper is the result of collaboration with both another Dutch institution and an institute outside the Netherlands, it is marked as

'***international'***. Papers in each of the three categories are aggregated for each research unit, and for each of these aggregated sets, impact and output indicators are computed.
The purpose of this analysis is to show (1) how frequently a research unit has co-published papers with other research units, and (2) how the impact of papers resulting from national or international collaboration compares to the impact of papers authored by scientists from one research unit only.

For publications in each collaboration category, the impact is compared to the field citation average (***FCSm***), as described in section 3.2. At this level of aggregation, relatively low numbers of publications prevent frequent use of statistical tests. As an indication, if the ratio ***CPP/FCSm*** is lower than 0.8, the impact is said to be 'low', if the ratio is higher than 1.2, the impact is designated as 'high', while a ratio between 0.8 and 1.2 is called 'average'. Graphically, the impact levels are indicated like in the research profiles occurred

3.4 Basic elements of bibliometric analysis

All above discussed indicators are important in a bibliometric analysis as they relate to different aspects of publication and citation characteristics. Generally, we consider ***CPP/FCSm*** as our 'crown' indicator. This indicator relates the measured impact of a research group or institute to a worldwide, field-specific reference value. Therefore, it is a powerful internationally standardised impact indicator. This indicator enables us to observe immediately whether the performance of a research institute/group or institute is significantly far below (indicator value < 0.5), below (indicator value 0.5 - 0.8), about (0.8 - 1.2), above (1.2 - 2.0), or far above (>2.0) the international (western world dominated) impact standard of the field.

We stress however that the meaning of the numerical value of the indicator is related to the aggregation level of the entity under study. So it is necessary to give some 'exegesis' of the 'crown' indicator. The higher the aggregation level, the larger the volume in publications and the more difficult it is to have an average impact significantly above the international level. At the 'meso-level' (e.g., a large institute, or faculty, about 500 –

1,000 publications per year), a ***CPP/FCSm*** value above 1.2, such as in this case, means that the institute's impact as a whole is significantly above (western-) world average. The institute can be considered as a scientifically strong organization, with a high probability to find very good to excellent groups. Therefore, it is important to split up large institutes into smaller groups. Only this allows a more precise assessment of research performance. Otherwise, excellent work will be 'hidden' within the bulk of a large institute or faculty.

This bibliometric analysis relates to journal articles published during the period 1994 - 2008. Actually, these are 'database' years: papers are included for the year in which they were processed by the Citation Indices. Due to a time lag in processing of articles by ISI, we include 'late' papers from 1993, but at the other end, 'late' papers from 2008 will not be included.

Next to an overall analysis of the 1994 - 2008 impact data, we also conducted a trend analysis of the main indicators calculated for 'overlapping' four-year periods at each level of aggregation.

The first line of each table presents the overall results for the bibliometric indicators for the period 1994 - 2008. This means that for publications from each of the publication years (1994 - 2008), citations are counted up to and including 2008. For example, an seven year citation window is used for papers published in 1997, and a three year citation window for papers published in 2001.

A similar method has been applied to the four-year periods between 1994 - 1997 and 2005 – 2008 (seven blocks in total). To facilitate comparison between periods, citations were counted for the same number of years. If we take the 1994 - 1997 four-year period as an example, this means that, for publications from 1994 citations are counted during 1994 - 1997 (but *not* during 1998 - 2008), for publications from 1995 citations are counted in 1995 - 1997, for 1996 publications citations from 1996 - 1997, and for 1997 publications, only citations from 1997 are taken into account.

In this type of trend analysis, the absolute number of publications and citations is evidently lower than in a longer term timeframe. The number of publications and citations observed in this type of analysis does not correspond to the numbers found in the overall, ten-year period of analysis. Next, the numbers of 'papers not cited' and the percentage of self-citations are generally higher in the four-year period of analysis as compared to the ten-year period of analysis. This relates to a more 'mature' nature of the research in the ten-year period; in general, within longer citation timeframes, more scientific papers get cited eventually.

Overview of bibliometric indicators

P	Number of articles (normal articles, letters, notes and reviews) published in journals processed for the CD-ROM version of the ISI's Citation Indexes (CI).
C	Number of citations recorded in CI journals to all articles involved. Self-citations are excluded.
C+sc	Number of citations recorded in CI journals to all articles involved. Self-citations are included.
CPP	Average number of citations per publication, or citation per publication ratio. Self-citations are excluded.
%Pnc	Percentage of articles not cited during the time period considered.
JCSm	Average citation rate of all articles published in the journals in which an institute/group has published (excluding self-citations) (not printed in the data-tables).
FCSm	Average citation rate of all articles in the fields in which the institute/group is active. Also indicated as the world citation average in those fields. Fields are defined by means of ISI journal categories (excluding self-citations)) (not printed in the data-tables).
CPP/FCSm	Impact of an institute/group's articles, compared to the world citation average in the (sub)fields in which the institute/group is active. A '+' ('-') symbol behind the numerical value indicates that the impact of the institute/groups' articles is significantly above (below) world average.
CPP/JCSm	Impact of an institute/group's articles, compared to the average citation rate of the institute/group's journals. A '+' ('-') symbol behind the numerical value indicates that the impact of the institute/group's articles is significantly above (below) the average citation rate of the journals concerned.
JCSm/FCSm	Impact of the journals in which an institute/group has published, compared to the world citation average in the fields covered by these journals.
% SELFCITS	Percentage of self-citations. A self-citation is defined as a citation in which the citing and the cited paper have at least one author in common (first author or co-author).

4 Results on the level of RIVM-CIB

4.1 General bibliometric results

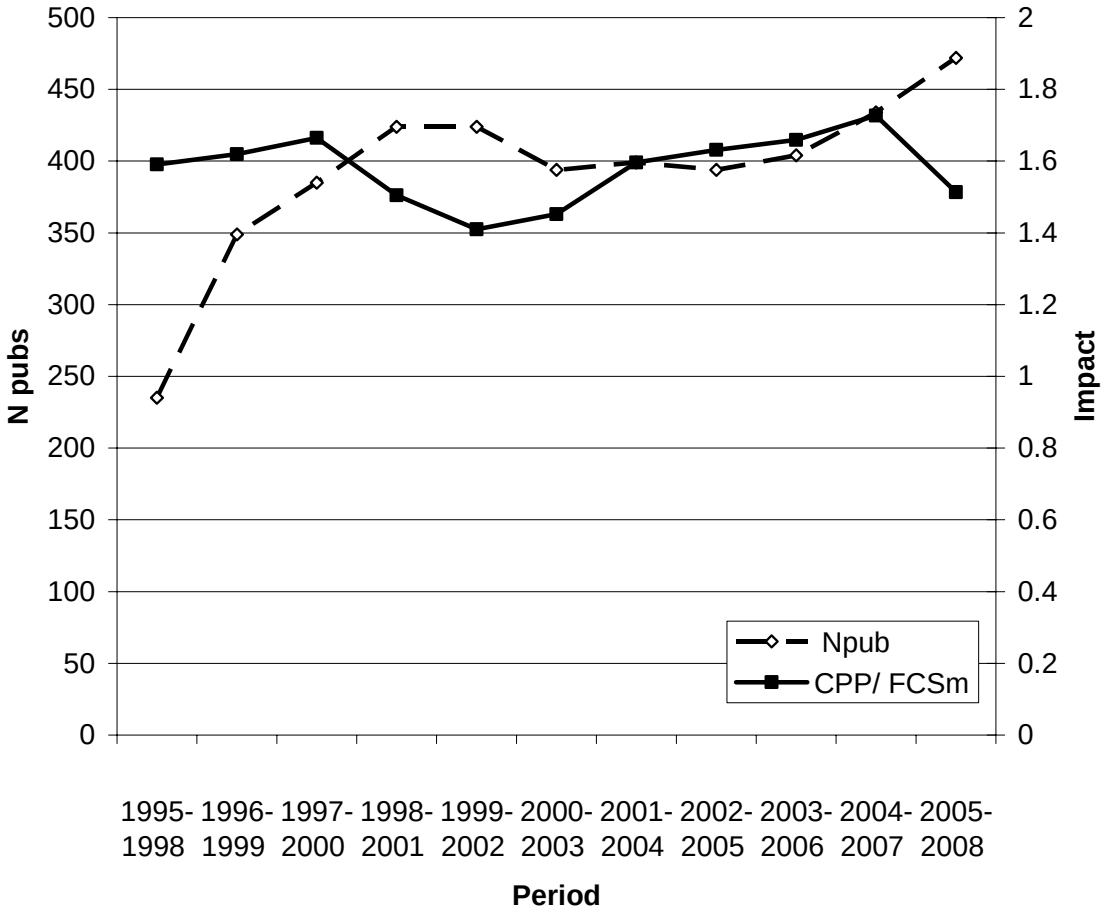
RIVM CIB shows significant publication output during the entire period of more than 100 publications (P) per year in international peer-reviewed journals. There is a clear increase visible from 1996 onwards. In parallel, the absolute numbers of citations (C+sc and C) increases throughout the entire period but shows a slight decrease in the last period. The percentage of non-cited publications (%Pnc) as well as the percentage of self-citations (%SELFCITS) decreases, though marginally. The ratio of the choice of journals and the impact of the field to which they belong (JCSm/FCSm) remains at the same level in the entire period, at about 1.16 but increases since 2004. This indicates that with respect to journals to publish their work, RIVM CIB increasingly chooses the high impact ones as related to field in which they are active. In that sense we could call RIVM CIB ambitious. Finally, the normalized impact (CPP/FCSm) is well above world average throughout the entire period. The slight decline in the most recent period may have been a result of a changed publication strategy as the number of publications increases, the average citation per publications (CPP) decreases, and the JCS/FCS increases. This is probably due to the recruitment of new research staff since 2004. It is probably too early to determine whether this will have an effect on the performance on the longer term. We have often seen that a change of publication strategy has a temporary negative effect on the performance but leads to an increase on the longer term.

Figure 1, depicting the output and normalized impact (CPP/FCSm) of RIVM CIB shows that the increase of activity (P) has resulted in a short (but minor) decrease of impact. Subsequently, around 2001 the impact increases to a significantly high level of around 1.6. It seems that the investments of RIVM CIB in quality resulted initially in an increase of production, but decrease of impact, and subsequently in an increased impact. We may be looking at a similar effect in the most recent period.

Table 1: Bibliometric statistics of RIVM-CIB, 1995-2008

Period	*Npub*	*Ncits*	*CPP*	*%Non-Cited*	*%Self-Cits*	*JCS/FCS*	*CPP/FCS*
1995-1998	235	494	2.10	0.50	0.32	1.18	1.59
1996-1999	349	1167	3.34	0.42	0.27	1.16	1.62
1997-2000	385	1581	4.11	0.38	0.26	1.11	1.66
1998-2001	424	1708	4.03	0.40	0.27	1.08	1.50
1999-2002	424	1738	4.10	0.38	0.26	1.11	1.41
2000-2003	394	1774	4.50	0.33	0.25	1.12	1.45
2001-2004	399	2007	5.03	0.34	0.24	1.16	1.60
2002-2005	394	2082	5.28	0.31	0.24	1.15	1.63
2003-2006	404	2137	5.29	0.28	0.23	1.18	1.66
2004-2007	434	2541	5.85	0.30	0.22	1.22	1.73
2005-2008	472	2458	5.21	0.30	0.23	1.21	1.51

Figure 1: Output and normalized impact of RIVM-CIB, in the period 1995-2008



Overview of the output (P) and impact (CPP/FCSm) of RIVM CIDC. The dashed line indicates the moving 4 years average of numbers of publications (primary Y-axis) from 1995 – 2008. The solid line indicates the impact of these journals, i.e. the average number of citations per publication, normalized by the world average in the field (secondary Y-axis).

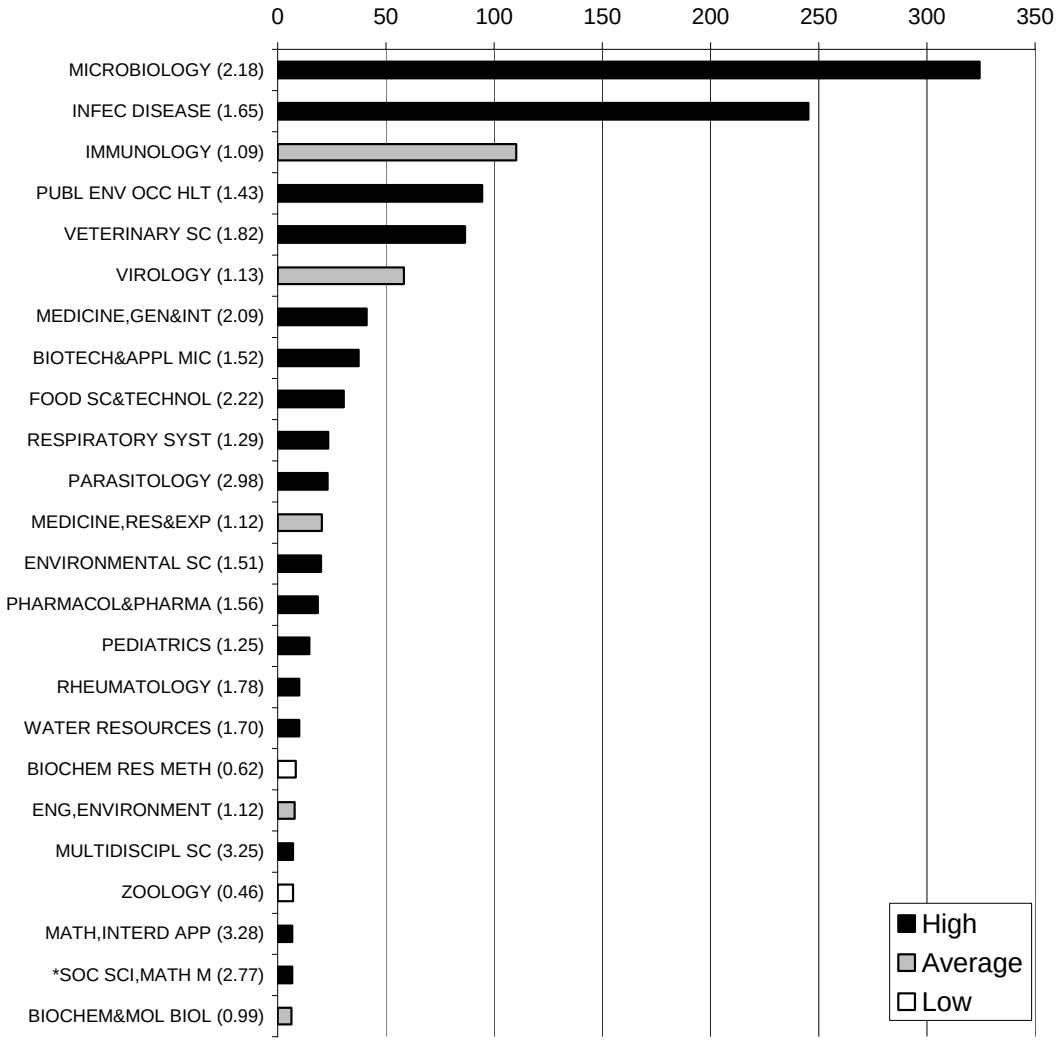
4.2 Research profile of RIVM-CIB

The research profile shows that RIVM CIB mainly focuses on the microbiology and infectious diseases. In both sub-fields the normalized impact score (CPP/FCSm) is significantly above world average. In the case of Microbiology it is even twice the world average. Other important research sub-fields (i.e., a relatively large number of papers) are immunology, public health and veterinary science. In all these sub-fields the impact of their work is above world average.

In addition, we mention food science, parasitology and mathematics as fields with less publications but with a high impact.

We may conclude that RIVM CIB publishes their work in the relevant journals and reaches an impact which is well above world average. In almost all cases the impact is significantly above world average.

Figure 2: Research profile RIVM-CIB, 1995-2008



Distribution of RIVM CIDC publications over sub-fields (1995-2008). The normalized impact for RIVM CIDC within each sub-field is given between parentheses and indicated by the coloring of the bars.

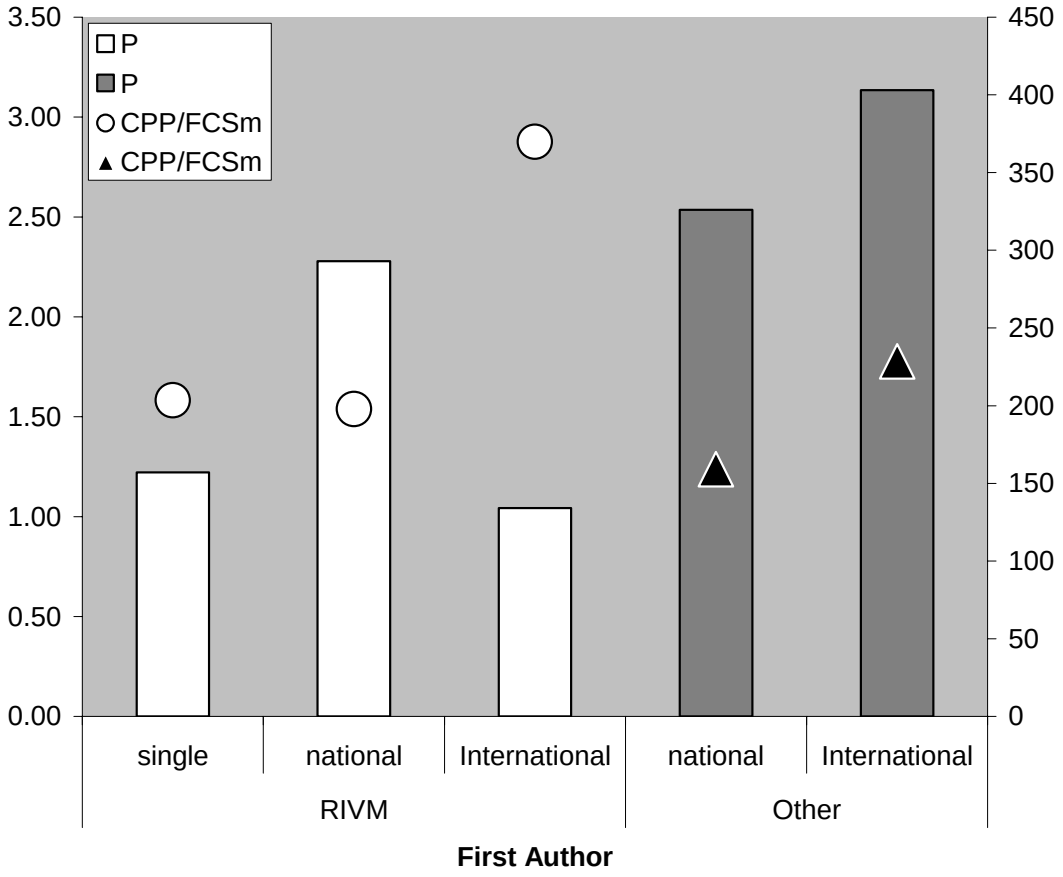
4.3 Scientific cooperation analysis of RIVM-CIB

With respect to collaboration we found that RIVM CIB preferably does research with other institutes. The vast majority of their publications is also signed by other Dutch or foreign institutes. Less than 13% of their publications are signed only by RIVM CIB.
Over 40% is international collaborative work. This is a high percentage compared to what we have experienced in our evaluation studies until present.
The impact of the international collaboration is – as expected – the work with the highest impact. The CPP/FCSm for this collaborative work is over two times world average. The impact of national collaboration is somewhat below the impact of the single institute work, but still well above world average.
Finally, we investigated the role of RIVM in the collaborative output by identifying the publications in which the first author is from RIVM. In Figure 3, we depicted the distribution of the collaboration data over publications with the first author either from RIVM or from elsewhere. Furthermore, we calculated for each of these categories the normalized impact factor (CPP/FCSm). From this figure we can read a remarkable result.
It appears that just over 25% of the international collaboration output has an RIVM first author, but that the impact of this work is significantly above the impact of any other category and almost 3 times world average. This means that the impact of the work in which RIVM takes the leading role is higher than any other RIVM CIB work, as published in the international journals.

Table 2: Bibliometric statistics of the scientific cooperation of RIVM-CIB, 1995-2008

Type	*Npub*	*Ncits*	*CPP*	*%Non-Cited*	*%SelfCits*	*JCS/FCS*	*CPP/FCS*
Single Institute	163	3292	20.20	17.78	0.12	1.09	1.61
National Collaboration	619	10687	17.26	14.44	0.16	1.13	1.37
International Collaboration	537	15267	28.43	22.81	0.20	1.23	2.04

Figure 3: Distribution of collaboration data over first authorship



Distribution of output (columns) and impact (circles and triangles) over kinds of collaboration (within the institute, national or international collaboration) and with the first author being from RIVM or not.

5 Conclusions and discussion

All in all, we can say that RIVM CIB performs well as viewed from a bibliometric perspective. The output in terms of numbers of publications in international reviewed journals has increased since 1995 in about 5 years from 50 to 100 per year. From 2000 to 2005 this has been stable at about 100 per year. Since 2005 the production has increased to about 120 publications per year. This is probably due to an increase of research staff since 2004.

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Appendix I

Data underlying the RIVM-CIB Research Profile

Appendix I: Bibliometric statistics underlying the research profile of RIVM-CIB, 1995-2008

field	*P*	*C+sc*	*CPP*	*Pnc*	*JCSm*	*FCSm*	*CPP/ JCSm*	*CPP/ FCSm*	*JCSm/ FCSm*	*% Self-cits*
MICROBIOLOGY	324.3	10251.3	26.34	0.09	15.43	12.06	1.71	2.18	1.28	0.17
INFEC DISEASE	245.2	5300.3	17.72	0.11	12.45	10.74	1.42	1.65	1.16	0.18
IMMUNOLOGY	110.3	2268.9	16.47	0.09	13.66	15.06	1.21	1.09	0.91	0.20
PUBL ENV OCC HLT	94.4	1534.3	13.23	0.12	10.84	9.23	1.22	1.43	1.17	0.19
VETERINARY SC	86.5	733.5	6.60	0.18	5.34	3.62	1.24	1.82	1.48	0.22
VIROLOGY	58.3	1047.7	13.84	0.11	9.68	12.27	1.43	1.13	0.79	0.23
MEDICINE,GEN&INT	41.0	1598.0	32.37	0.07	24.10	15.46	1.34	2.09	1.56	0.17
BIOTECH&APPL MIC	37.4	736.3	16.78	0.08	12.50	11.01	1.34	1.52	1.14	0.15
FOOD SC&TECHNOL	30.5	467.5	13.62	0.07	10.81	6.13	1.26	2.22	1.76	0.11
RESPIRATORY SYST	23.3	407.3	13.91	0.19	10.24	10.80	1.36	1.29	0.95	0.20
PARASITOLOGY	23.0	425.0	16.22	0.07	5.56	5.44	2.92	2.98	1.02	0.12
MEDICINE,RES&EXP	20.4	315.4	12.39	0.11	11.38	11.06	1.09	1.12	1.03	0.20
ENVIRONMENTAL SC	20.0	408.8	18.13	0.08	12.85	11.98	1.41	1.51	1.07	0.11
PHARMACOL&PHARMA	18.5	370.0	16.71	0.05	14.44	10.71	1.16	1.56	1.35	0.16
PEDIATRICS	14.7	204.2	11.24	0.10	14.34	8.99	0.78	1.25	1.59	0.19
RHEUMATOLOGY	10.0	286.0	25.10	0.10	23.89	14.10	1.05	1.78	1.69	0.12
WATER RESOURCES	9.9	143.2	12.25	0.10	9.47	7.22	1.29	1.70	1.31	0.15
BIOCHEM RES METH	8.3	76.9	5.52	0.06	6.76	8.92	0.82	0.62	0.76	0.41
ENG,ENVIRONMENT	7.8	111.8	12.60	0.13	10.47	11.27	1.20	1.12	0.93	0.13
MULTIDISCIPL SC	7.0	810.0	96.71	0.14	44.53	29.77	2.17	3.25	1.50	0.16
ZOOLOGY	7.0	29.5	2.86	0.29	4.68	6.27	0.61	0.46	0.75	0.32
MATH,INTERD APP	6.7	83.0	9.15	0.05	4.50	2.79	2.03	3.28	1.62	0.27
*SOC SCI,MATH M	6.7	83.0	9.15	0.05	4.50	3.30	2.03	2.77	1.36	0.27
BIOCHEM&MOL BIOL	6.3	197.3	26.19	0.00	21.17	26.45	1.24	0.99	0.80	0.17
BIOLOGY	6.0	142.0	19.58	0.00	8.19	7.70	2.39	2.54	1.06	0.17
CRIT CARE MEDIC	5.5	109.0	14.64	0.00	13.97	7.58	1.05	1.93	1.84	0.26
GENETICS&HEREDIT	4.8	48.8	7.97	0.31	2.97	6.26	2.68	1.27	0.47	0.21
MATH&COMPUT BIOL	4.4	103.4	20.57	0.11	7.34	10.41	2.80	1.98	0.71	0.12
ALLERGY	4.3	62.5	9.50	0.12	11.31	9.60	0.84	0.99	1.18	0.34
PATHOLOGY	4.3	106.0	18.23	0.00	11.83	15.63	1.54	1.17	0.76	0.25

GASTROENTEROLOGY	4.0	25.3	5.83	0.33	2.10	4.43	2.77	1.32	0.47	0.08
OPHTHALMOLOGY	4.0	53.0	10.75	0.00	13.06	11.45	0.82	0.94	1.14	0.19
ONCOLOGY	3.8	33.3	7.53	0.00	16.30	17.09	0.46	0.44	0.95	0.15
OBSTETRICS&GYNEC	3.7	29.2	6.00	0.36	5.18	7.54	1.16	0.80	0.69	0.25
ENTOMOLOGY	3.5	99.0	25.43	0.14	5.57	4.64	4.56	5.48	1.20	0.10
TOXICOLOGY	3.3	23.7	6.30	0.00	12.59	13.48	0.50	0.47	0.93	0.11
TROPICAL MEDICIN	3.0	8.0	2.50	0.50	5.26	4.24	0.48	0.59	1.24	0.06
HEMATOLOGY	2.8	37.8	12.27	0.00	17.94	20.11	0.68	0.61	0.89	0.11
PERIPHL VASC DIS	2.5	35.5	12.20	0.00	22.23	19.99	0.55	0.61	1.11	0.14
CHEM,ORGANIC	2.3	22.0	6.29	0.00	8.57	6.65	0.73	0.95	1.29	0.33
UROLOGY&NEPHROL	2.3	52.7	19.71	0.00	9.54	16.76	2.07	1.18	0.57	0.13
CARD&CARDIOV SYS	2.0	11.0	4.50	0.50	7.72	6.88	0.58	0.65	1.12	0.18
DERMATOLOGY	2.0	11.0	4.50	0.00	12.20	12.11	0.37	0.37	1.01	0.18
ENDOCRIN&METABOL	2.0	6.0	2.75	0.25	7.38	5.64	0.37	0.49	1.31	0.08
MED LAB TECHNOL	2.0	22.0	7.50	0.00	7.68	6.45	0.98	1.16	1.19	0.32
GEOSC,MULTIDISC	1.7	26.0	11.60	0.00	10.14	6.54	1.14	1.77	1.55	0.26
*HLTH POL&SERV	1.5	13.8	8.83	0.00	8.45	8.18	1.05	1.08	1.03	0.04
NEUROSCIENCES	1.5	14.0	7.67	0.00	6.85	10.12	1.12	0.76	0.68	0.18
RAD,NUCL MED IM	1.3	22.0	13.50	0.25	14.15	6.14	0.95	2.20	2.30	0.18
SOIL SCIENCE	1.3	9.3	4.75	0.00	12.18	6.68	0.39	0.71	1.82	0.32
BIOPHYSICS	1.3	34.5	13.20	0.00	12.80	16.35	1.03	0.81	0.78	0.52
METEOR&ATMOS SC	1.3	6.0	2.40	0.00	4.69	3.99	0.51	0.60	1.18	0.50
ANESTHESIOLOGY	1.0	1.0	1.00	0.00	1.51	5.06	0.66	0.20	0.30	0.00
CHEM,MULTIDISC	1.0	10.0	8.00	0.00	13.09	4.86	0.61	1.64	2.69	0.20
DENT,ORAL SURG&M	1.0	36.0	36.00	0.00	12.71	12.85	2.83	2.80	0.99	0.00
ENG,BIOMEDICAL	1.0	14.0	11.50	0.00	20.86	11.85	0.55	0.97	1.76	0.18
MATER SC,BIOMAT	1.0	14.0	11.50	0.00	20.86	19.25	0.55	0.60	1.08	0.18
NUTRITION&DIET	1.0	13.0	11.00	0.00	5.71	7.59	1.93	1.45	0.75	0.15
*PSYCHOL,MULTID	1.0	7.8	7.75	0.00	11.71	10.39	0.66	0.75	1.13	0.00
*SOC SC,BIOMEDIC	1.0	7.8	7.75	0.00	11.71	12.39	0.66	0.63	0.94	0.00

Data lines with P <=1 were omitted.