Mapping the Landscape of Precision Public Health: A Bibliometric Analysis of Influential Works and Key Contributors

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Saturday, 20/04/2024

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# Setup

## Library & Setup

pacman::p\_load(tidyverse, bibliometrix, stringi,   
 kableExtra, summarytools)  
  
bibds\_wos\_por <- read\_csv("240419\_bibds\_wos\_postor.csv")

Rows: 194 Columns: 37  
── Column specification ────────────────────────────────────────────────────────  
Delimiter: ","  
chr (31): idR, AU, DE, ID, C1, affiliations, AR, EM, BO, DI, earlyaccessdate...  
dbl (5): id, PN, TC, VL, PY  
lgl (1): AU\_UN\_NR  
  
ℹ Use `spec()` to retrieve the full column specification for this data.  
ℹ Specify the column types or set `show\_col\_types = FALSE` to quiet this message.

# Introduction

* Precision public health is a relatively new concept.
* Precision public health was coined following the trend of precision medicine.
* In precision medicine, treatment is tailored to individual patient, by utilising the advancement of genomic sequencing and molecular biology.
* Meanwhile, in precision public health, interventions are tailored to individual or group, by using data and technology.
* In this study, we want to map the landscape of precision public health, by identifying influential works and key contributors.

# Methodology

## Data Source & Inclusion Criteria

* Database: Web of Science Core Collection, which include
  + A&HCI: Arts & Humanities Citation Index
  + ESCI: Emerging Sources Citation Index
  + SCI-EXPANDED: Science Citation Index Expanded
  + SSCI: Social Sciences Citation Index
* Date Access: 19/04/2024
* Search Term: TS=(“public health precision”) OR TS=(“precision public health”)
  + TS: Topic, which include Title, Abstract and Author’s Keywords
  + TI: Title
  + link: https://www.webofscience.com/wos/woscc/summary/4e07b2e9-e0db-4bff-ac3d-f09a49adaed7-e0a53927/relevance/1

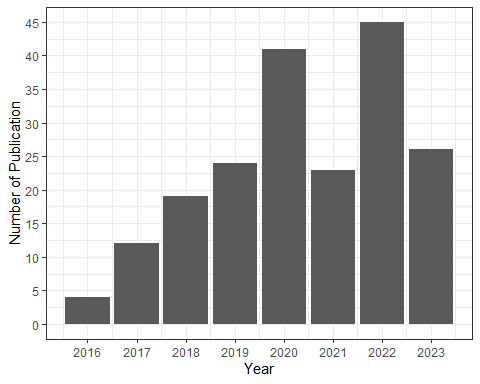
## Data Analysis

* Software
  + R
  + RStudio
  + Bibliometrix
* Parameters
  + Production by Year
  + Influential Articles
  + Influential Authors
  + Influential Journals
  + Influential Keywords

# Results

## Production by Year

bibds\_wos\_por %>%  
 count(PY) %>%  
 ggplot(aes(x = PY, y = n)) +   
 geom\_col() +   
 scale\_x\_continuous(breaks = seq(2000, 2030, 1),   
 name = "Year") +   
 scale\_y\_continuous(breaks = seq(0, 50, 5),   
 name = "Number of Publication") +  
 theme\_bw()



## Influential Articles

### Total Cited

bibds\_wos\_por %>%   
 select(TI, AU, TC, DI) %>%   
 arrange(desc(TC)) %>%   
 mutate(Rank = row\_number(), .before = 1) %>%   
 filter(Rank < 11)

| Rank | TI | AU | TC | DI |
| --- | --- | --- | --- | --- |
| 1 | PRECISION PUBLIC HEALTH FOR THE ERA OF PRECISION MEDICINE | KHOURY MJ;IADEMARCO MF;RILEY WT | 326 | 10.1016/j.amepre.2015.08.031 |
| 2 | MAPPING UNDER-5 AND NEONATAL MORTALITY IN AFRICA, 2000-15: A BASELINE ANALYSIS FOR THE SUSTAINABLE DEVELOPMENT GOALS | GOLDING N;BURSTEIN R;LONGBOTTOM J;BROWNE AJ;FULLMAN N;OSGOOD-ZIMMERMAN A;EARL S;CAMERON E;CASEY DC;DWYER-LINDGREN L;FARAG TH;FLAXMAN AD;FRASER MS;GETHING PW;GIBSON HS;GRAETZ LK;KULIKOFF XR;LIM B;MOROZOFF C;REINER A;SMITH DL;WANG H;WEISS DJ;MURRAY CJL;MOYES CL;HAY SI | 175 | 10.1016/S0140-6736(17)31758-0 |
| 3 | MAPPING CHILD GROWTH FAILURE IN AFRICA BETWEEN 2000 AND 2015 | OSGOOD-ZIMMERMAN A;MILLEAR AI;STUBBS RW;SHIELDS C;PICKERING BV;EARL L;GRAETZ N;KINYOKI DK;RAY SE;BHATT AJ;BURSTEIN R;CAMERON E;CASEY DC;DESHPANDE A;FULLMAN N;GETHING HS;HENRY NJ;HERRERO M;KRAUSE LK;LETOURNEAU ID;LEVINE AJ;LIU PY;LONGBOTTOM J;MAYALA BK;MOSSER JF;NOOR AM;PIGOTT DM;PIWOZ P;RAWAT R;REINER RC;SMITH DL;WEISS DJ;WIENS KE;MOKDAD SS;MURRAY CJL;KASSEBAUM NJ;HAY SI | 150 | 10.1038/nature25760 |
| 4 | PATHOGEN GENOMICS IN PUBLIC HEALTH | ARMSTRONG GL;MACCANNELL DR;TAYLOR HA;NEUHAUS EB;BRADBURY RS;POSEY JE;GWINN M | 113 | 10.1056/NEJMsr1813907 |
| 5 | DIGITAL TWINS: FROM PERSONALISED MEDICINE TO PRECISION PUBLIC HEALTH | BOULOS MNK;ZHANG P | 109 | 10.3390/jpm11080745 |
| 6 | BIG DATA’S ROLE IN PRECISION PUBLIC HEALTH | DOLLEY S | 105 | 10.3389/fpubh.2018.00068 |
| 7 | FROM PUBLIC HEALTH GENOMICS TO PRECISION PUBLIC HEALTH: A 20-YEAR JOURNEY | KHOURY MJ;BOWEN MS;CLYNE M;DOTSON WD;GWINN ML;GREEN RF;KOLOR K;RODRIGUEZ JL;WULF A;YU W | 99 | 10.1038/gim.2017.211 |
| 8 | CONTAINING COVID-19 AMONG 627,386 PERSONS IN CONTACT WITH THE DIAMOND PRINCESS CRUISE SHIP PASSENGERS WHO DISEMBARKED IN TAIWAN: BIG DATA ANALYTICS | CHEN CM;JYAN HW;CHIEN SC;JEN HH;HSU CY;LEE PC;LEE YT;CHEN MY;CHEN LS;CHEN HH;CHAN CC | 93 | 10.2196/19540 |
| 9 | BIG DATA HURDLES IN PRECISION MEDICINE AND PRECISION PUBLIC HEALTH | PROSPERI M;MIN JS;BIAN J;MODAVE F | 88 | 10.1186/s12911-018-0719-2 |
| 10 | MAPPING GEOGRAPHICAL INEQUALITIES IN ACCESS TO DRINKING WATER AND SANITATION FACILITIES IN LOW-INCOME AND MIDDLE-INCOME COUNTRIES, 2000-17 | DESHPANDE A;MILLER-PETRIE MK;LINDSTEDT PA;BAUMANN MM;JOHNSON KB;BLACKER BF;ABBASTABAR H;ABD-ALLAH F;ABDELALIM I;ABEGAZ KH;ABEJIE AN;ABREU LG;ABRIGO A;ACCROMBESSI MMK;ADAMU AA;ADEBAYO OM;ADEDEJI IA;ADEDOYIN RA;ADEKANMBI V;ADETOKUNBOH TB;AFARIDEH M;AGUDELO-BOTERO M;AHMADI M;AHMADI K;AHMED MB;AHMED AE;AKALU TY;AKANDA AS;ALAHDAB F;AL-ALY Z;ALAM S;ALAM N;ALAMENE GM;ALANZI TM;ALBRIGHT J;ALBUJEER A;ALCALDE RABANAL JE;ALEBEL A;ALEMU ZA;ALI M;ALIJANZADEH M;ALIPOUR V;ALJUNID SM;ALMASI A;ALMASI-HASHIANI A;AL-MEKHLAFI HM;ALTIRKAWI N;ALVIS-ZAKZUK NJ;AMINI AML;AMUL GGH;ANDREI CL;ANJOMSHOA M;ANSARIADI CAT;ANTONY B;ANTRIYANDARTI E;ARABLOO J;AREF HMA;AREMU B;ARORA A;ARYAL KK;ARZANI A;ASADI-ALIABADI M;ASMELASH D;ATALAY HT;ATHARI SM;ATHARI SS;ATRE SR;AUSLOOS M;AWASTHI S;AWOKE BPA;AYANO G;AYANORE MA;AYNALEM YA;AZARI S;AZMAN AS;BABAEE E;BADAWI A;BAGHERZADEH M;BAKKANNAVAR SM;BALAKRISHNAN S;BANACH M;BANOUB JAM;BARAC A;BARBOZA MA;BARNIGHAUSEN TW;BASU S;VO DINH;BAY VDB;BAYATI M;BEDI N;BEHESHTI M;BEHZADIFAR M;RAMIREZ DFB;BELL ML;BENNETT DA;BENZIAN H;BERBADA DA;BERNSTEIN RS;BHAT AG;BHATTACHARYYA K;BHAUMIK ZA;BIJANI A;BIKBOV B;BIN SAYEED MS;BISWAS RK;BOHLOULI S;BRADY OJ;BRIKO NI;BRITTON GB;BROWN A;NAGARAJA SB;BUTT ZA;CAMERA LA;CAMPOS-NONATO IR;RINCON JCC;CANO J;CAR J;CARDENAS R;CARVALHO F;CASTANEDA-ORJUELA CA;CASTRO F;CERIN B;CHATTU VK;CHIN DJ;CHU DT;CORMIER NM;COSTA VM;CROMWELL EA;DADI AFF;DAHIRU T;DAHLAWI SMA;DANDONA L;DANG AK;DAOUD F;DARWESH AM;DARWISH AH;DARYANI A;DAS R;DASH AP;DAVILA-CERVANTES CA;WEAVER ND;DE LA HOZ FP;DE;NEVE JW;DEMISSIE DB;DEMOZ GT;DENOVA-GUTIERREZ E;DERIBE K;DESALEW A;DHARMARATNE SD;DHILLON P;DHIMAL M;DHUNGANA GP;DIAZ D;DIPEOLU IO;HOA THI HT;DOLECEK C;DOYLE KE;DUBLJANIN E;DURAES AR;EDINUR HA;EFFIONG A;EFTEKHARI A;EL NAHAS MES;EL TANTAWI M;ELHABASHY HR;EL-JAAFARY S;EL-KHATIB Z;ELKOUT A;ENANY S;ENDALEW B;ESKANDARIEH S;ETEMADI O;FARAON EJA;FAREED A;FARZADFAR F;FASIL M;FEIGIN VL;FEKADU W;FENTAHUN N;FERESHTEHNEJAD SM;FERNANDES I;FISCHER F;FLOHR C;FOIGT NA;FOLAYAN MO;FOROUTAN M;FRANKLIN RC;FROSTAD JJ;FUKUMOTO T;GAD MM;GARCIA GM;GATOTOH RT;GEBREMEDHIN KB;GERAMO YCD;GESESEW HA;GEZAE A;SHERBAF FG;GILL PS;GININDZA TG;GIRMAY A;GIZAW Z;GOODRIDGE A;GOPALANI SV;GOULART BNG;GOULART AC;GRADA MS;GUBARI MIM;GUGNANI HC;GUIDO D;GUIMARAES RA;GUO Y;GUPTA R;GUPTA R;HA GH;HAAGSMA JA;HAFEZI-NEJAD N;HAILE DH;HAILE MT;HALL BJ;HAMIDI S;HANDISO DW;HARIRIAN H;HARIYANI A;HASAN M;HASANZADEH A;HASSEN HY;HAYELOM DH;HEGAZY M;HEIBATI B;HEIDARI B;HENDRIE D;HENOK C;HEYDARPOUR F;DE HIDRU TR;CHI LINH HOANG CLH;HOLLERICH G;HOOGAR P;HOSSAIN N;HOSSEINZADEH M;HOUSEH M;HU G;HUMAYUN A;HUSSAIN SA;HUSSEN MAA;IBITOYE SE;ILESANMI OS;ILIC MD;IMANI-NASAB MH;IQBAL U;IRVANI SSN;ISLAM SMS;IVERS RQ;IWU CJ;JAHANMEHR M;JALALI A;JAYATILLEKE AU;JENABI E;JHA RP;JHA V;JI JS;JONAS JB;JOZWIAK JJ;KABIR Z;KANCHAN T;KARCH A;KARKI S;KASAEIAN A;KASAHUN GG;KASAYE HK;KASSA GG;KASSA GA;KEBEDE MM;KEIYORO DB;KHADER YS;KHAFAIE MA;KHALID N;KHALILOV R;KHAN EA;KHAN J;KHAN N;KHATAB K;KHATER MM;KHATER AM;KHAYAMZADEH M;KHAZAEI M;KHOSRAVI MH;KHUBCHANDANI A;KIM YJ;KIMOKOTI RW;KISA S;KISA A;KOCHHAR S;KOLOLA T;KOMAKI H;KOSEN S;KOUL PA;KOYANAGI K;DEFO BK;KUGBEY N;KUMAR P;KUMAR GA;KUMAR M;KUSUMA D;LA;VECCHIA C;LACEY B;LAL A;LAL DK;LAM H;LAMI FH;LANSINGH S;LEBEDEV G;LEE PH;LEGRAND KE;LEILI M;LENJEBO TL;LESHARGIE CT;LEVINE AJ;LEWYCKA S;LI S;LIU S;LOPEZ JCF;LOPUKHOV PD;ABD EL RAZEK MM;PRASAD DRM;MAHASHA PW;MAHOTRA A;MALEKZADEH R;MALTA AA;MANAFI N;MANSOURNIA CC;MARTINEZ G;MARTINI FR;MATHUR MR;MAYALA BK;MAZIDI M;MCALINDEN C;MEHARIE BG;MEHNDIRATTA MM;NASAB EM;MEHTA KM;MEKONNEN T;MEKONNEN TC;MELES GG;MELES HG;MEMIAH PTN;MEMISH ZA;MENDOZA W;MENEZES ST;MERETOJA TJ;MESTROVIC WM;MIAZGOWSKI B;MILLER GK;MIRRAKHIMOV EM;MOAZEN B;MOHAJER B;MOHAMMAD Y;MOHAMMAD DK;MEZERJI NMG;MOHAMMADIBAKHSH R;MOHAMMED JA;MOHAMMED H;MOHEBI F;MOKDAD AH;MOODLEY Y;MORADI M;MORADI M;MORAGA P;MORALES L;MOSAPOUR A;MOSSER JF;MOUODI S;MOUSAVI SM;MOZAFFOR M;MUNRO SB;MURIITHI MK;MURRAY CJL;MUSA KI;MUSTAFA G;MUTHUPANDIAN S;NADERI M;NAGARAJAN AJ;NAGHAVI M;NAIK G;NANGIA V;NASCIMENTO BR;NAZARI J;NDWANDWE DE;NEGOI I;NETSERE HB;NGUNJIRI JW;CUONG TAT NGUYEN CTN;HUONG LAN THI NGUYEN HLTN;NGUYEN QAP;NIGATU SG;NINGRUM DNA;NNAJI CA;NOJOMI M;NORHEIM JJ;OANCEA B;OGBO IH;OLAGUNJU AT;OLUSANYA BO;ONWUJEKWE D;OSARENOTOR O;OSEI FB;OWOLABI MO;MAHESH PA;PADUBIDRI JR;PAKHALE S;PANA A;PARK EK;PATEL SK;PATHAK A;PATLE A;PAULOS VCF;PERICO N;PERVAIZ A;PESCARINI JM;PESUDOVS K;PHAM HQ;PIGOTT DM;PILGRIM T;PIRSAHEB M;POLLOCK I;POSTMA MJ;POURMALEK F;POURSHAMS A;PRADA S;PREOTESCU L;QUINTANA H;RABIEE N;RABIEE M;RADFAR A;RAFIEI A;RAHIM F;RAHIMI V;RAHMAN MA;RAHMAN MHU;RAJATI F;RANABHAT CL;RAO PC;RASELLA D;RATH GK;RAWAF S;RAWAL L;RAWASIA WF;REMUZZI G;RENJITH V;RENZAHO AMN;RESNIKOFF S;RIAHI SM;RIBEIRO AI;RICKARD J;ROEVER L;RUBAGOTTI E;RUBINO S;SAAD AM;SABOUR S;SADEGHI E;MOGHADDAM Y;SAGAR R;SAHRAIAN MA;SAJADI SM;SALAHSHOOR MR;SALAM N;SALEEM A;SALEM H;SALEM MR;SALIMI H;SAMY AM;SANABRIA J;SANTOS IS;SANTRIC-MILICEVIC MM;SAO JOSE BP;SARASWATHY SYI;SARRAFZADEGAN B;SATHIAN B;SATHISH M;SAWHNEY M;SAYYAH M;SBARRA AN;SCHAEFFER LE;SCHWEBEL DC;SENBETA AM;SENTHILKUMARAN S;SEPANLOU SG;SERVAN-MORI E;SHAFIEESABET A;SHAHEEN AA;SHAHID I;SHAIKH MA;SHALASH M;SHAMSI MB;SHAMSIZADEH M;SHANNAWAZ M;SHARAFI K;SHARMA R;SHEIKH A;SHETTY BSK;SHIFERAW WS;SHIGEMATSU M;SHIN JI;SHIRI R;SHIVAKUMAR KM;SI S;SIABANI TJ;SILVA DAS;SINGH V;SINGH NP;SINGH BBS;SINGH JA;SINGH A;SINHA DN;SISAY MM;SKIADARESI E;SMITH DL;FILHO AMS;SOBHIYEH MR;SOKHAN JB;SORRIE MB;SOYIRI EE;SREERAMAREDDY A;SUFIYAN MB;SULERIA HAR;SYKES BL;TABARES-SEISDEDOS R;TABUCHI T;TADESSE DB;TARIGAN IU;TAYE B;TEFERA YM;TEHRANI-BANIHASHEMI SW;TEKLE MG;TEMSAH MH;TESFAY BE;TESFAY ZT;THANKAPPAN AS;THOMAS N;THOMPSON RL;THOMSON AJ;TOPOR-MADRY R;TOVANI-PALONE MR;TRAINI E;BACH XUAN TRAN BXT;KHANH BAO TRAN AND;ULLAH I;UNNIKRISHNAN B;USMAN OA;UZOCHUKWU BSC;VALDEZ PR;VARUGHESE S;VEISANI Y;VIOLANTE FS;VOLLMER S;WHAWARIAT FG;WAHEED Y;WALLIN MT;WANG YP;WANG Y;WANGDI K;WEISS DJ;WELDESAMUEL GT;WERKNEH AA;WESTERMAN R;WIANGKHAM T;WIENS KE;WIJERATNE T;WIYSONGE CS;WOLDE HF;WONDAFRASH DZ;WONDE TE;WORKU GT;YADOLLAHPOUR SHY;YAMADA T;YASERI M;YATSUYA H;YESHANEH A;YILMA P;YISMA E;YONEMOTO N;YOUNIS MZ;YOUSOF HASA;YU C;YUSEFZADEH H;ZADEY S;MOGHADAM TZ;ZAIDI S;ZAMANI M;ZANDIAN H;ZAR HJ;ZERFU TA;ZHANG Y;ZIAPOUR A;ZODPEY S;ZUNIGA YMH;HAY RC | 78 | NA |

### Total Cited per Year

bibds\_wos\_por %>%   
 select(TI, AU, DI, PY, TC) %>%   
 mutate(dur = 2024 - PY + 1,  
 tcy = TC / dur) %>%   
 arrange(desc(tcy)) %>%   
 mutate(Rank = row\_number(), .before = 1) %>%   
 filter(Rank < 11)

| Rank | TI | AU | DI | PY | TC | dur | tcy |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | PRECISION PUBLIC HEALTH FOR THE ERA OF PRECISION MEDICINE | KHOURY MJ;IADEMARCO MF;RILEY WT | 10.1016/j.amepre.2015.08.031 | 2016 | 326 | 9 | 36.22222 |
| 2 | DIGITAL TWINS: FROM PERSONALISED MEDICINE TO PRECISION PUBLIC HEALTH | BOULOS MNK;ZHANG P | 10.3390/jpm11080745 | 2021 | 109 | 4 | 27.25000 |
| 3 | MAPPING UNDER-5 AND NEONATAL MORTALITY IN AFRICA, 2000-15: A BASELINE ANALYSIS FOR THE SUSTAINABLE DEVELOPMENT GOALS | GOLDING N;BURSTEIN R;LONGBOTTOM J;BROWNE AJ;FULLMAN N;OSGOOD-ZIMMERMAN A;EARL S;CAMERON E;CASEY DC;DWYER-LINDGREN L;FARAG TH;FLAXMAN AD;FRASER MS;GETHING PW;GIBSON HS;GRAETZ LK;KULIKOFF XR;LIM B;MOROZOFF C;REINER A;SMITH DL;WANG H;WEISS DJ;MURRAY CJL;MOYES CL;HAY SI | 10.1016/S0140-6736(17)31758-0 | 2017 | 175 | 8 | 21.87500 |
| 4 | MAPPING CHILD GROWTH FAILURE IN AFRICA BETWEEN 2000 AND 2015 | OSGOOD-ZIMMERMAN A;MILLEAR AI;STUBBS RW;SHIELDS C;PICKERING BV;EARL L;GRAETZ N;KINYOKI DK;RAY SE;BHATT AJ;BURSTEIN R;CAMERON E;CASEY DC;DESHPANDE A;FULLMAN N;GETHING HS;HENRY NJ;HERRERO M;KRAUSE LK;LETOURNEAU ID;LEVINE AJ;LIU PY;LONGBOTTOM J;MAYALA BK;MOSSER JF;NOOR AM;PIGOTT DM;PIWOZ P;RAWAT R;REINER RC;SMITH DL;WEISS DJ;WIENS KE;MOKDAD SS;MURRAY CJL;KASSEBAUM NJ;HAY SI | 10.1038/nature25760 | 2018 | 150 | 7 | 21.42857 |
| 5 | PATHOGEN GENOMICS IN PUBLIC HEALTH | ARMSTRONG GL;MACCANNELL DR;TAYLOR HA;NEUHAUS EB;BRADBURY RS;POSEY JE;GWINN M | 10.1056/NEJMsr1813907 | 2019 | 113 | 6 | 18.83333 |
| 6 | CONTAINING COVID-19 AMONG 627,386 PERSONS IN CONTACT WITH THE DIAMOND PRINCESS CRUISE SHIP PASSENGERS WHO DISEMBARKED IN TAIWAN: BIG DATA ANALYTICS | CHEN CM;JYAN HW;CHIEN SC;JEN HH;HSU CY;LEE PC;LEE YT;CHEN MY;CHEN LS;CHEN HH;CHAN CC | 10.2196/19540 | 2020 | 93 | 5 | 18.60000 |
| 7 | MAPPING GEOGRAPHICAL INEQUALITIES IN ACCESS TO DRINKING WATER AND SANITATION FACILITIES IN LOW-INCOME AND MIDDLE-INCOME COUNTRIES, 2000-17 | DESHPANDE A;MILLER-PETRIE MK;LINDSTEDT PA;BAUMANN MM;JOHNSON KB;BLACKER BF;ABBASTABAR H;ABD-ALLAH F;ABDELALIM I;ABEGAZ KH;ABEJIE AN;ABREU LG;ABRIGO A;ACCROMBESSI MMK;ADAMU AA;ADEBAYO OM;ADEDEJI IA;ADEDOYIN RA;ADEKANMBI V;ADETOKUNBOH TB;AFARIDEH M;AGUDELO-BOTERO M;AHMADI M;AHMADI K;AHMED MB;AHMED AE;AKALU TY;AKANDA AS;ALAHDAB F;AL-ALY Z;ALAM S;ALAM N;ALAMENE GM;ALANZI TM;ALBRIGHT J;ALBUJEER A;ALCALDE RABANAL JE;ALEBEL A;ALEMU ZA;ALI M;ALIJANZADEH M;ALIPOUR V;ALJUNID SM;ALMASI A;ALMASI-HASHIANI A;AL-MEKHLAFI HM;ALTIRKAWI N;ALVIS-ZAKZUK NJ;AMINI AML;AMUL GGH;ANDREI CL;ANJOMSHOA M;ANSARIADI CAT;ANTONY B;ANTRIYANDARTI E;ARABLOO J;AREF HMA;AREMU B;ARORA A;ARYAL KK;ARZANI A;ASADI-ALIABADI M;ASMELASH D;ATALAY HT;ATHARI SM;ATHARI SS;ATRE SR;AUSLOOS M;AWASTHI S;AWOKE BPA;AYANO G;AYANORE MA;AYNALEM YA;AZARI S;AZMAN AS;BABAEE E;BADAWI A;BAGHERZADEH M;BAKKANNAVAR SM;BALAKRISHNAN S;BANACH M;BANOUB JAM;BARAC A;BARBOZA MA;BARNIGHAUSEN TW;BASU S;VO DINH;BAY VDB;BAYATI M;BEDI N;BEHESHTI M;BEHZADIFAR M;RAMIREZ DFB;BELL ML;BENNETT DA;BENZIAN H;BERBADA DA;BERNSTEIN RS;BHAT AG;BHATTACHARYYA K;BHAUMIK ZA;BIJANI A;BIKBOV B;BIN SAYEED MS;BISWAS RK;BOHLOULI S;BRADY OJ;BRIKO NI;BRITTON GB;BROWN A;NAGARAJA SB;BUTT ZA;CAMERA LA;CAMPOS-NONATO IR;RINCON JCC;CANO J;CAR J;CARDENAS R;CARVALHO F;CASTANEDA-ORJUELA CA;CASTRO F;CERIN B;CHATTU VK;CHIN DJ;CHU DT;CORMIER NM;COSTA VM;CROMWELL EA;DADI AFF;DAHIRU T;DAHLAWI SMA;DANDONA L;DANG AK;DAOUD F;DARWESH AM;DARWISH AH;DARYANI A;DAS R;DASH AP;DAVILA-CERVANTES CA;WEAVER ND;DE LA HOZ FP;DE;NEVE JW;DEMISSIE DB;DEMOZ GT;DENOVA-GUTIERREZ E;DERIBE K;DESALEW A;DHARMARATNE SD;DHILLON P;DHIMAL M;DHUNGANA GP;DIAZ D;DIPEOLU IO;HOA THI HT;DOLECEK C;DOYLE KE;DUBLJANIN E;DURAES AR;EDINUR HA;EFFIONG A;EFTEKHARI A;EL NAHAS MES;EL TANTAWI M;ELHABASHY HR;EL-JAAFARY S;EL-KHATIB Z;ELKOUT A;ENANY S;ENDALEW B;ESKANDARIEH S;ETEMADI O;FARAON EJA;FAREED A;FARZADFAR F;FASIL M;FEIGIN VL;FEKADU W;FENTAHUN N;FERESHTEHNEJAD SM;FERNANDES I;FISCHER F;FLOHR C;FOIGT NA;FOLAYAN MO;FOROUTAN M;FRANKLIN RC;FROSTAD JJ;FUKUMOTO T;GAD MM;GARCIA GM;GATOTOH RT;GEBREMEDHIN KB;GERAMO YCD;GESESEW HA;GEZAE A;SHERBAF FG;GILL PS;GININDZA TG;GIRMAY A;GIZAW Z;GOODRIDGE A;GOPALANI SV;GOULART BNG;GOULART AC;GRADA MS;GUBARI MIM;GUGNANI HC;GUIDO D;GUIMARAES RA;GUO Y;GUPTA R;GUPTA R;HA GH;HAAGSMA JA;HAFEZI-NEJAD N;HAILE DH;HAILE MT;HALL BJ;HAMIDI S;HANDISO DW;HARIRIAN H;HARIYANI A;HASAN M;HASANZADEH A;HASSEN HY;HAYELOM DH;HEGAZY M;HEIBATI B;HEIDARI B;HENDRIE D;HENOK C;HEYDARPOUR F;DE HIDRU TR;CHI LINH HOANG CLH;HOLLERICH G;HOOGAR P;HOSSAIN N;HOSSEINZADEH M;HOUSEH M;HU G;HUMAYUN A;HUSSAIN SA;HUSSEN MAA;IBITOYE SE;ILESANMI OS;ILIC MD;IMANI-NASAB MH;IQBAL U;IRVANI SSN;ISLAM SMS;IVERS RQ;IWU CJ;JAHANMEHR M;JALALI A;JAYATILLEKE AU;JENABI E;JHA RP;JHA V;JI JS;JONAS JB;JOZWIAK JJ;KABIR Z;KANCHAN T;KARCH A;KARKI S;KASAEIAN A;KASAHUN GG;KASAYE HK;KASSA GG;KASSA GA;KEBEDE MM;KEIYORO DB;KHADER YS;KHAFAIE MA;KHALID N;KHALILOV R;KHAN EA;KHAN J;KHAN N;KHATAB K;KHATER MM;KHATER AM;KHAYAMZADEH M;KHAZAEI M;KHOSRAVI MH;KHUBCHANDANI A;KIM YJ;KIMOKOTI RW;KISA S;KISA A;KOCHHAR S;KOLOLA T;KOMAKI H;KOSEN S;KOUL PA;KOYANAGI K;DEFO BK;KUGBEY N;KUMAR P;KUMAR GA;KUMAR M;KUSUMA D;LA;VECCHIA C;LACEY B;LAL A;LAL DK;LAM H;LAMI FH;LANSINGH S;LEBEDEV G;LEE PH;LEGRAND KE;LEILI M;LENJEBO TL;LESHARGIE CT;LEVINE AJ;LEWYCKA S;LI S;LIU S;LOPEZ JCF;LOPUKHOV PD;ABD EL RAZEK MM;PRASAD DRM;MAHASHA PW;MAHOTRA A;MALEKZADEH R;MALTA AA;MANAFI N;MANSOURNIA CC;MARTINEZ G;MARTINI FR;MATHUR MR;MAYALA BK;MAZIDI M;MCALINDEN C;MEHARIE BG;MEHNDIRATTA MM;NASAB EM;MEHTA KM;MEKONNEN T;MEKONNEN TC;MELES GG;MELES HG;MEMIAH PTN;MEMISH ZA;MENDOZA W;MENEZES ST;MERETOJA TJ;MESTROVIC WM;MIAZGOWSKI B;MILLER GK;MIRRAKHIMOV EM;MOAZEN B;MOHAJER B;MOHAMMAD Y;MOHAMMAD DK;MEZERJI NMG;MOHAMMADIBAKHSH R;MOHAMMED JA;MOHAMMED H;MOHEBI F;MOKDAD AH;MOODLEY Y;MORADI M;MORADI M;MORAGA P;MORALES L;MOSAPOUR A;MOSSER JF;MOUODI S;MOUSAVI SM;MOZAFFOR M;MUNRO SB;MURIITHI MK;MURRAY CJL;MUSA KI;MUSTAFA G;MUTHUPANDIAN S;NADERI M;NAGARAJAN AJ;NAGHAVI M;NAIK G;NANGIA V;NASCIMENTO BR;NAZARI J;NDWANDWE DE;NEGOI I;NETSERE HB;NGUNJIRI JW;CUONG TAT NGUYEN CTN;HUONG LAN THI NGUYEN HLTN;NGUYEN QAP;NIGATU SG;NINGRUM DNA;NNAJI CA;NOJOMI M;NORHEIM JJ;OANCEA B;OGBO IH;OLAGUNJU AT;OLUSANYA BO;ONWUJEKWE D;OSARENOTOR O;OSEI FB;OWOLABI MO;MAHESH PA;PADUBIDRI JR;PAKHALE S;PANA A;PARK EK;PATEL SK;PATHAK A;PATLE A;PAULOS VCF;PERICO N;PERVAIZ A;PESCARINI JM;PESUDOVS K;PHAM HQ;PIGOTT DM;PILGRIM T;PIRSAHEB M;POLLOCK I;POSTMA MJ;POURMALEK F;POURSHAMS A;PRADA S;PREOTESCU L;QUINTANA H;RABIEE N;RABIEE M;RADFAR A;RAFIEI A;RAHIM F;RAHIMI V;RAHMAN MA;RAHMAN MHU;RAJATI F;RANABHAT CL;RAO PC;RASELLA D;RATH GK;RAWAF S;RAWAL L;RAWASIA WF;REMUZZI G;RENJITH V;RENZAHO AMN;RESNIKOFF S;RIAHI SM;RIBEIRO AI;RICKARD J;ROEVER L;RUBAGOTTI E;RUBINO S;SAAD AM;SABOUR S;SADEGHI E;MOGHADDAM Y;SAGAR R;SAHRAIAN MA;SAJADI SM;SALAHSHOOR MR;SALAM N;SALEEM A;SALEM H;SALEM MR;SALIMI H;SAMY AM;SANABRIA J;SANTOS IS;SANTRIC-MILICEVIC MM;SAO JOSE BP;SARASWATHY SYI;SARRAFZADEGAN B;SATHIAN B;SATHISH M;SAWHNEY M;SAYYAH M;SBARRA AN;SCHAEFFER LE;SCHWEBEL DC;SENBETA AM;SENTHILKUMARAN S;SEPANLOU SG;SERVAN-MORI E;SHAFIEESABET A;SHAHEEN AA;SHAHID I;SHAIKH MA;SHALASH M;SHAMSI MB;SHAMSIZADEH M;SHANNAWAZ M;SHARAFI K;SHARMA R;SHEIKH A;SHETTY BSK;SHIFERAW WS;SHIGEMATSU M;SHIN JI;SHIRI R;SHIVAKUMAR KM;SI S;SIABANI TJ;SILVA DAS;SINGH V;SINGH NP;SINGH BBS;SINGH JA;SINGH A;SINHA DN;SISAY MM;SKIADARESI E;SMITH DL;FILHO AMS;SOBHIYEH MR;SOKHAN JB;SORRIE MB;SOYIRI EE;SREERAMAREDDY A;SUFIYAN MB;SULERIA HAR;SYKES BL;TABARES-SEISDEDOS R;TABUCHI T;TADESSE DB;TARIGAN IU;TAYE B;TEFERA YM;TEHRANI-BANIHASHEMI SW;TEKLE MG;TEMSAH MH;TESFAY BE;TESFAY ZT;THANKAPPAN AS;THOMAS N;THOMPSON RL;THOMSON AJ;TOPOR-MADRY R;TOVANI-PALONE MR;TRAINI E;BACH XUAN TRAN BXT;KHANH BAO TRAN AND;ULLAH I;UNNIKRISHNAN B;USMAN OA;UZOCHUKWU BSC;VALDEZ PR;VARUGHESE S;VEISANI Y;VIOLANTE FS;VOLLMER S;WHAWARIAT FG;WAHEED Y;WALLIN MT;WANG YP;WANG Y;WANGDI K;WEISS DJ;WELDESAMUEL GT;WERKNEH AA;WESTERMAN R;WIANGKHAM T;WIENS KE;WIJERATNE T;WIYSONGE CS;WOLDE HF;WONDAFRASH DZ;WONDE TE;WORKU GT;YADOLLAHPOUR SHY;YAMADA T;YASERI M;YATSUYA H;YESHANEH A;YILMA P;YISMA E;YONEMOTO N;YOUNIS MZ;YOUSOF HASA;YU C;YUSEFZADEH H;ZADEY S;MOGHADAM TZ;ZAIDI S;ZAMANI M;ZANDIAN H;ZAR HJ;ZERFU TA;ZHANG Y;ZIAPOUR A;ZODPEY S;ZUNIGA YMH;HAY RC | NA | 2020 | 78 | 5 | 15.60000 |
| 8 | BIG DATA’S ROLE IN PRECISION PUBLIC HEALTH | DOLLEY S | 10.3389/fpubh.2018.00068 | 2018 | 105 | 7 | 15.00000 |
| 9 | FROM PUBLIC HEALTH GENOMICS TO PRECISION PUBLIC HEALTH: A 20-YEAR JOURNEY | KHOURY MJ;BOWEN MS;CLYNE M;DOTSON WD;GWINN ML;GREEN RF;KOLOR K;RODRIGUEZ JL;WULF A;YU W | 10.1038/gim.2017.211 | 2018 | 99 | 7 | 14.14286 |
| 10 | BIG DATA HURDLES IN PRECISION MEDICINE AND PRECISION PUBLIC HEALTH | PROSPERI M;MIN JS;BIAN J;MODAVE F | 10.1186/s12911-018-0719-2 | 2018 | 88 | 7 | 12.57143 |

## Influential Authors

bibds\_wos\_por %>%   
 select(AU) %>%   
 separate\_longer\_delim(AU, ";") %>%   
 count(AU) %>%   
 arrange(desc(n), AU) %>%  
 filter(n > 4) %>%   
 mutate(Rank = row\_number(), .before = 1)

| Rank | AU | n |
| --- | --- | --- |
| 1 | LAUSCHKE VM | 8 |
| 2 | BAYNAM G | 7 |
| 3 | ALLEN CG | 6 |
| 4 | KHOURY MJ | 6 |
| 5 | ZHOU Y | 6 |
| 6 | DAWKINS HJS | 5 |
| 7 | GOLDBLATT J | 5 |
| 8 | GUPTA R | 5 |
| 9 | HAY SI | 5 |
| 10 | MURRAY CJL | 5 |
| 11 | PACHTER N | 5 |
| 12 | WIENS KE | 5 |

## Influential Journals

### Top Journals

bibds\_wos\_por %>%   
 count(SO) %>%   
 arrange(desc(n), SO) %>%   
 mutate(Rank = row\_number(), .before = 1) %>%   
 filter(n > 2)

| Rank | SO | n |
| --- | --- | --- |
| 1 | FRONTIERS IN PUBLIC HEALTH | 8 |
| 2 | FRONTIERS IN GENETICS | 6 |
| 3 | INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH | 6 |
| 4 | JOURNAL OF MEDICAL INTERNET RESEARCH | 6 |
| 5 | GENETICS IN MEDICINE | 5 |
| 6 | HUMAN GENETICS | 4 |
| 7 | PLOS ONE | 4 |
| 8 | PUBLIC HEALTH GENOMICS | 4 |
| 9 | AMERICAN JOURNAL OF PREVENTIVE MEDICINE | 3 |
| 10 | BMC PUBLIC HEALTH | 3 |
| 11 | BMJ GLOBAL HEALTH | 3 |
| 12 | BMJ OPEN | 3 |
| 13 | JMIR PUBLIC HEALTH AND SURVEILLANCE | 3 |
| 14 | JOURNAL OF PERSONALIZED MEDICINE | 3 |
| 15 | JOURNAL OF PUBLIC HEALTH DENTISTRY | 3 |
| 16 | SCIENTIFIC REPORTS | 3 |

### Bradford’s Law

Bradford’s law stated that, in a given subject area, a small number of journals account for a sizeable portion of the total publications in that area, whereas increasing numbers of journals publish fewer articles in that area.

It can be group into 3 zone, with core zone is the smallest number of journals that account for the largest number of articles.

bibds\_wos\_por %>%   
 count(SO) %>%   
 arrange(desc(n), SO) %>%   
 mutate(sum\_n = cumsum(n)) %>%   
 mutate(Rank = row\_number(), .before = 1) %>%   
 filter(sum\_n <= sum(n) / 3 + 1)

| Rank | SO | n | sum\_n |
| --- | --- | --- | --- |
| 1 | FRONTIERS IN PUBLIC HEALTH | 8 | 8 |
| 2 | FRONTIERS IN GENETICS | 6 | 14 |
| 3 | INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH | 6 | 20 |
| 4 | JOURNAL OF MEDICAL INTERNET RESEARCH | 6 | 26 |
| 5 | GENETICS IN MEDICINE | 5 | 31 |
| 6 | HUMAN GENETICS | 4 | 35 |
| 7 | PLOS ONE | 4 | 39 |
| 8 | PUBLIC HEALTH GENOMICS | 4 | 43 |
| 9 | AMERICAN JOURNAL OF PREVENTIVE MEDICINE | 3 | 46 |
| 10 | BMC PUBLIC HEALTH | 3 | 49 |
| 11 | BMJ GLOBAL HEALTH | 3 | 52 |
| 12 | BMJ OPEN | 3 | 55 |
| 13 | JMIR PUBLIC HEALTH AND SURVEILLANCE | 3 | 58 |
| 14 | JOURNAL OF PERSONALIZED MEDICINE | 3 | 61 |
| 15 | JOURNAL OF PUBLIC HEALTH DENTISTRY | 3 | 64 |

## Influential Keywords

### Author’s Keywords

bibds\_wos\_por %>%   
 select(DE) %>%   
 separate\_longer\_delim(DE, ";") %>%   
 count(DE) %>%   
 arrange(desc(n), DE) %>%   
 filter(n > 6) %>%   
 mutate(Rank = row\_number(), .before = 1)

| Rank | DE | n |
| --- | --- | --- |
| 1 | PRECISION PUBLIC HEALTH | 64 |
| 2 | NA | 56 |
| 3 | PUBLIC HEALTH | 32 |
| 4 | PRECISION MEDICINE | 24 |
| 5 | GENOMICS | 17 |
| 6 | HEALTH | 14 |
| 7 | COVID-19 | 10 |
| 8 | BIG DATA | 7 |
| 9 | EPIDEMIOLOGY | 7 |
| 10 | GENETICS | 7 |

### WOS Keywords

bibds\_wos\_por %>%   
 select(ID) %>%  
 separate\_longer\_delim(ID, ";") %>%  
 count(ID) %>%  
 arrange(desc(n), ID) %>%   
 filter(n > 7) %>%   
 mutate(Rank = row\_number(), .before = 1)

| Rank | ID | n |
| --- | --- | --- |
| 1 | NA | 27 |
| 2 | MEDICINE | 20 |
| 3 | MORTALITY | 17 |
| 4 | DISEASE | 14 |
| 5 | HEALTH | 14 |
| 6 | CARE | 13 |
| 7 | RISK | 13 |
| 8 | ASSOCIATION | 12 |
| 9 | IMPACT | 11 |
| 10 | GENOMICS | 10 |
| 11 | AFRICA | 8 |
| 12 | INTERVENTIONS | 8 |

# Conclusion

* The concept of Public Health Precision was quite recent, with the first publication in 2015.
* The publication was increasing in the first 4 years, but later fluctuate in the final 4 years.
* Several prominent authors, articles and journal were identified.
* The concept of Public Health Precision was still growing and there is increasing interest in the topic.

# References

1. Ramaswami, R., Bayer, R., & Galea, S. (2018). Precision Medicine from a Public Health Perspective. Annual review of public health, 39, 153–168. https://doi.org/10.1146/annurev-publhealth-040617-014158
2. Akhoon, Neha. “Precision Medicine: A New Paradigm in Therapeutics.” International journal of preventive medicine vol. 12 12. 24 Feb. 2021, doi:10.4103/ijpvm.IJPVM\_375\_19
3. Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. Journal of Informetrics, 11(4), 959-975. https://doi.org/10.1016/j.joi.2017.08.007