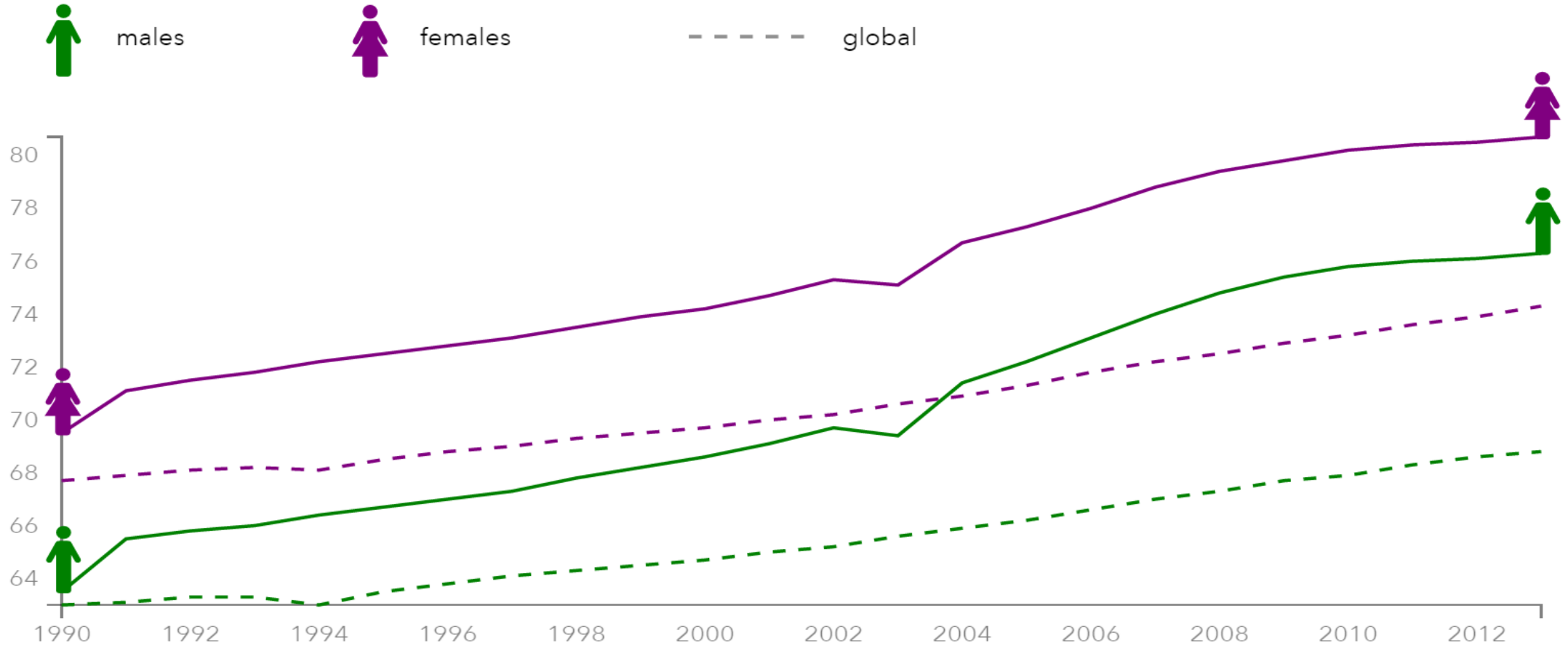
ICC Shahroud Shahrivar 1395

Reza Malekzadeh M.D

Life expectancy at birth in Iran in 2013 (1394)

- In 2013 (1394), life expectancy at birth in Iran was 76.3 years for males and 80.7 years for females.

Trend of life expectancy at birth in Iran in 1990–2013



LIFE EXPECTANCY GLOBALLY AND IN IRAN, 1990–2013

	Global		Iran	
	1990	2013	1990	2013
males	63.0	68.8	63.5	76.3
females	67.7	74.3	69.5	80.7

Premature Death

- An important indicator of health status
- Substantial reductions are achievable everywhere
- Appropriate national and regional risk-reduction priorities follow
- Targeting premature death could establish a political precedent whose effects will continue after 2030.

Number of papers and citations in selected countries/regions in 2015, reported by SCOPUS

Country	No. of Papers	No. of Citations	Citation per paper
Iran	40088	17080	0.4
Turkey	38226	12178	0.3
Israel	17883	12004	0.7
Saudi Arabia	17424	12582	0.7
Middle East	127731	56838	0.4
The World	2436341	1060734	0.4

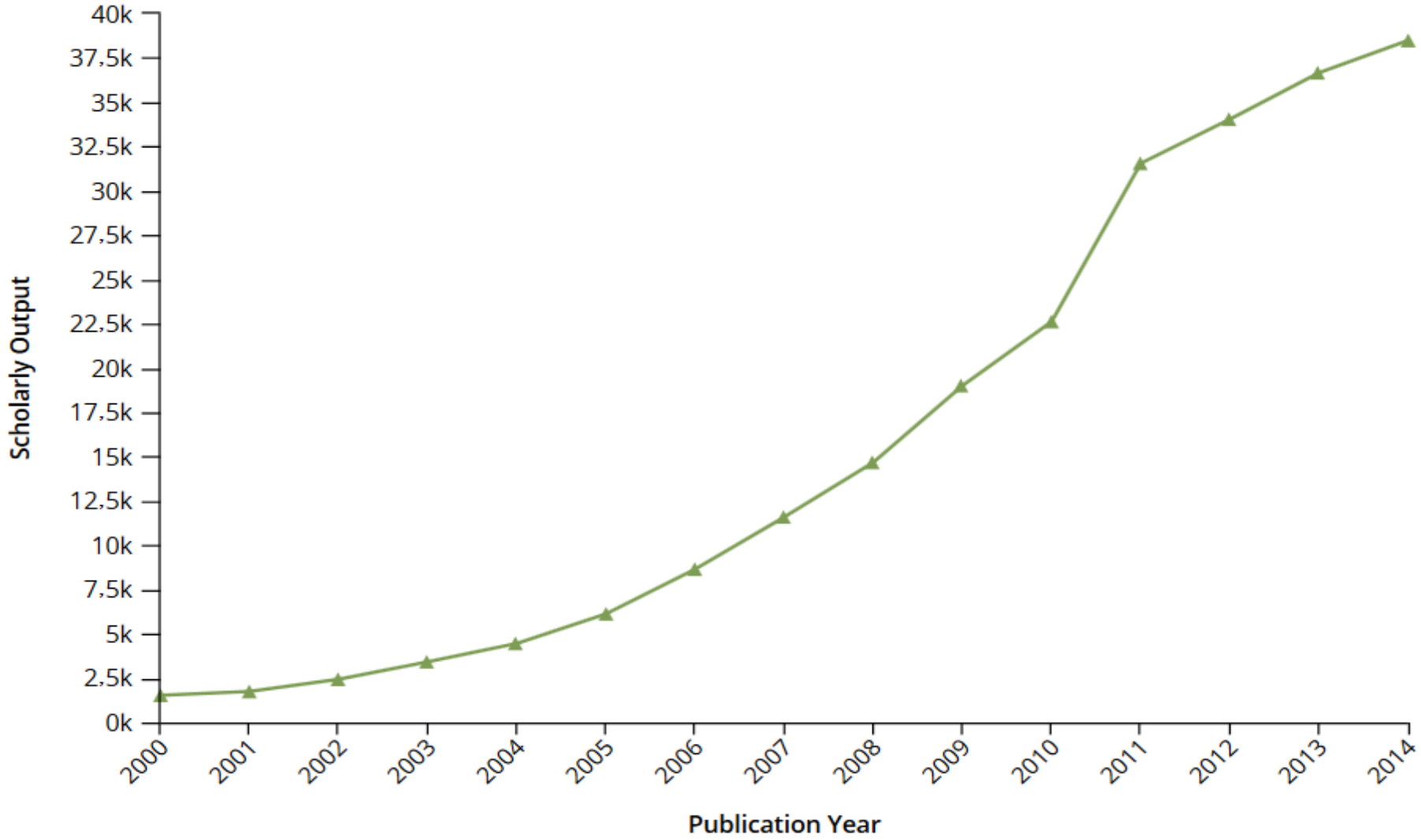
Number of scientists with h-index≥ 15, reported by SCIVAL

Country	No. of Population (in Million)	No. of Researchers with h-index ≥15	Rate (in Million)
Egypt	84	54	0.64
Iran	78	620	6.92
Pakistan	186	73	0.39
Israel	7.7	97	12.60
Saudi Arabia	27	82	3.04
Turkey	75	90	1.2

Iran Quantity of Publication in Scopus

- In 2015, Iran has published more than 40,500 papers in Scopus
- By publishing this number of papers, Iran ranked as the 1st in the Middles East
- & also 16th in the World.

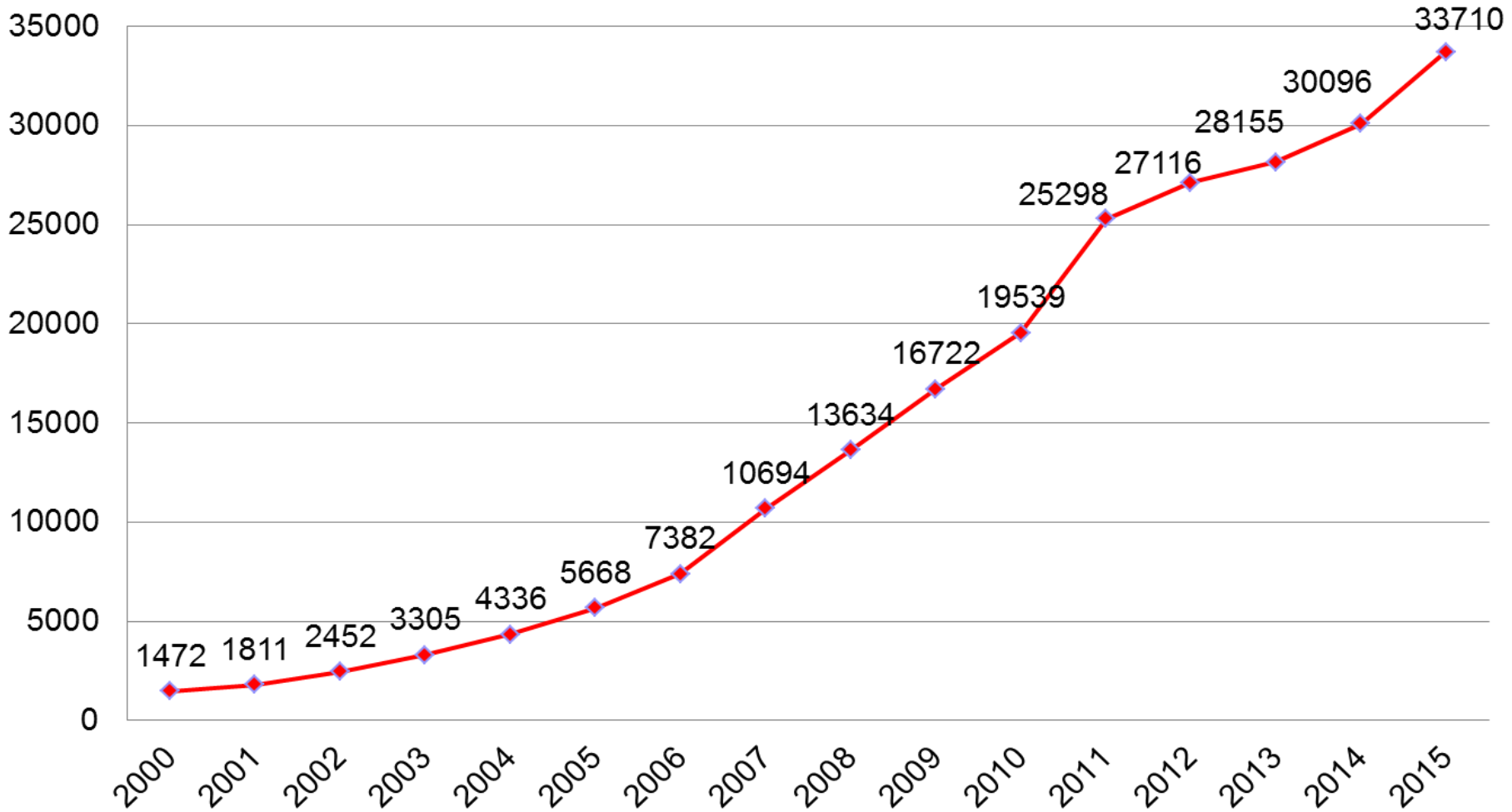
Iran Number of Publication in Scopus



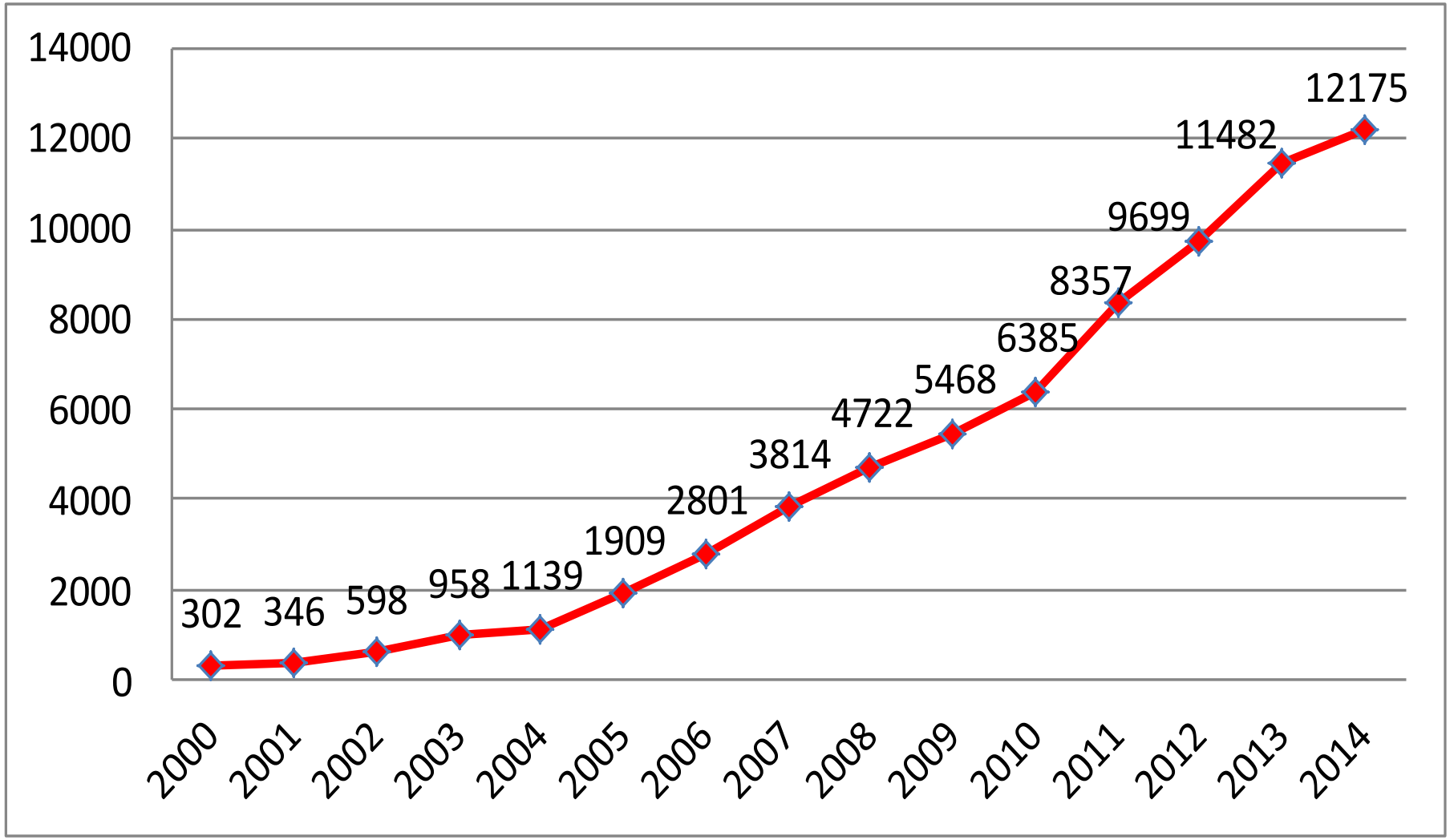
Iran Quality of Publications in Scopus

- In 2014, Iran has achieved more than 103,480 citations in Scopus
- By achieving this number of citations, Iran ranked as the 1st in the Middles East
- Turkey with 74,850 citations is the 2nd & Israel is the 3rd.

Iran Number of All Publications in ISI



Iran Number of Biomedical Publications in ISI



Research Obstacles & Barriers

- This ranks has been achieved while the country was on the sanction of reaching to international currencies, laboratory research tools & materials, budget restriction & loss, electronic journal & papers, & denial of international collaborations.

Ministry Research Promotion Plan & Action

1. Changing the Research Evaluation Protocol & Indices to comply with International Ranking Systems & to improve the qualitative research.

2. Promoting papers publishing in reputable highly ranked journals.

Ministry Research Promotion Plan & Action

4. Encouraging International Collaboration in Research projects.

5. Establishing the Clinician Scientists program to save the human resources & avoid brain drains.

Ministry Research Promotion Plan & Action

6. Supporting the Post-Docs courses.

7. Setting up special support & grants for young productive faculty members.

8. Providing Research Infra-structure in universities by establishing 10 Big Research Laboratory

Ministry Research Promotion Plan & Action

9. Establishing NIMAD as a research granting body.

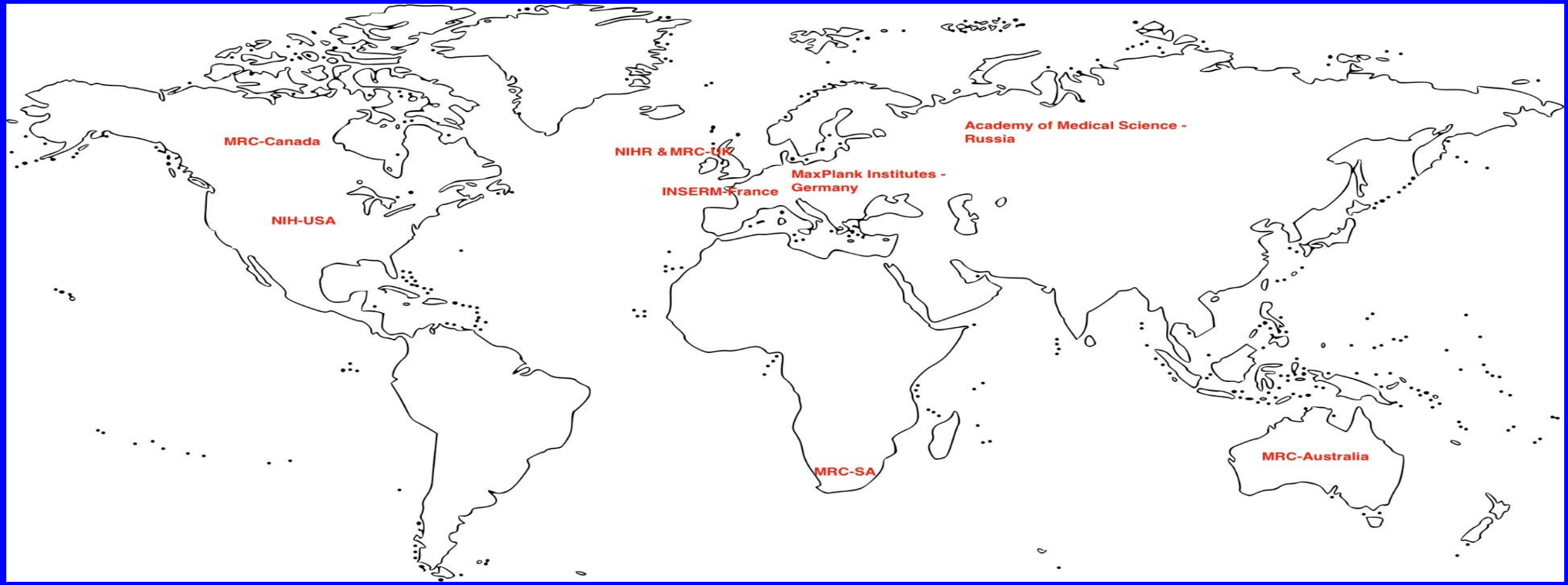
10. Setting up 10 Big National Cohort study.

11. Preparing disease registry programs.

National Institute for Medical Research Development (NIMAD)

IR of Iran Governmental Grant Awarding Research institute

Governmental Grant Awarding Bodies



مؤسسه ملی توسعه تحقیقات علوم پزشکی
جمهوری اسلامی ایران

NIMAD
NATIONAL INSTITUTE FOR MEDICAL RESEARCH DEVELOPMENT

به وب سایت اختصاصی مؤسسه ملی توسعه تحقیقات علوم پزشکی خوش آمدید

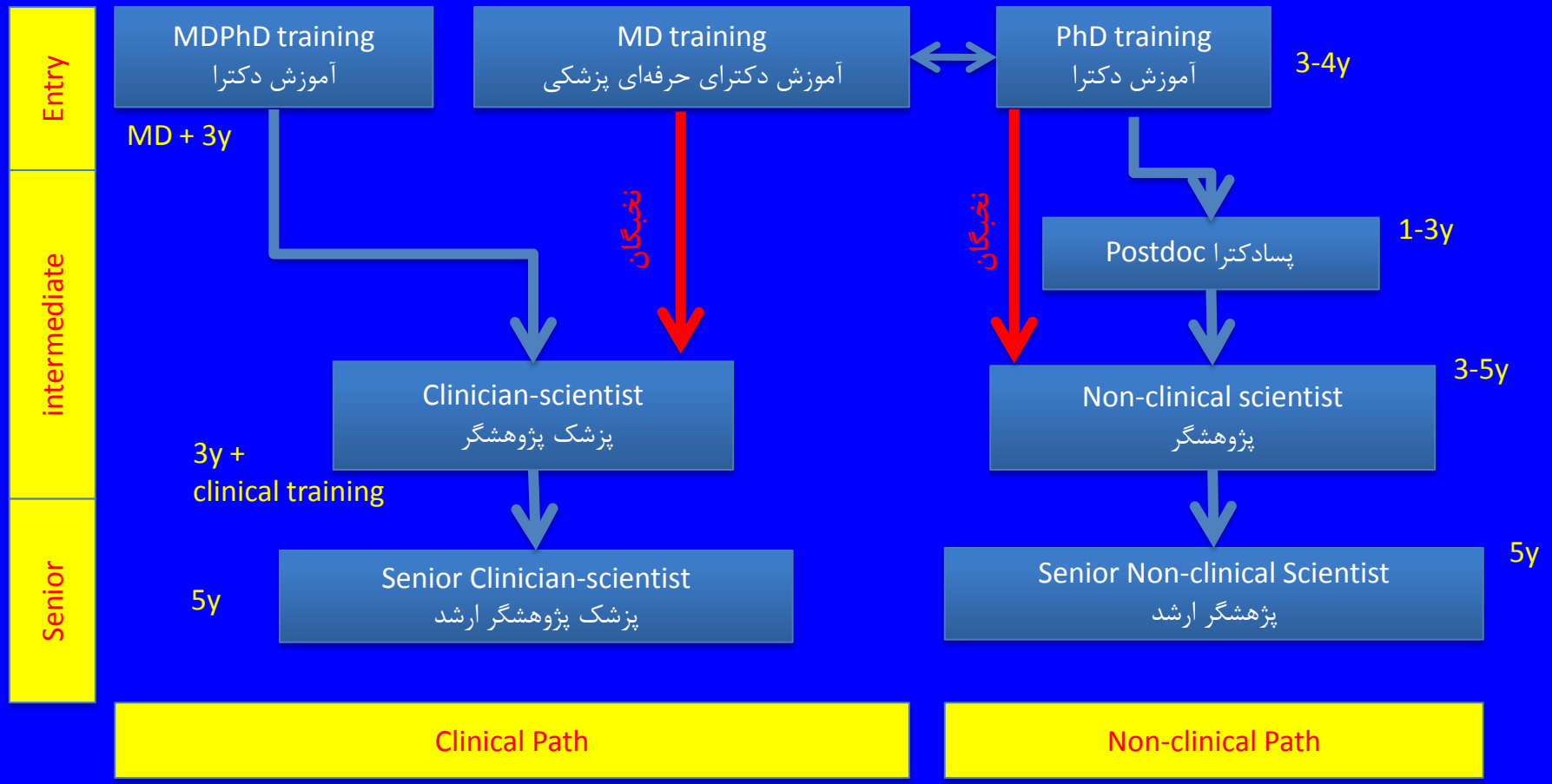
دستیابی به اهداف عالی چشم‌انداز 1404 کشور نیازمند رهبری، هماهنگی و سیاستگزاری مرکزی توسط دانشمندان و محققین عالی‌رتبه کشور است. به همین خاطر مؤسسه ملی توسعه تحقیقات علوم پزشکی با محور رهبری تحقیقات علمی کشور و همگرایی مراکز و پژوهشکده‌های برتر در علوم پزشکی برای سیاستگزاری، اولویت‌شناسی، پشتیبانی مالی و معنوی از محققین تاسیس می گردد.

هدف از تاسیس این مؤسسه ایجاد یک نهاد عالی رتبه علمی جهت رهبری، مدیریت، حمایت و توسعه تحقیقات علوم پزشکی در کشور شامل آموزش،

Clinician Scientist program

www.hbi.ir/rcd

Research Career Development
for Clinical and Non-clinical Medical Scientists

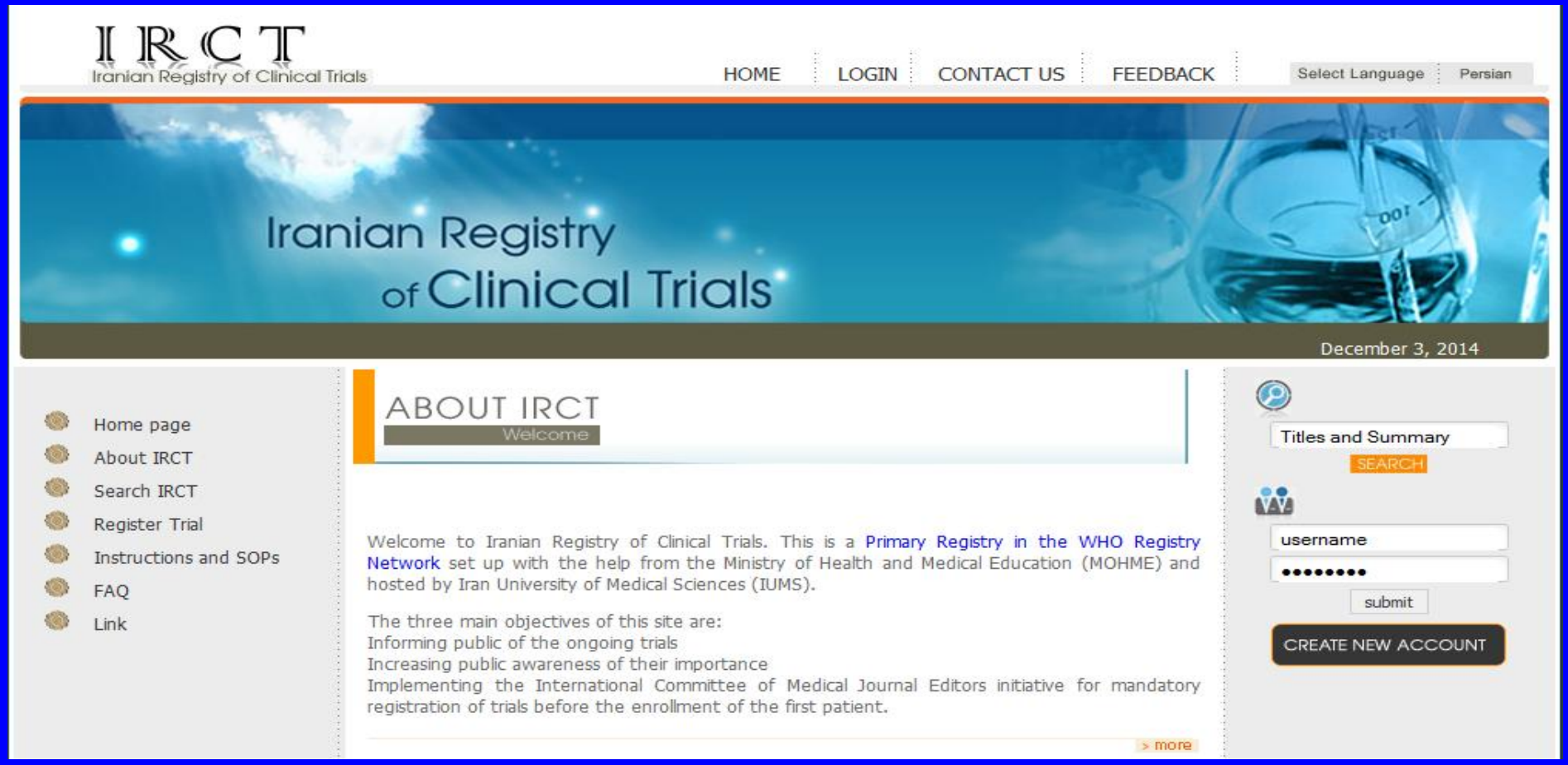


Adoption of large-scale collaborative research

- With a strong replication culture has been successful in several biomedical fields: in particular, in genetic and molecular epidemiology.
- These techniques have helped transform genetic epidemiology from a spurious field to a highly credible one .
- Recently applied to other observational research like GBD 2010

Registration

- Registration of randomized trials and their results has enhanced **transparency in clinical trials** research and has allowed probing of selective reporting biases even if not fully remedying them.
- It may show redundancy and allow better visualizing of the evolution of the total corpus of research in a given field.
- Registration is currently proposed for many other types of research, including both human **observational studies and nonhuman studies**



- 4th of December 2008 (IRCT became a primary register)
- 7th of April 2009 (IRCT became a data provider to ICTRP

- IRCT was the 9th registry to join the WHO network and the only registry in EMRO
- Over 10,000 trials has now been registered in IRCT

Accreditation of Research Ethics Committee in Medical Universities

Islamic Republic of IRAN
Ministry of Health and Medical Education
Deputy of Research and Technology
National committee for Ethics in Biomedical Research

Ref No: ۷۰۰/د/۱۶۵
Date: ۱۳۹٤/۱/۲۳

Accreditation Certificate

Research Ethics Committee

Hereby, upon ministerial regulations regarding establishment, grading and description of duties for Research Ethics Committees, ***Research Ethics Committee of Shahed University of Medical Sciences*** *is accredited to act at the University level for 3 years. This accreditation is valid within the framework of the accepted national and international ethical norms and principles for biomedical research as well as the guidelines and protocols of the Islamic Republic of Iran, Ministry of Health and Medical Education.*

Specific Code: ***IR.SHAHED.REC***

Ehsan Shamsi Gooshki
Secretary of National Committee for Ethics in Biomedical Research
Ministry of Health and Medical Education, Islamic Republic of Iran

Reza Malekzadeh
Vice Minister for Research and Technology
Ministry of Health and Medical Education, Islamic Republic of Iran

دستاوردهای نظام سلامت

دکتر رضا ملک زاده

خرداد ۱۳۹۵

معیارهای اندازه گیری سلامت

- شیوع
- بروز
- ناتوانی
- مرگ: مهمترین شاخص اندازه گیری سلامت در سطح ملی و فروملی است

Premature Death :Death at age <70

- Death at age <60
- Death at age <55
- Death at age<50

Premature Death

- An important indicator of health status
- Substantial reductions are achievable everywhere
- Appropriate national and regional risk-reduction priorities follow
- Targeting premature death could establish a political precedent whose effects will continue after 2030.

اهداف توسعه پایدار (۲۰۱۶ تا ۲۰۳۰)

- **کاهش مرگ مادری به کمتر از ۷۰ مرگ به ازای هر تولد زنده**
- **ریشه کنی مرگ های قابل پیشگیری در میان نوزادان و کودکان زیر ۵ سال**
- **اتمام اپیدمی HIV، سل، مالاریا، NTD، و سایر عفونت ها**
- **کاهش یک سوم از مرگ های زودرس ناشی از بیماری های مزمن**
- **کاهش مرگ و ناتوانی ناشی از حوادث جاده ای به نصف**
- **تقویت پیشگیری و درمان سوء مصرف مواد مخدر**
- **دسترسی همگانی به خدمات سلامت بارداری**

اهداف توسعه پایدار (۲۰۱۶ تا ۲۰۳۰)

- کاهش قابل ملاحظه در مرگ و ناتوانی ناشی از آلودگی آب، هوا، و خاک
- تقویت پیشگیری از مصرف سیگار و ظرفیت سازی برای مقابله با عوامل خطر سلامت
- حمایت از پژوهش و توسعه در حیطه سلامت
- حمایت مالی از کارکنان در حیطه سلامت
- دسترسی به پوشش همگانی سلامت

در ایران

- **ایران تقریبا به تمامی اهداف توسعه پایدار دست یافته است از جمله:**

- **کاهش بیش از یک سوم از مرگ های زودرس ناشی از بیماری های مزمن**

در ایران

- امید به زندگی در ایران از ۱۳۶۹ تا ۱۳۹۲:
- در مردان از ۶۳ سال به ۷۶ سال
- در زنان از ۶۹ سال به ۸۰ سال

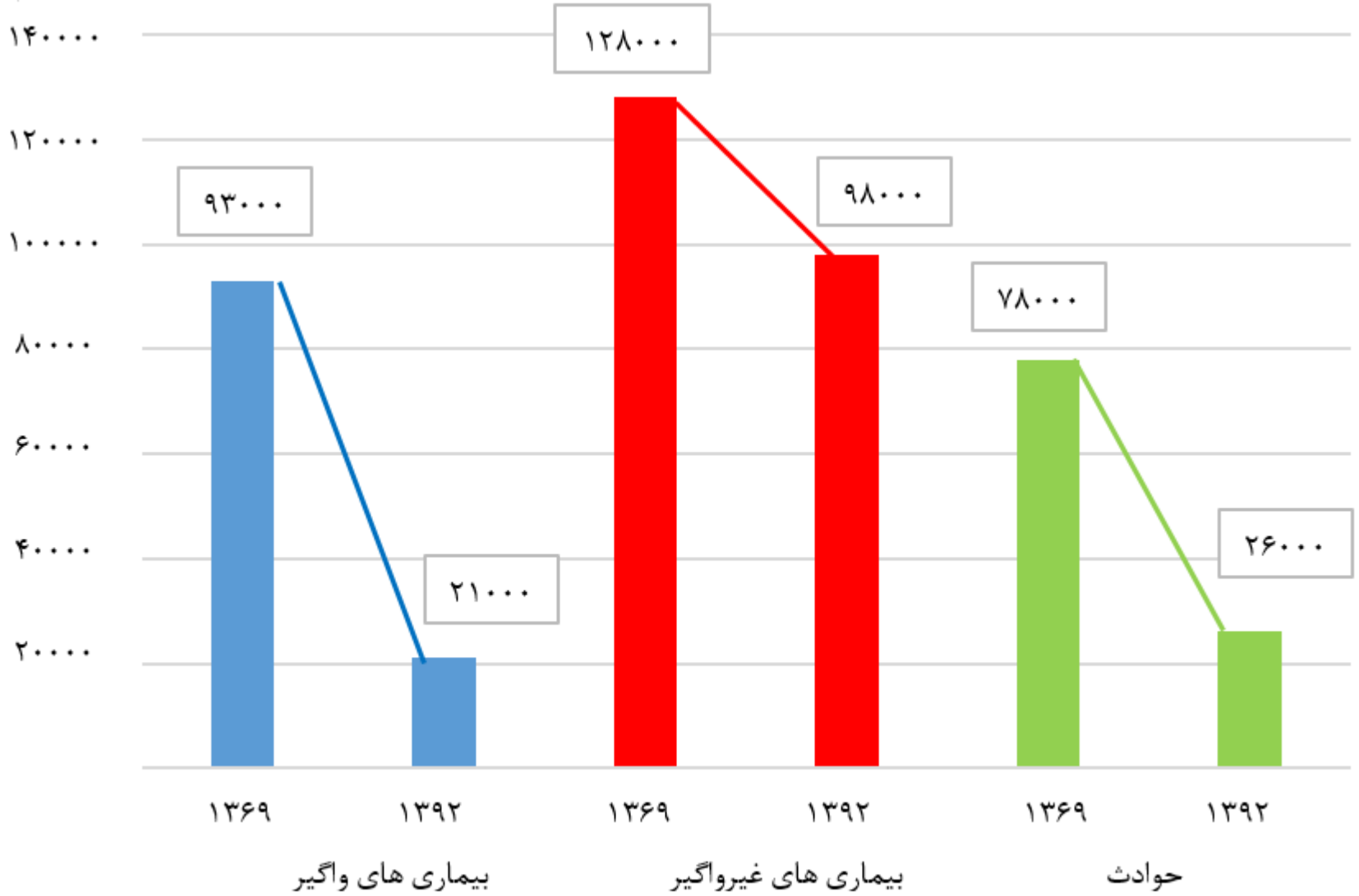
- تعداد مرگ در ایران از ۳۷۰ هزار در سال ۱۳۶۹ به ۲۹۲ هزار در ۱۳۹۲ کاهش پیدا کرده است
- درصد مرگ های زودرس از ۸۱٪ به ۵۰٪ کاهش پیدا کرده است

تعداد مرگ های زودرس در ایران

- از ۱۳۶۹ تا ۱۳۹۲:
- از ۳۰۰ هزار به ۱۴۵ هزار کاهش پیدا کرده است

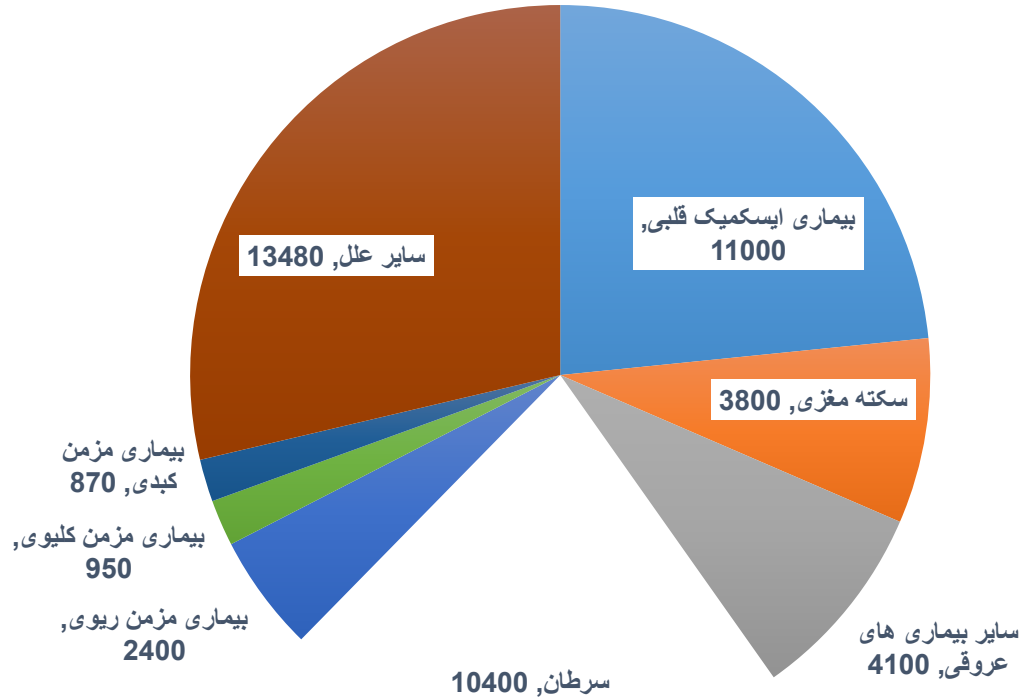
- در بیماری های عفونی از ۹۳ هزار به ۲۱ هزار (۷۷٪ کاهش)
- در بیماری های مزمن غیرواگیر: از ۱۲۸ هزار به ۹۸ هزار (۲۳٪ کاهش)
- در حوادث: از ۷۸ هزار به ۲۶ هزار (۶۷٪ کاهش)

تعداد مرگ های زودرس در ایران



مرگ زودرس در بیماری های مزمن غیرواگیر در ۱۳۹۲

- کل مرگ های زودرس غیرواگیر زیر ۵۵ سال در سال ۱۳۹۲: ۴۷ هزار



- بیماری ایسکمیک قلبی: ۱۱ هزار
- سکته مغزی: ۳۸۰۰
- سایر بیماری های عروقی: ۴۱۰۰
- سرطان: ۱۰۴۰۰
- بیماری مزمن ریوی: ۲۴۰۰
- بیماری مزمن کلیوی: ۹۵۰
- بیماری مزمن کبدی: ۸۷۰
- سایر علل: ۱۳ هزار

ضرورت عمل

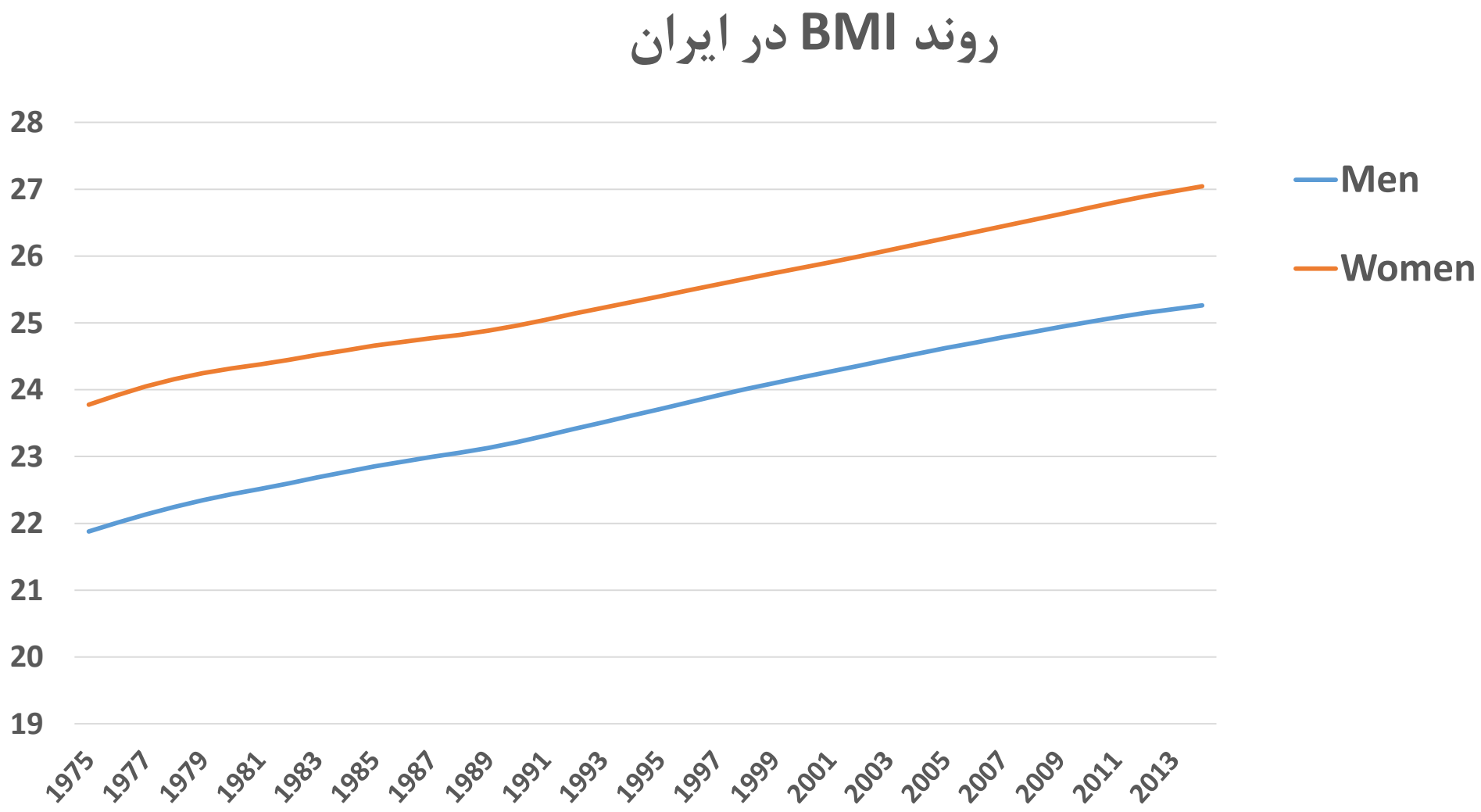
- **با توجه به بار بالای ناشی از مرگ زودرس در جمعیت جوان و بهره ور در کشور، اتخاذ سیاستهای لازم برای پیشگیری از مرگ زودرس در ایران ضرورت دارد.**

۴ عامل خطر رفتاری

- مصرف دخانیات
- مصرف الکل
- تغذیه نا سالم
- تحرک بدنی ناکافی

۴ عامل خطر بیولوژیکی

- کلسترول
- اختلال قند خون
- فشار خون بالا
- چاقی


روند BMI در ایران
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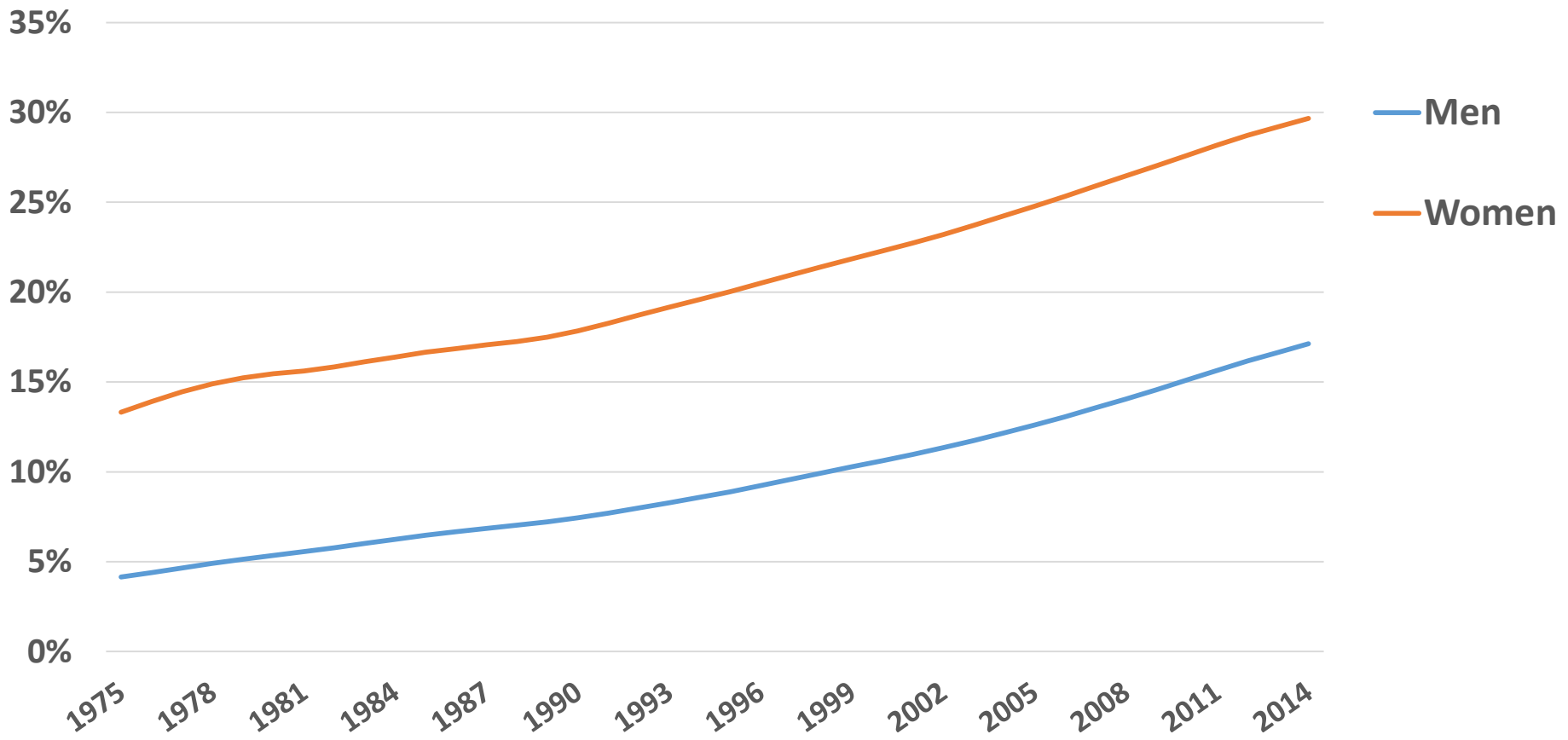
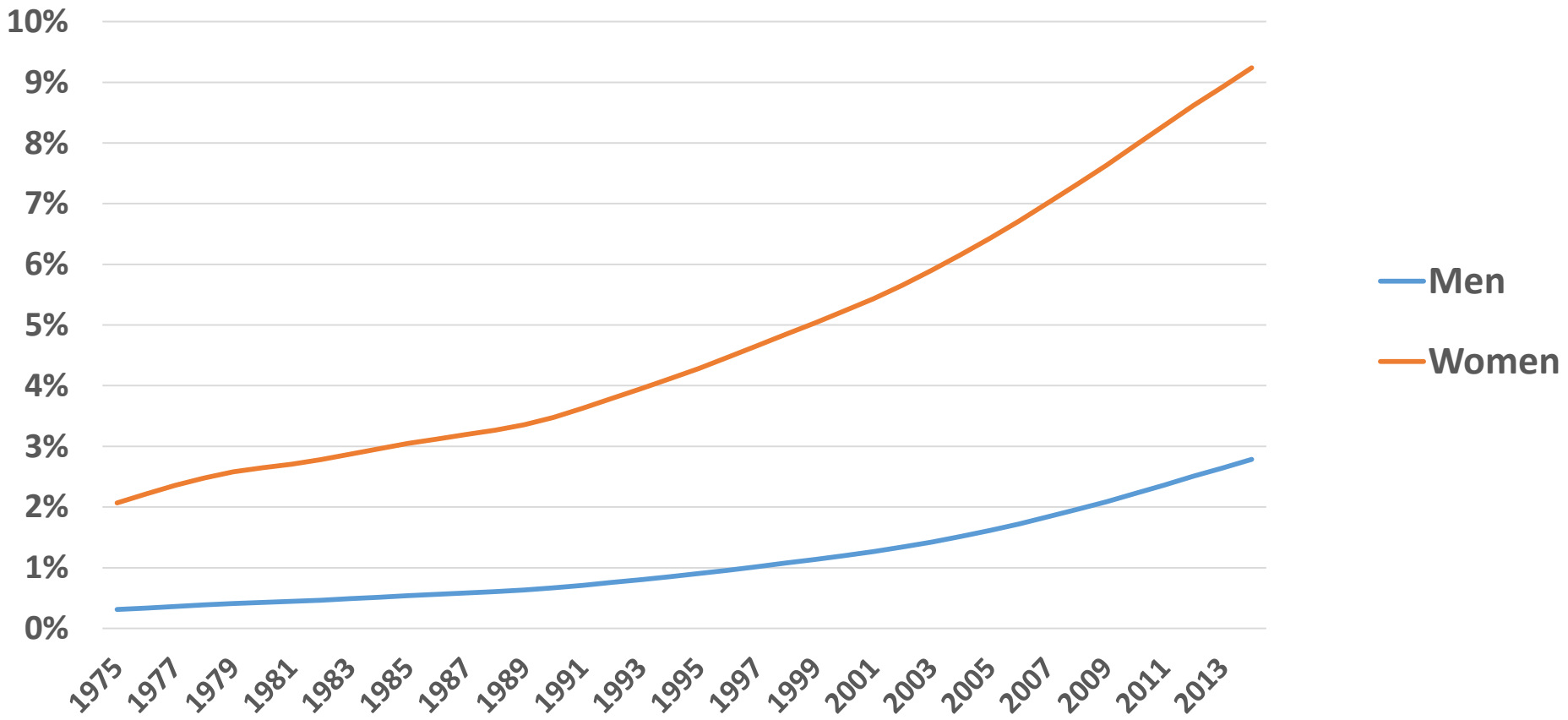
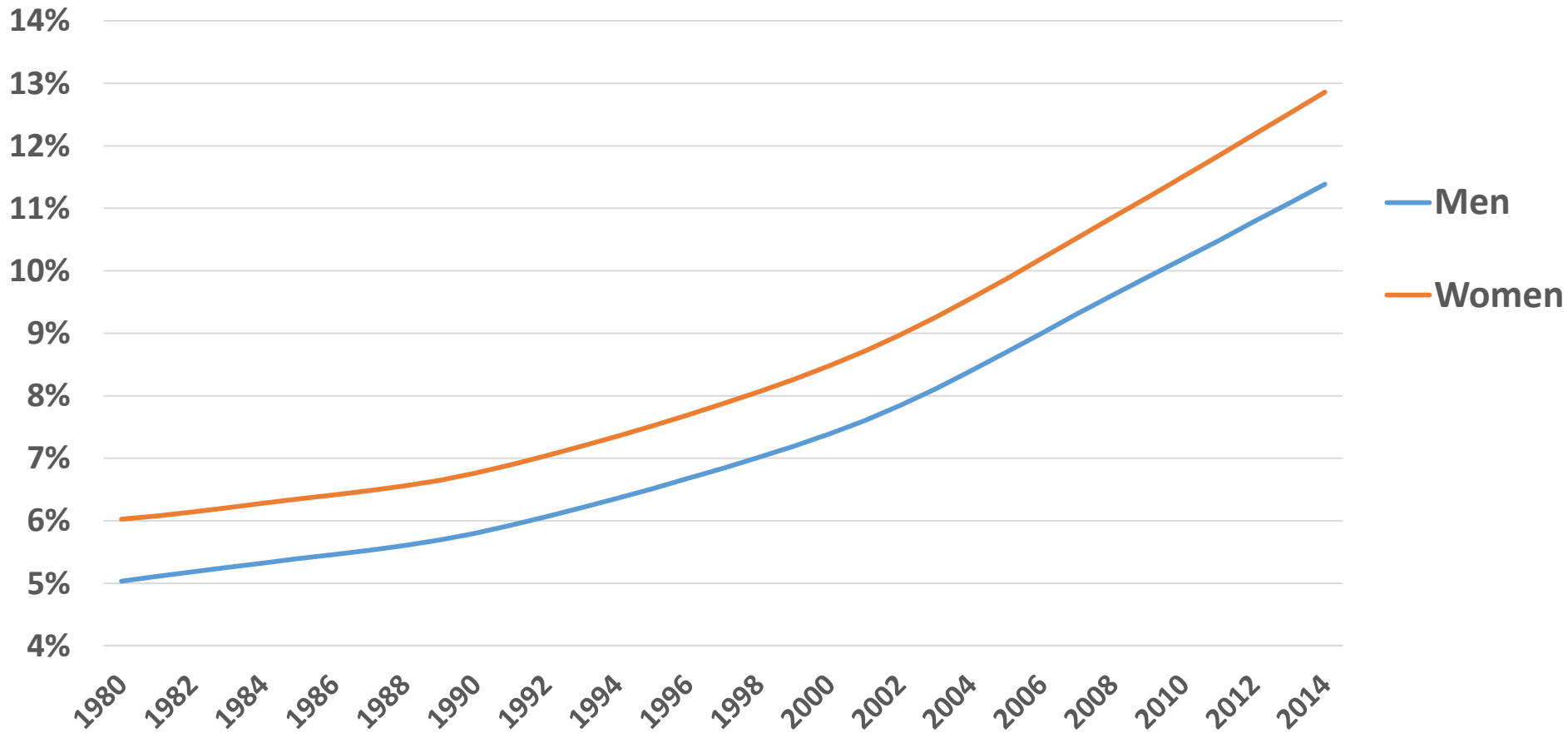
شیوع چاقی در ایران



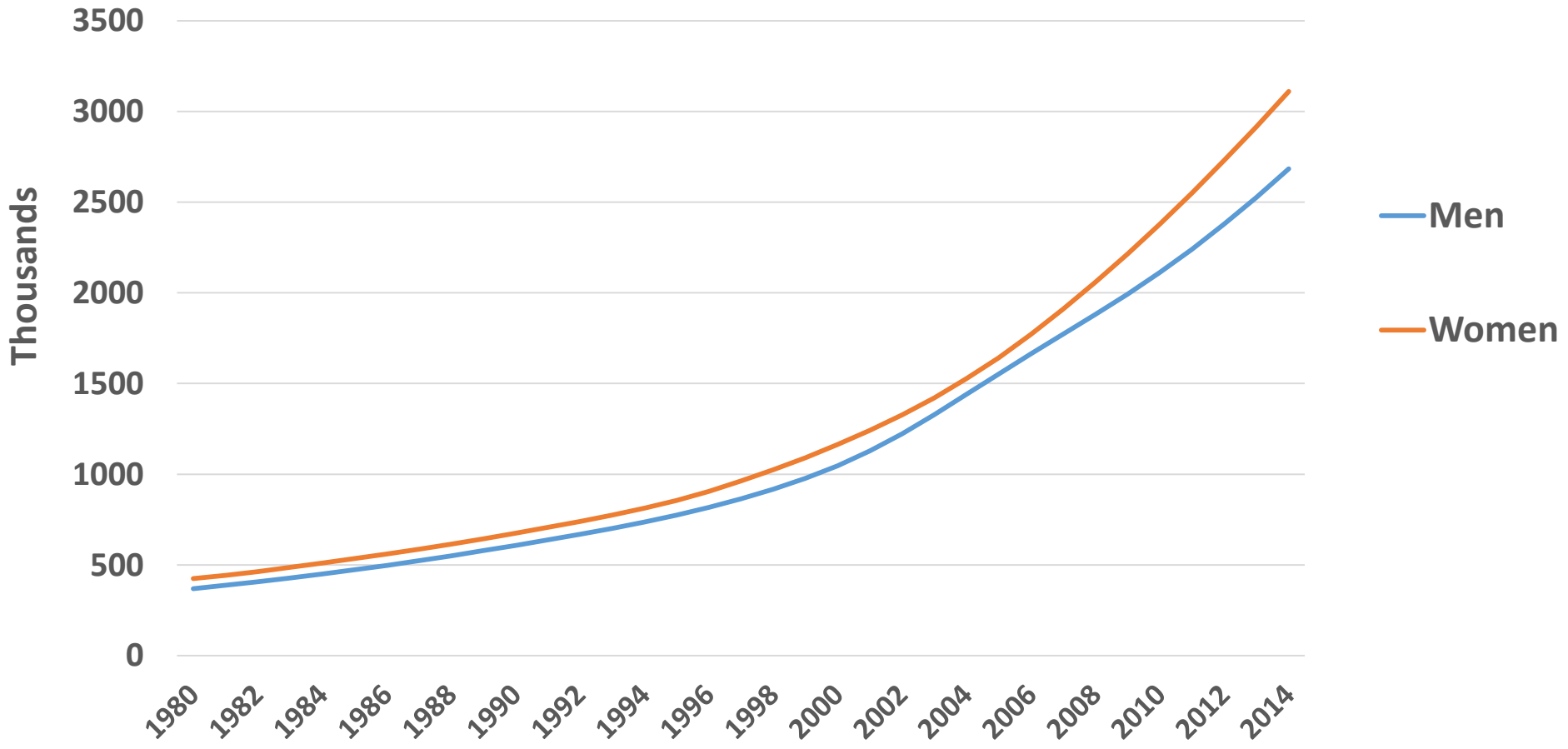
شیوع چاقی مفرط در ایران



شیوع استاندارد شده سنی دیابت در ایران



تعداد افراد دیابتی در ایران



اصلاح وضعیت تغذیه ای مردم:

- کاهش استاندارد نمک مصرفی:
  - **نان از 2/3% به 1%**
    - **متوسط مصرف سرانه نان در کشورمان در روز 310 گرم است،تا حال میزان متوسط دریافت نمک از این مقدار نان 5/58 تا 7 گرم است**
  - **اسنک از 2/5% به 1/5%**
  - **رب گوجه از 3% به 2%**
  - **سس خردل از 5% به 3%**
  - **کنسرو ماهی تن از 2% به 1/5%**
  - **پنیر از 4% به 3%**
- کاهش استاندارد محتوی شکرنوشابه های غیر الکلی: تا حد 10 درصد
- پیگیری اجرای ماده 37 بند الف و ج در خصوص مالیات و منع تبلیغات فراورده ها و رفتارهای آسیب رسان از برنامه پنجم توسعه جمهوری اسلامی ایران

(افزایش مالیات بر ارزش افزوده در کالاهای آسیب رسان در دستور کار دولت)

- به‌کارگيري کارشناسان تغذیه در طرح تحول نظام سلامت، به منظور اجراي مراقبت‌هاي تغذیه‌اي در بيماري‌هاي غيرواگير
- همکاري در اجراي پايلوت طرح ايراپن در چهار شهرستان و گسترش آن بر اساس پروتکل ايراپن

توسعه فعالیت بدنی

- **کاهش کم تحرکی تا ۲۰درصد**
- تدوین سند ملی فعالیت بدنی و تصویب آن در شورای عالی سلامت
- شناسائی و ارجاع افراد کم تحرک توسط مراقب سلامت بر اساس پروتکل ایراپن
- تمهیدات لازم برای جلب مشارکت وزارت ورزش و جوانان

Cohort study

Maximizing the Value of Iranian Population Cohorts:

UK Medical Research Council (MRC)

- The MRC has a 50-year history of supporting population cohort studies, including :
- ✓1946 Birth Cohort,[2] the world's longest continuously running birth cohort,
- ✓ UK Biobank,[3] which tracks half a million participants.
- ✓Million Women Study: the largest longitudinal study of women's health

Public Support for Research

- It is noteworthy that 2·2 million people in the UK are currently taking part in these large population cohort studies—one in 30 of the general population
- Population cohort studies are a major long-term commitment for participants, study teams, and funders,

UK population cohort portfolio

- Has wide coverage: from before conception to old age, both sexes, and all major ethnic groups.
- Multi-generations cohort such as Avon Longitudinal Study of Parents and Children (ALSPAC), include data from several generations that enable investigators to study familial clustering of risk and disease and the underlying mechanisms.

34 largest UK population cohort studies.

- Almost £30 million is spent per year on the 34 largest UK population cohort studies,.
- 50% of these cohort have been followed for more than 20 years.
- 92% of cohort participants are aged 45 years or older
- 62% are female

Why should we spent on Cohort? What are the strength of Cohort study?

- Ability to identify multiple risk factors over time.
- Assessment of exposures that cannot be randomized (smoking, alcohol ,opium…)
- Collection of serial measurements and samples that enables measurement of changes in exposure and their effect on health outcomes over time.
- Identifying the effect of one risk factor on multiple outcomes.
- Cohorts are generally more inclusive than randomised trials which are usually highly selective.
- Findings from cohort studies can, therefore, be more generalisable to the population as a whole.

Another important strength is : Cross-cohort collaborations

- Are an effective way to increase statistical power.
- The Healthy Ageing Across the Life Course (HALCyon) collaboration merged data from nine cohorts to undertake studies of ageing that would not have been feasible using any single cohort.
- Cohort and Longitudinal Studies Enhancement Resources (CLOSER) initiative, funded by the MRC and Economic and Social Research Council, brings together nine cohorts with the aim of combining variables across these studies.

Generalizability of Finding Further laboratory and genetic study

- Some cohorts might not be representative of the general population in terms of demographics and lifestyle, but the results may nonetheless be generalizable.
- Broad and enduring consent could be obtained from the participants of all cohorts to obtain additional information through linkage to routine data and further laboratory and genetic study

Research use of personal data

- Trustworthy research use of personal data using robust governance processes in secure environments with safeguards that protect confidentiality is fundamental to understanding the causes of disease and improving public health.

Cross-cohort comparisons

- Cohorts be included in online directories and appropriate meta-data provided.
- Also, cohorts should use standardized and validated approaches, where possible, to facilitate cross-cohort comparisons.
- The findings from the cohorts are of great value in informing policy and practice in the UK, as well as further afield.

UK RCT participation rate

- One in seven newly diagnosed cancer patients in UK would be participating in a clinical trial.
- This figure rising to over 80% among childhood cancer patients.
- The potential impact of these activities on the improvement of clinical care is tremendous.

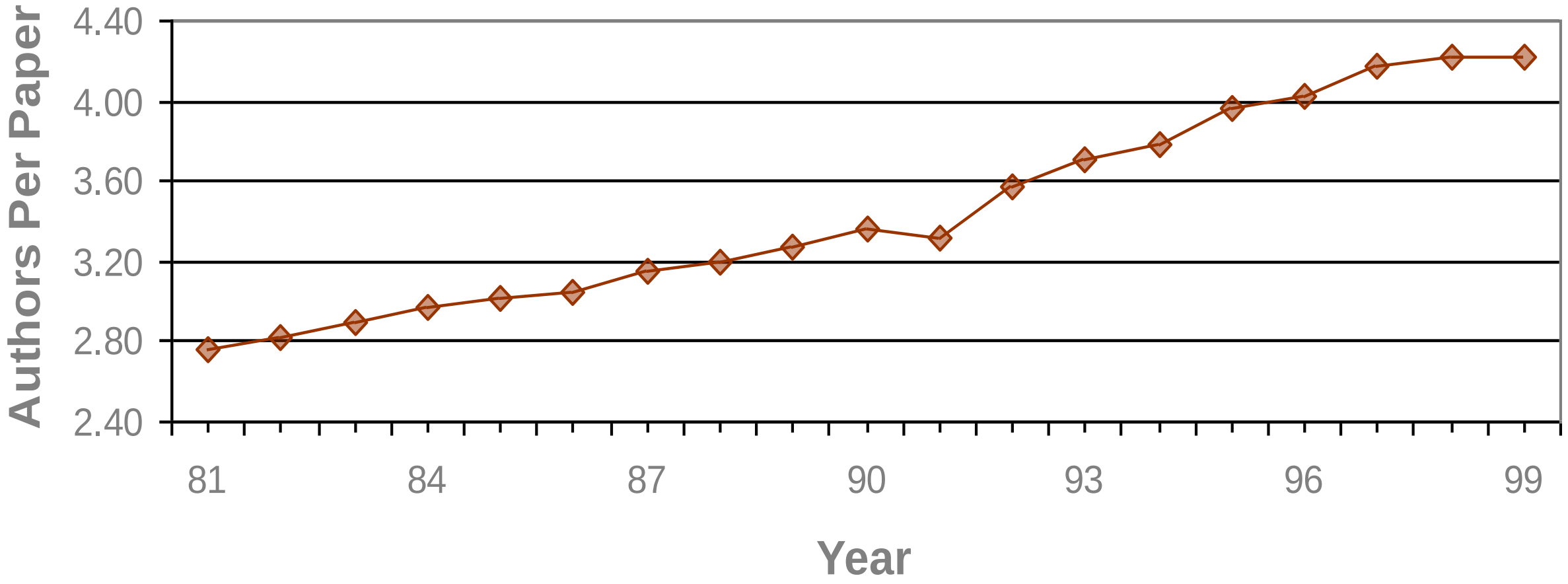
Examples of Important Cohort Study Results

- Long-term follow-up in the European Prospective Investigation of Cancer (EPIC) Norfolk study showed that exercise, a healthy diet, and not smoking increased life expectancy by 14 years.
- The Million Women Study has measured the effects of hormone-replacement therapy on fracture incidence, cancers, and other conditions.

Convergence across scientific fields

- Over time, scientific research has invited the use of larger teams.
- In recent years research teams have become increasingly internationalized.
- There is convergence in the size distribution: team sizes that are the least international are becoming international at a faster rate.
- There is convergence across scientific fields: the least international of fields are becoming more international at a faster rate.

Exhibit 2--Mean Authors per Paper in The Top 110 U.S. Universities, 1981-1999



4. Estimates of global, regional, and national incidence, prevalence, and mortality of HIV, 1980-2015: the Global Burden of Disease Study 2015.

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430 authors 5 from Iran

Trends in adult body-mass index in 200 countries from 1975 to 2014: a pooled analysis of 1698 population-based measurement studies with 19·2 million participants

*NCD Risk Factor Collaboration (NCD-RisC)**

Summary

Background Underweight and severe and morbid obesity are associated with highly elevated risks of adverse health outcomes. We estimated trends in mean body-mass index (BMI), which characterises its population distribution, and in the prevalences of a complete set of BMI categories for adults in all countries.

Methods We analysed, with use of a consistent protocol, population-based studies that had measured height and weight in adults aged 18 years and older. We applied a Bayesian hierarchical model to these data to estimate trends from 1975 to 2014 in mean BMI and in the prevalences of BMI categories (<18·5 kg/m² [underweight], 18·5 kg/m² to <20 kg/m², 20 kg/m² to <25 kg/m², 25 kg/m² to <30 kg/m², 30 kg/m² to <35 kg/m², 35 kg/m² to <40 kg/m², ≥40 kg/m² [morbid obesity]), by sex in 200 countries and territories, organised in 21 regions. We calculated the posterior probability of meeting the target of halting by 2025 the rise in obesity at its 2010 levels, if post-2000 trends continue.

Findings We used 1698 population-based data sources, with more than 19·2 million adult participants (9·9 million men and 9·3 million women) in 186 of 200 countries for which estimates were made. Global age-standardised mean BMI increased from 21·7 kg/m² (95% credible interval 21·3–22·1) in 1975 to 24·2 kg/m² (24·0–24·4) in 2014 in men, and from 22·1 kg/m² (21·7–22·5) in 1975 to 24·4 kg/m² (24·2–24·6) in 2014 in women. Regional mean BMIs in 2014 for men ranged from 21·4 kg/m² in central Africa and south Asia to 29·2 kg/m² (28·6–29·8) in Polynesia and Micronesia; for women the range was from 21·8 kg/m² (21·4–22·3) in south Asia to 32·2 kg/m² (31·5–32·8) in Polynesia and Micronesia. Over these four decades, age-standardised global prevalence of underweight decreased from 13·8% (10·5–17·4) to 8·8% (7·4–10·3) in men and from 14·6% (11·6–17·9) to 9·7% (8·3–11·1) in women. South Asia had the highest prevalence of underweight in 2014, 23·4% (17·8–29·2) in men and 24·0% (18·9–29·3) in women. Age-standardised prevalence of obesity increased from 3·2% (2·4–4·1) in 1975 to 10·8% (9·7–12·0) in 2014 in men, and from 6·4% (5·1–7·8) to 14·9% (13·6–16·1) in women. 2·3% (2·0–2·7) of the world's men and 5·0% (4·4–5·6) of women were severely obese (ie, have BMI ≥35 kg/m²). Globally, prevalence of morbid obesity was 0·64% (0·46–0·86) in men and 1·6% (1·3–1·9) in women.

Interpretation If post-2000 trends continue, the probability of meeting the global obesity target is virtually zero. Rather, if these trends continue, by 2025, global obesity prevalence will reach 18% in men and surpass 21% in women; severe obesity will surpass 6% in men and 9% in women. Nonetheless, underweight remains prevalent in the world's poorest regions, especially in south Asia.

Funding Wellcome Trust, Grand Challenges Canada.

Lancet 2016; 387: 1377–96

See Comment page 1349

*NCD Risk Factor Collaboration members are listed at the end of the paper

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720 Authors per this paper,21 from Iran

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RESEARCH ARTICLE

A century of trends in adult human height

NCD Risk Factor Collaboration (NCD-RisC)*

Abstract Being taller is associated with enhanced longevity, and higher education and earnings. We reanalysed 1472 population-based studies, with measurement of height on more than 18.6 million participants to estimate mean height for people born between 1896 and 1996 in 200 countries. The largest gain in adult height over the past century has occurred in South Korean women and Iranian men, who became 20.2 cm (95% credible interval 17.5–22.7) and 16.5 cm (13.3–19.7) taller, respectively. In contrast, there was little change in adult height in some sub-Saharan African countries and in South Asia over the century of analysis. The tallest people over these 100 years are men born in the Netherlands in the last quarter of 20th century, whose average heights surpassed 182.5 cm, and the shortest were women born in Guatemala in 1896 (140.3 cm; 135.8–144.8). The height differential between the tallest and shortest populations was 19-20 cm a century ago, and has remained the same for women and increased for men a century later despite substantial changes in the ranking of countries.

DOI: 10.7554/eLife.13410.001

Why is this happening?

- Is it because of an increasing range of complementary skills and equipment needed to do the research, coupled with rising specialization?
- Or is it due to a decline of the cost of research conducted at a distance?
- Or to the rise of scientific research outside any single country?
- Probably it is the last two explanations that are the most compelling, given the speed of the change that we observe.

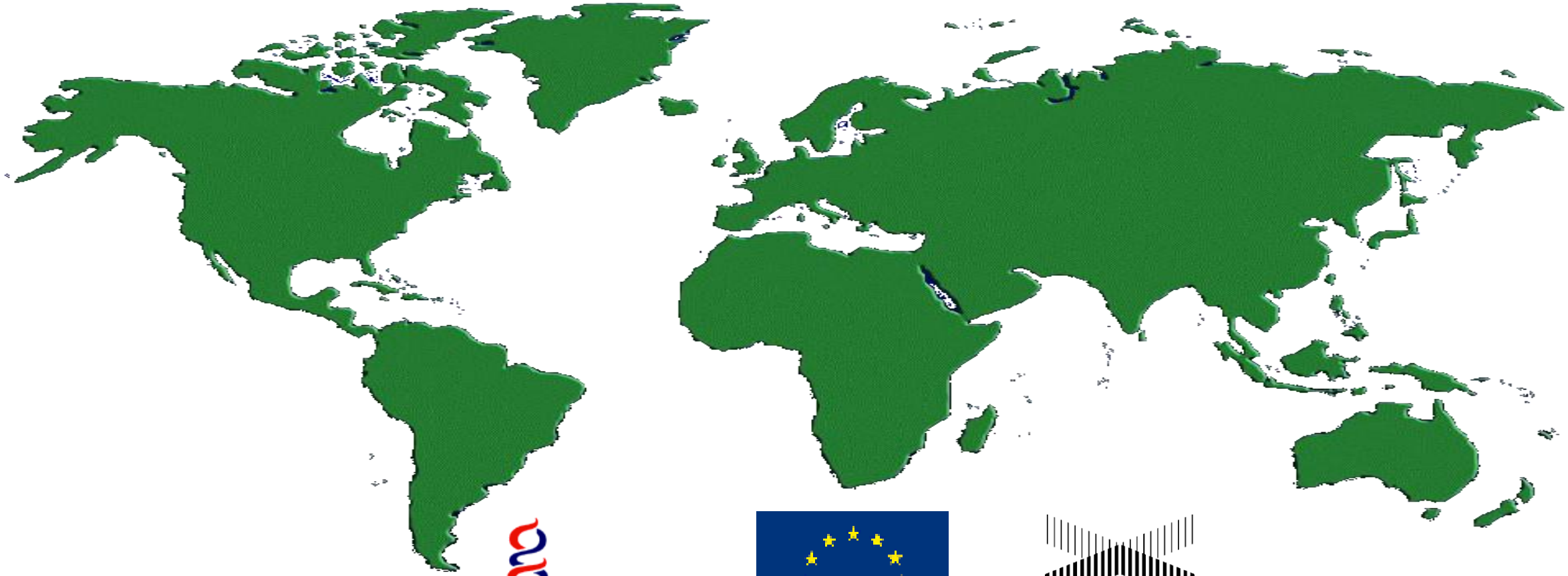
Research on cancer

International Cancer Genome Consortium

ICGC Goal

- To obtain a comprehensive description of genomic, transcriptomic and epigenomic changes in 50 different tumor types and/or subtypes which are of clinical and societal importance across the globe.

International Cancer Genomics Strategy Meeting



GenomeCanada

NATIONAL CANCER INSTITUTE

Ontario Institute for Cancer Research

science → discoveries → solutions

wellcome trust

International Cancer Genomics Strategy Meeting

October 1–2, 2007 Toronto (Canada)

22 countries represented
120 participants
- 34 Genome or Cancer Center Directors
- 24 Representatives from funding agencies
- 62 Scientists selected to represent ethics, technologies, statistics, informatics, pathology, clinical oncology and cancer biology

GenomeCanada

NATIONAL CANCER INSTITUTE

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science → discoveries → solutions

wellcome trust

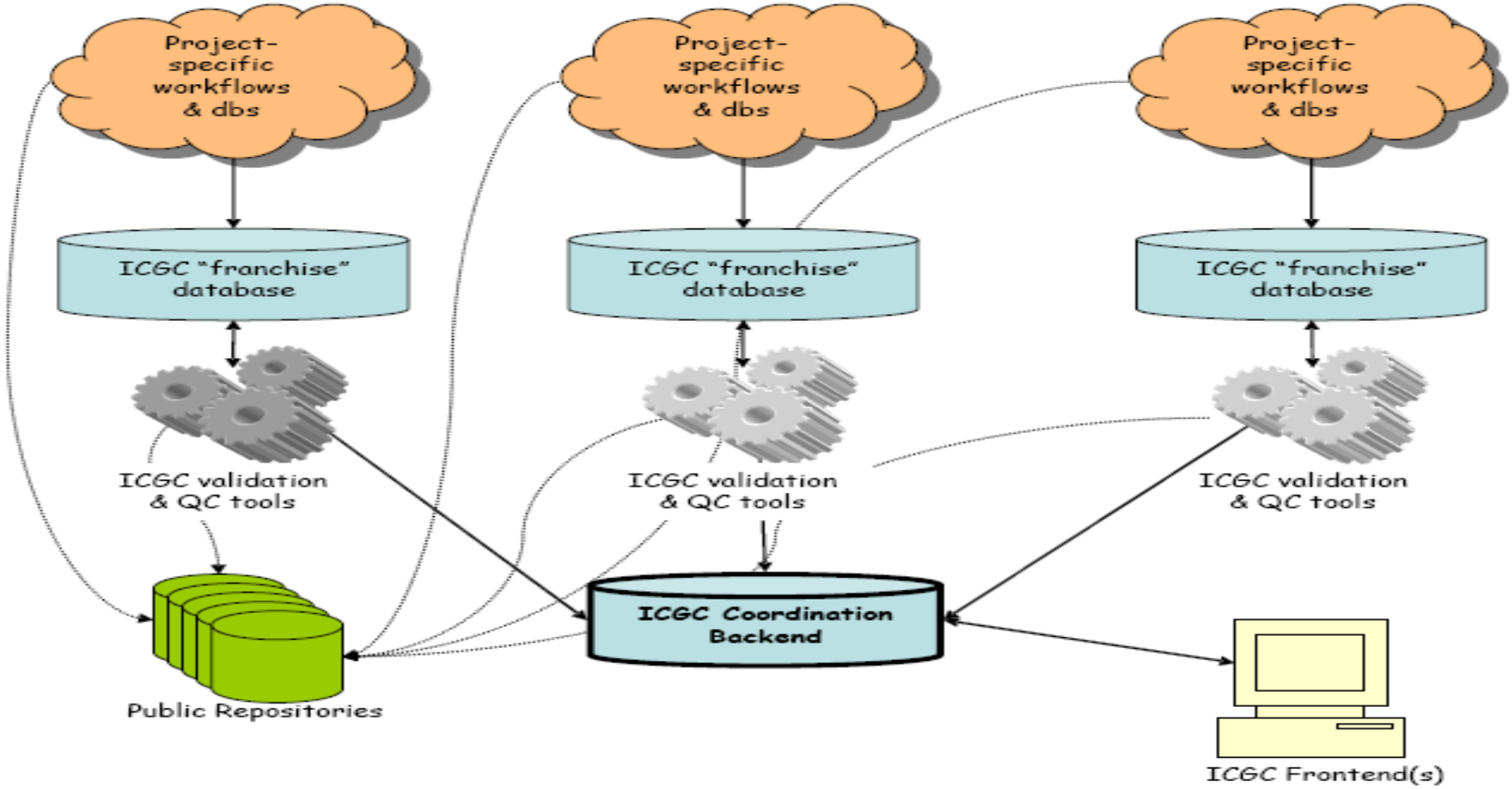
Rationale for an international consortium

- The scope is huge, such that no country can do it all
- Independent cancer genome initiatives could lead to relative duplication of effort for common and easy to acquire tumor samples, and incomplete studies for many forms of cancer
- Lack of standardization, and different quality measures across studies could decrease the opportunities to merge datasets, increase power, and detect additional targets
- The spectrum of many cancers is known to vary across the world for many tumor types, because of environmental, genetic and other causes
- An international consortium will accelerate the dissemination of genomic and analytical methods across participating sites, and into the user community

Data Releases

ICGC Open Access Datasets	ICGC Controlled Access Datasets
➢ Cancer Pathology Histologic type or subtype Histologic nuclear grade ➢ Patient/Person Gender Age range ➢ Gene Expression (normalized) ➢ DNA methylation ➢ Genotype frequencies ➢ Computed Copy Number and Loss of Heterozygosity ➢ Newly discovered somatic variants	➢ Detailed Phenotype and Outcome Data Patient demography Risk factors Examination Surgery/Drugs/Radiation Sample/Slide Specific histological features Protocol Analyte/Aliquot ➢ Gene Expression (probe-level data) ➢ Raw genotype calls ➢ Gene-sample identifier links ➢ Genome sequence files

ICGC Database Model



Genome projects enable research into the complex nature of human disease

- **Human Genome Project**
- **The HapMap Project**
- **The Cancer Genome Atlas**
- **ICGC Cancer Genome Projects**

The most important contribution to science of these large-scale projects is the generation and transfer of resources, databases and technologies to the scientific community

ICGC will be an *enduring* legacy

A comprehensive catalog of somatic changes in the major cancers will be a powerful driver for cancer research and clinical practice for decades

Early clinical benefits will be stratification of tumors to allow better prediction of prognosis and response to therapy

Longer term benefits will be development of new and more effective targeted therapies

Description of selected newly established cohort studies

Cohort	Population	Reference
Canadian partnership for tomorrow project	A federation of cohorts in five provinces/regions in Canada enrolling 300,000 adults aged 35–69 years by 2012 with long-term follow-up. Efforts were made to maximize harmonization with other existing large international biobanks in order to increase potential for future pooling of data and samples.	http://www.partnershipfortomorrow.ca [8]
Malaysia national cohort	Population-based cohort sampling 100,000 participants by 2012 from urban areas, rural farming communities, and the three main ethnic groups in Malaysia.	http://intra.hukm.ukm.my/cohort.
Golestan cohort study	First large-scale prospective study of cancer in Middle Eastern countries undergoing economic and social transitions and focusing on upper gastrointestinal cancers in northeastern Iran. Enrollment of over 50,000 healthy adults has been completed.	http://ddrc.tums.ac.ir//modules/news/index [26]
Kadoorie biobank prospective study	Prospective study of over 515,000 people aged 35–74 years recruited between 2004 and 2008 from 10 diverse regions in China. The first re-survey of ~20,000 participants was completed in 2008 with 85% response. Utilizes linkage with death and disease registries, and future linkage with health insurance claim systems.	http://www.ctsu.ox.ac.uk/kadooriebiobank
Prospective study of one million individuals in India	A large-scale prospective study of chronic diseases recruiting over one million adults aged over 30 years from 5 to 10 regions in India during 2010 and 2011.	[27]

The NCI C C includes investigators responsible for more than 50 high-quality cohorts involving more than 7 million people

- The cohorts are international in scope and cover large, rich, and diverse populations.
- Extensive risk factor data are available on each cohort, and biospecimens including germline DNA collected at baseline, are available on approximately 2 million individuals.
- Investigators team up to use common protocols and methods, and to conduct coordinated parallel and pooled analyses.

Policies Regarding Quality Standards of Samples

- A committee of clinical and pathology experts (with representation from different institutions) will be needed to draft and oversee the specific guidelines that will apply for every tumor type or sub-type.
- Tumor types should be defined using the existing international standards of the WHO (including ICD-10 and ICD-O). If novel molecular subtypes are studied, these should be defined with sufficient detail.
- All samples will have to be reviewed by two or more reference pathologists.
- Patient-matched control samples, representative for the germline genome, are mandatory to discern “somatic” from “inherited” mutations.

Policy Regarding Study Design and Statistical Issues

- Every cancer genome project should state a clear rationale for its choice of sample size, in terms of the desired sensitivity to detect mutations. The target number of 500 samples per tumor type/subtype is set as a minimum, pending further information to be provided by ICGC members proposing to tackle specific cancer types/subtypes.

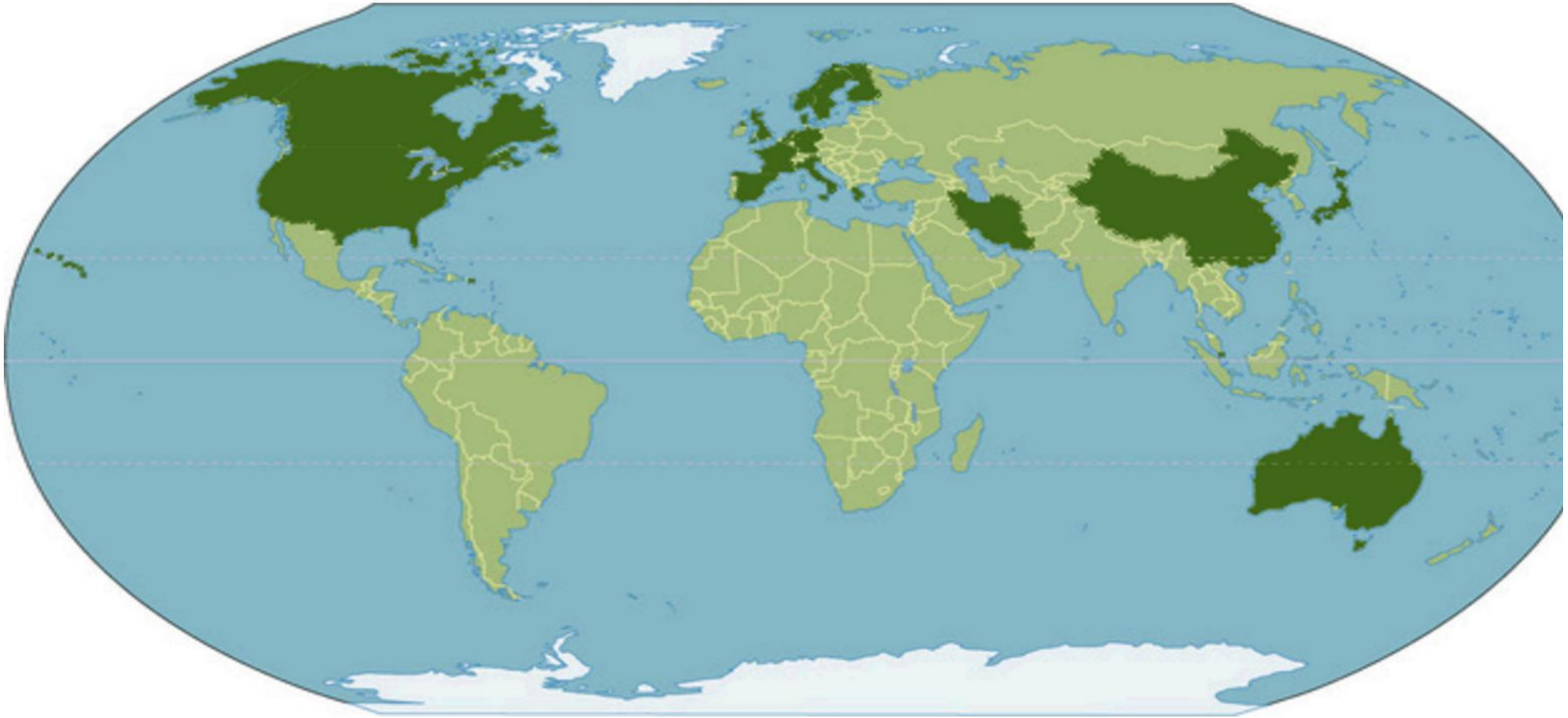
NCI Cohort Consorti

NCI Cohort Consortium

Overview

The NCI Cohort Consortium is an extramural-intramural partnership formed by the National Cancer Institute (NCI) to address the need for large-scale collaborations to pool the large quantity of data and biospecimens necessary to conduct a wide range of cancer studies. The Consortium, through its collaborative network of investigators, provides a coordinated, interdisciplinary approach to tackling important scientific questions, economies of scale, and opportunities to quicken the pace of research.

Current Members of NCI Cohort Consortium



Current Members of NCI Cohort Consortium

Study Name	Country or Countries of Study Population	Year Enrollment Began
Agricultural Health Study	US	1993
Alberta's Tomorrow Project	Canada	2001
Alpha-Tocopherol, Beta-Carotene Cancer Prevention (ATBC) Study	Finland	1985
Atherosclerosis Risk in Communities Cohort – Cancer (ARIC-Ca)	US	1987
Black Women's Health Study (BWHS)	US	1995
Breakthrough Generations Study	UK	2003
Breast Cancer Detection Demonstration Project (BCDDP) Follow-Up Study	US	1980
Breast Cancer Family Registry (BCFR) Cohort	Australia, Canada, US	1996
Breast Cancer Surveillance Consortium	US	1994
British Columbia Generations Project	Canada	2008
California Teachers Study (CTS)	US	1995
Canadian Study of Diet, Lifestyle, and Health	Canada	1992
Cancer Prevention Studies (CPS I, CPS II, & CPS II Nutrition Cohort)	US	1959 (CPS I) 1982 (CPS II) 1992 (CPS II Nutrition Cohort)
Carotene and Retinol Efficacy Trial (CARET)	US	1985
CARTaGENE Project	Canada	2009
CLUE I & II	US	1974 (CLUE I) 1989 (CLUE II)
Cohort of Swedish Men	Sweden	1997
Colon Cancer Family Registry Cohort (CCFRC)	Australia, Canada, US	1998
CONOR Cohort: General Cohort of Adults in Norway	Norway	1993

Current Members of NCI Cohort Consortium cont..

Generation Scotland: Scottish Family Health Study (GS:SFHS)	UK	2006
Golestan Cohort Study (GCS)	Iran	2004
Health Professionals Follow-Up Study (HPFS)	US	1986
Iowa Women's Health Study	US	1986
Janus Serum Bank	Norway	1972
Mayo Mammography Health Study	US	2003
Melbourne Collaborative Cohort Study	Australia	1990 (baseline) 2001 (biorepository)
Mexican American (Mano a Mano) Cohort	US	2001
Mexican Teacher's Cohort (MTC)	Mexico	2006 (main cohort) 2014 (extension to male participants)
The Millennium Cohort Study	US	2001
Multiethnic Cohort Study of Diet and Cancer (MEC)	US	1993
National March Cohort	Sweden	1997
NIH-AARP Diet and Health Study	US	1995
Netherlands Cohort Study (NLCS)	Netherlands	1986
Northern Sweden Health and Disease Study	Sweden	1985
Nurses' Health Study I (NHS I)	US	1976
Nurses' Health Study II (NHS II)	US	1989
Nutrition Intervention Trials - Linxian	China	1984
NYU Women's Health Study	US	1985

Golestan Cohort Study

- Lead Contacts and/or Principal Investigators (PIs):
  - Reza Malekzadeh, M.D:Digestive Disease Research Center (DDRC), Tehran University of Medical Sciences
  - Paolo Boffetta, M.D.: Mount Sinai School of Medicine and ,International Prevention Research Institute (IPRI), Lyon, France
  - Christian Abnet, Ph.D.:Division of Cancer Epidemiology and Genetics (DCEG), National Cancer Institute (NCI)
  - Paul Brennan, Ph.D.International Agency for Research on Cancer (IARC), Lyon, France Funded Since: 2004
- Funding Source: Digestive Disease Research Center, Tehran University of Medical Sciences; NCI Intramural Program (DCEG); Cancer Research UK
- Year(s) of Enrollment: 2004-2008
- Study Website: http://www.ddri.ir/en/modules/fmcontent/content.php?topic=gastro-intestinal-and-liver-cancers&id=249&page=golestan-cohort-study-of-esophageal-cancerExternal Web Site Policy

Golestan Cohort Study

- The earliest reports of high incidence of esophageal cancer in the northern parts of Iran date back to the early 1970s. A population-based cancer registry established in 1969 confirmed the high incidence of the cancer in the eastern portion of the Caspian Sea littoral, in the area which is now known as Golestan Province. The highest incidence rates were reported from the semi-desert plain settled mainly by people of Turkmen ethnicity in Gonbad and Kalaleh counties. A series of studies was conducted in the region in the 1970s, but was not conclusive in explaining the very high rates.

- Etiological hypotheses related to diet and lifestyle can be best addressed in prospective cohort studies, in which measurement error can be reduced and recall bias is minimal. From 2002 to 2003, a pilot study of 1,057 subjects was conducted by the Digestive Disease Research Center (DDRC), Tehran University of Medical Sciences, in collaboration with the Mount Sinai School of Medicine, National Cancer Institute (NCI), International Prevention Research Institute (IPRI), and International Agency for Research on Cancer (IARC), to evaluate the logistical aspects of establishing a prospective study in Golestan. Subsequently, the Golestan Cohort Study (GCS) was launched in January 2004. The study protocol and the informed consent used for this study were approved by the relevant ethical review committees. In June 2008, the accrual goal of 50,000 subjects was reached and enrollment was closed. Yearly follow-up is ongoing; a repeated exposure assessment is planned for ten percent of the cohort in 2010.

- The primary aims of the GCS are to:

- Identify risk factors for esophageal cancer by a comprehensive assessment of ethnicity; occupational history; socioeconomic status; past medical history; family history of cancers; gastrointestinal symptoms and signs; tobacco, opium and alcohol use; oral health; anthropometric characteristics; physical activity; and tea drinking habits, including tea temperature.
- Establish biospecimen banks for blood, urine, hair, and nail samples to be used in molecular and genetic studies of cross-sectional or nested case-control design.
- Investigate prospectively risk factors of cancers other than esophageal cancer and other chronic diseases prevalent in this population.
- Provide a model for population-based studies in a country in economic and social transition based on collaboration between local health workers, local health authorities, national research centers, the national government, and international research institutions.

The Asia Cohort Consortium

- The Asia Cohort Consortium

List of participating cohorts

Countries and Areas	Cohort Name
Bangladesh	Health Effects for Arsenic Longitudinal Study Bangladesh （HEALS）
China	China Hypertension Survey Epidemiology Follow-up Study (CHEFS)
China	Linxian General Population Trial Cohort
China	Shanghai Cohort Study (SCS)
China	Shanghai Men's Health Study (SMHS)
China	Shanghai Women's Health Study (SWHS)
India	Mumbai Cohort Study
India	Trivandrum Oral Cancer Screening Trial
Iran	Golestan Cohort Study
Japan	Japan Public Health Center-based prospective Study (JPHC Study)

List of participating cohorts continued

Japan	Japan Collaborative Cohort Study (JACC)
Japan	3 Prefecture Aichi
Japan	Miyagi Cohort
Japan	3 Prefecture Miyagi
Japan	Ohsaki National Health Insurance Cohort Study
Japan	Life Span Study Cohort
Japan	Ibaraki Prefectural Health Study
Japan	Takayama Study
Korea	Korean Multi-center Cancer Cohort Study (KMCC)
Korea	The Health Examinees' study
Korea	Seoul Male Cancer Cohort
Korea	Korean National Cancer Center Cohort (KNCC)
Malaysia	Malaysian Cohort Study

The Asia Cohort Consortium

- The Asia Cohort Consortium (ACC) is a collaborative effort seeking to understand the relationship between genetics, environmental exposures, and the etiology of disease through the establishment of a cohort of at least one million healthy people around the world.
- These participants will be followed over time to various disease endpoints, including cancer.
- The collaboration also involves seeking partners among existing cohorts across Asia to facilitate the exploration of specific research questions that need more immediate answers.

About The Asia Cohort Consortium

- The Asia Cohort Consortium is led by co-chairs John Potter MD PhD, Member and Senior Advisor, Fred Hutchinson Cancer Research Center, USA and Daehee Kang MD PhD, Chair, Department of Preventive Medicine, Seoul National University College of Medicine, Korea.
- The ACC Coordinating Center has been established at the Fred Hutchinson Cancer Research Center to provide support for scientific collaboration, coordination and communication, data operations, and statistical consultation.
- Investigators from China, India, Japan, Korea, Malaysia, Singapore, Taiwan, Iran ,the United States, and other countries meet on a biannual basis to report on the progress of each country's cohort, to discuss issues relevant to the development of common protocol guidelines, and to prepare for collaborative projects.
- Working groups, each consisting of representatives from the different member countries, have been established to examine specifically the issues of: diet; obesity and physical activity; occupation and environment; alcohol and tobacco; medical and reproductive history; family history; follow-up and endpoint ascertainment; biospecimens and sample collection; data collection and management; and previously established cohorts

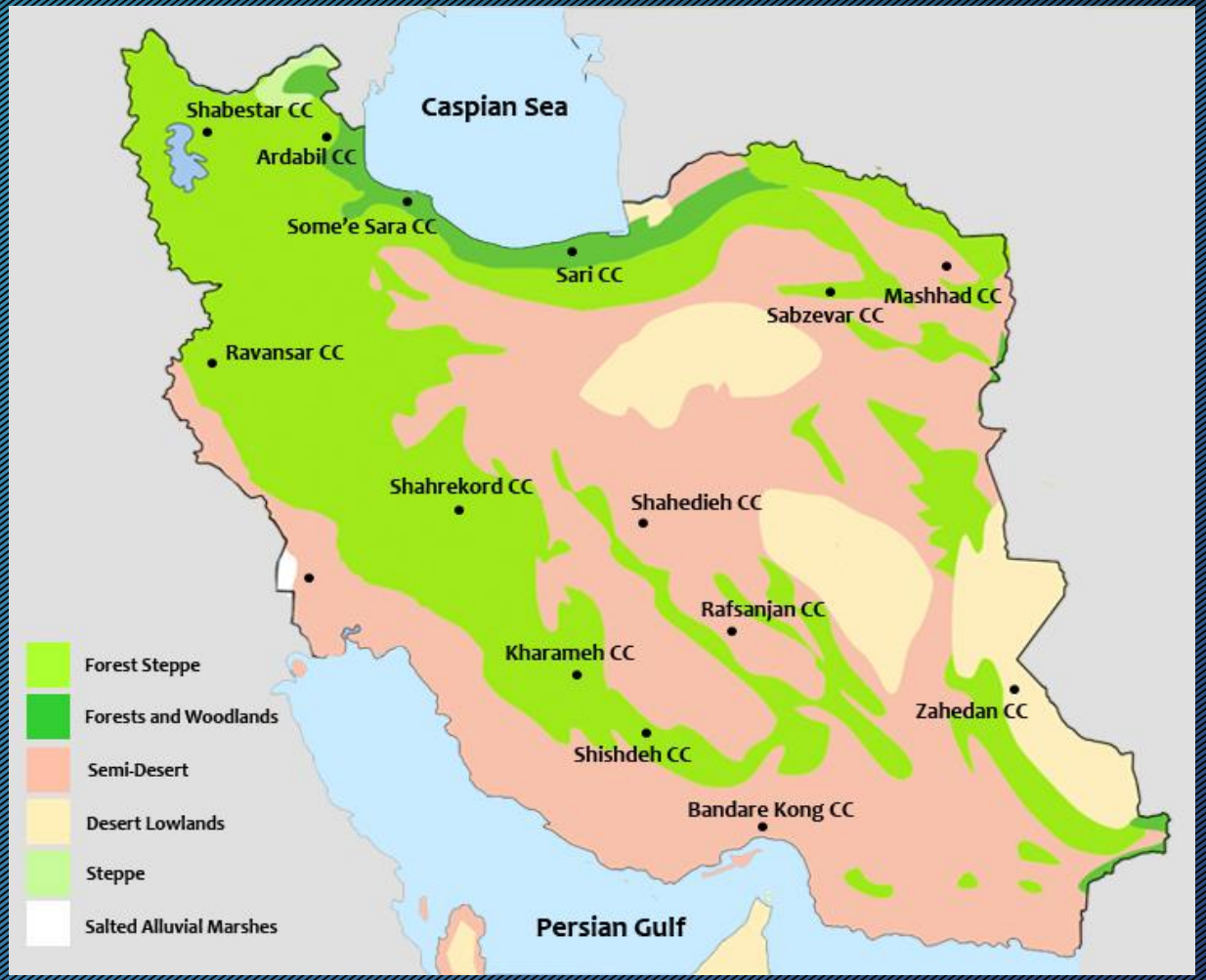
PERSIAN Cohort

The Prospective Epidemiological Research Studies in IrAN

- Includes 150,000 individuals from 15 different centers in Iran
- Males and females 35-70 years of age

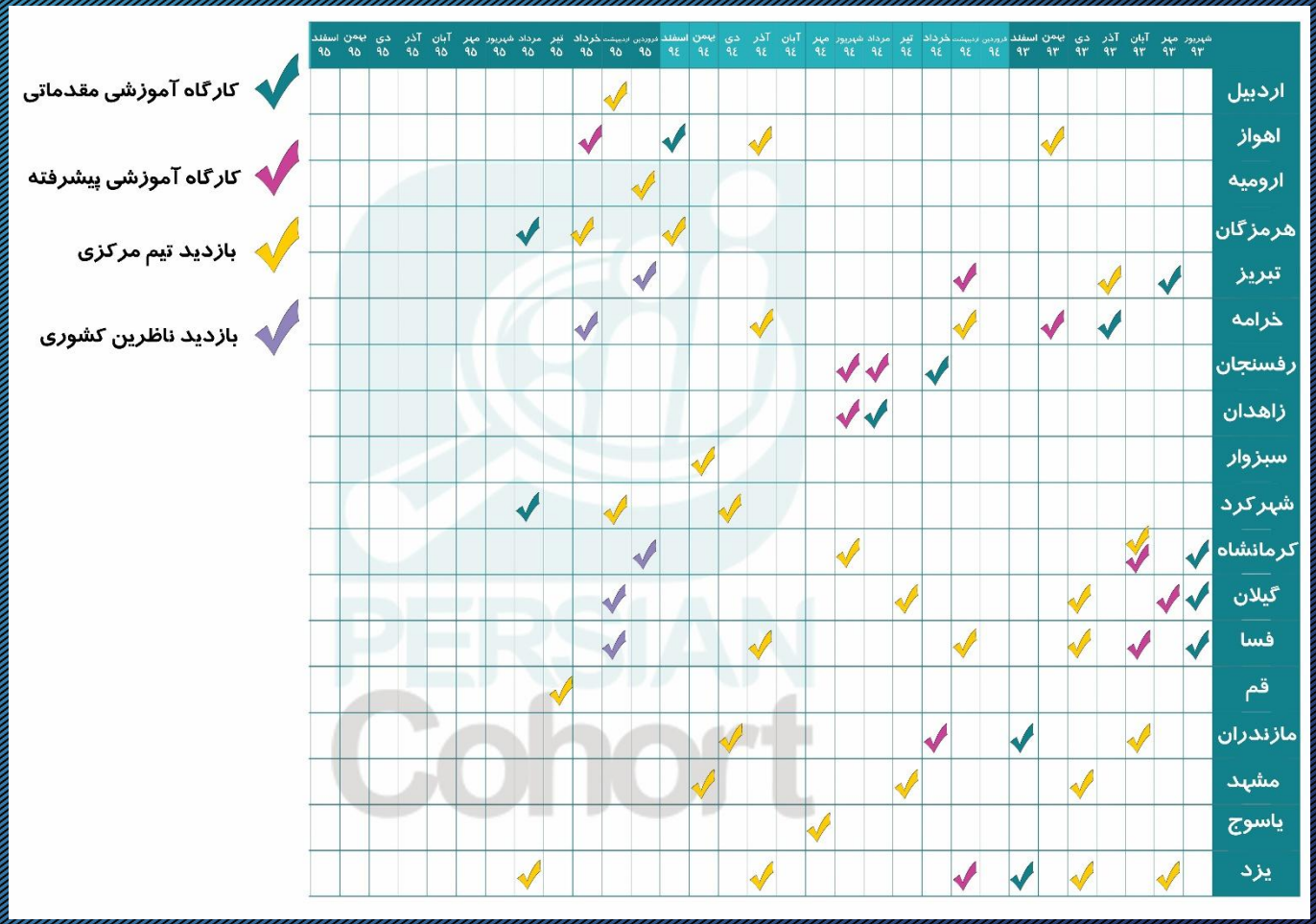
Ethnicities Included in the PERSIAN Cohort

Geographical Areas Included in the PERSIAN Cohort



Launch of Cohorts and Site Visits

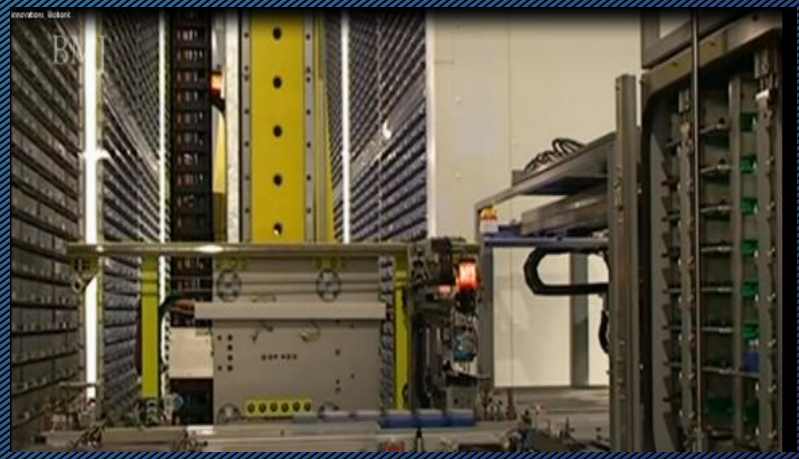
Over 50 trips made to the different cohort sites by the Central Committee



Cohort Site Status as of 95/6/1

Center	Enrolled	% Completed	# Remaining	Estimated Date to Finish Enrollment
Tabriz	11,334	100%	Finished	
Fasa	10,000	100%	Finished	
Guilan	8,324	83.24%	1,676	Azar 95
Kermanshah	7,847	78.47%	2,153	Dey 95
Kharameh	7,459	74.59%	2,541	Bahman 95
Yazd	5,328	53.28%	4,672	Mordad 96
Rafsanjan	4,379	43.79%	5,621	Mehr 96
Mazandaran	3,885	38.85%	6,117	Dey 96
Zahedan	1,892	18.92%	8,108	Tir 97
Ahwaz	542	5.42%	9,458	Aban 97
Total	60,958	-		

Modern Biobanks Around the World



New Addition to the PERSIAN Biobank
Compatible to Modern Biobanks

- 2D tubes—used in the best biobanks in the world
- Workshop held in Bahman to demonstrate and teach its use
- Plane to have two separated Bio-bank

fluidX

Parallel Studies in the PERSIAN Cohort

- Adult Cohort
- Birth Cohort
- Youth Cohort
- Elderly Cohort

Adult Cohort Sites

Birth Cohort Sites

Youth Cohort Sites

Elderly Cohort Sites

All PERSIAN Cohort Sites