News of GARD Section

Country activities of Global Alliance against Chronic Respiratory Diseases (GARD): focus presentations at the 11th GARD General Meeting, Brussels

Jean Bousquet[1,2,3,4,5,6], Youssef Mohammad[7,8], Anna Bedbrook[1,2], Teresa To[9], Rachel McGihon[9], Cristina Bárbara[10], Elisabete Melo-Gomes[11], José Rosado-Pinto[12], Paula Simão[13], Francisco George[13], Antonello Punturieri[14], James P. Kiley[14], Elizabete Nunes[15], Anilsa Cossa[15], Paulo Camargos[16], Raphael Stelmach[17], Alvaro A. Cruz[18], Marylin Valentin Rostan[19], Anahí Yañez[20], Sandra Nora González-Díaz[21], Marilyn Urrutia-Pereira[22], Moïses A. Calderon[23,24], René Maximiliano Gómez[25,26,27], Zachary German[28], Vítězslav Kolek[29], Václav Špičák[30], Le Thi Tuyet Lan[31], Suzanne Hurd[32], Claude Lenfant[33], Arzu Yorgancioglu[34], Bilun Gemicioğlu[35], Banu Ekinci[36], Zubeyda Ozkan[36], Bassam Abou Al-Zahab[37], Ahmad Dmeirieh[37], Rania Shifa[37], Hazar Faroun[37], Aicha AlJaber[38], Ramsa Halloum[7], Yassine Fatmeh[7], Ammar Alzein[39], Jamal Aloush[40], Ghazal Dib[7], Rafea Shaaban[7], Margarete Arrais[41], Maria do Céu Teixeira[42], Cláudia Conceição[43], Paulo Ferrinho[43]

[1]WHO Collaborating Center for Rhinitis and Asthma, Montpellier, France; [2]MACVIA-France, Contre les MAladies Chroniques pour un VIeillissement Actif en France European Innovation Partnership on Active and Healthy Ageing Reference Site, Montpellier, France; [3]INSERM, VIMA: Ageing and Chronic Diseases. Epidemiological and Public Health Approaches, U1168, Paris, France; [4]UVSQ, UMR-S 1168, Université Versailles St-Quentin-en-Yvelines, Yvelines, France; [5]Charité – Universitätsmedizin Berlin, corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin, Berlin, Germany; [6]Department of Dermatology and Allergy, Berlin Institute of Health, Comprehensive Allergy Center, Berlin, Germany; [7]National Center for Research on Chronic Respiratory Diseases, Tishreen University, Tishreen Hospital, Latakia, Syria; [8]Department of Internal Medicine, Syrian Private University, Damascus, Syria; [9]The Hospital for Sick Children, Research Institute, Toronto, Ontario, Canada; [10]Instituto de Saúde Ambiental, Faculty of Medicine, University of Lisbon, Portugal; [11]Portuguese National Programme for Respiratory Diseases, Lisbon, Portugal; [12]Global Alliance against Chronic Respiratory Diseases (GARD) Portugal Coordinator, Serviço de Imunoalergologia, Hospital da Luz, Lisboa, Portugal; [13]Directorate-General of Health, Lisbon, Portugal; [14]Division of Lung Diseases, NHLBI/National Institutes of Health, Bethesda, Maryland, USA; [15]Department of Pulmonology, Maputo Central Hospital, Maputo, Mozambique; [16]Federal University of Minas Gerais, Belo Horizonte, Brazil; [17]University of Sao Paulo, Sao Paulo, Brazil; [18]Federal University of Bahia, Bahia, Brazil; [19]Uruguayan Society of Pediatrics, Uruguay; [20]Investigaciones en Alergia y Enfermedades Respiratorias (INAER), Buenos Aires, Argentina; [21]Autonomous University of Nuevo Leon (UANL), Monterrey, Nuevo León, Mexico; [22]Department of Medicine, Universidade Federal do Pampa, Bagé, RS, Brazil; [23]Imperial College London, London, U.K.Royal Brompton Hospital, London, UK; [24]Universidad de Costa Rica, San Jose, Costa Rica; [25]Fundación Ayre, Salta, Argentina; [26]School of Health Sciences, Catholic University of Salta, Argentina; [27]Argentinean Association of Allergy & Clinical Immunology (AAAeIC), Salta, Argentina; [28]Department of Ecology and Evolutionary Biology, Brown University, Providence, Rhode Island, USA; [29]Department of Respiratory Medicine, University Hospital Olomouc, Olomouc, Czech Republic; [30]Department of Pediatrics, Hospital Na Bulovce, Prague, Czech Republic; [31]Respiratory Care Center, University Medical Center, Ho Chi Minh City, Vietnam; [32]Global Initiative for Asthma (GINA), the Global Initiative for Chronic Obstructive Lung Disease (GOLD), Vancouver, WA, USA; [33]Global Initiative on Obstructive Lung Disease (GOLD), Gaithersburg, MD, USA; [34]Celal Bayar University, Medical School Manisa, Manisa, Turkey; [35]Department of Chest Diseases, Cerrahpaşa School of Medicine, Istanbul University, Istanbul, Turkey; [36]Department of Chronic Diseases and Elderly, Directorate General of Public Health, Ankara, Turkey; [37]Ministry of Health, Damascus, Syria; [38]National Professional Officer at WHO office in Syria, Damascus, Syria; [39]Damascus University, Damascus; Syria; [40]Hopital National –MOH-, Lattakia, Syria; [41]Military Hospital, Luanda, Angola; [42]Hospital Dr Agostinho Neto, Praia, Cabo Verde; [43]Instituto de Higiene Medicina Tropical, NOVA University of Lisbon, Lisbon, Portugal

Correspondence to: Jean Bousquet. WHO Collaborating Center for Rhinitis and Asthma, Montpellier, France. Email: jean.bousquet@orange.fr.

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Introduction

The Global Alliance against Chronic Respiratory Diseases (GARD) is a voluntary network of national and international organizations, institutions and agencies led by the World Health Organization (WHO), working towards the vision of a world where all people breathe freely (1). GARD is supporting WHO in successfully implementing the WHO's Global Action Plan for the Prevention and Control of Noncommunicable Diseases (NCDs) 2013–2020. The GARD report on GARD activities is published on a regular basis. Collaboration among GARD countries is critical for sharing experiences and providing technical assistance to developing countries based on each country's needs (2).

The annual GARD meeting is a unique opportunity for assembling all of the GARD participants from developed and developing countries: European countries, North and South American Countries, China, Vietnam as well as Eastern Mediterranean, and African countries. Coordinator for Management of NCDs in the WHO Department for Management of Noncommunicable Diseases, Disability, Violence and Injury Prevention (Cherian Varghese) is present at this meeting.

The annual meeting of GARD is a forum for exchanging opinions in order to improve care for chronic respiratory diseases (CRDs) and to achieve the GARD goal—a world where all people breathe freely. Experts—in collaboration with WHO—are helping developing countries to achieve their projects regarding teaching, research and programming for CRD.

Each year, there is a poster presentation session on country activities. Each participant is able to present his/her country activities that have been achieved since the last meeting. This is followed by discussion.

In this paper, we summarize the posters presented during the 11th GARD general meeting. We hope that this will give readers of the GARD section an opportunity to learn for their countries.

We can find all posters on the link: https://gard-breathefreely.org/resources-poster/.

United States: the US COPD National Action Plan (US-CNAP)

Chronic obstructive pulmonary disease (COPD) is currently the fourth leading cause of death in the US and the fourth leading cause of disability. In 2010, more than $32 billion was spent on COPD-related patient care; and those costs are projected to increase to $49 billion by 2020. COPD prevalence varies geographically in the US, with several pockets of higher prevalence in rural settings. To address COPD, the US Congress encouraged the National Institute of Health (NIH) "to work with community stakeholders and other federal agencies, including the CDC, to develop a national action plan. The NHLBI/NIH engaged the COPD community at large, including patients and their families, health care providers, academia, and industry to deliver the first US-CNAP. The US-CNAP has five goals: (I) empower people with COPD, their families, and caregivers to recognize and reduce the burden of COPD; (II) improve the prevention, diagnosis, treatment, and management of COPD by improving the quality of care delivered across the health care continuum; (III) collect, analyze, report, and disseminate COPD-related public health data that drive change and track progress; (IV) increase and sustain research to better understand the prevention, pathogenesis, diagnosis, treatment, and management of COPD; and (V) translate national policy, educational, and program recommendations into research and public health care actions. The involvement of the entire COPD community is critical to the plan implementation. A variety of tools are available at www.COPD.nih.gov (3-7).

Canada: the Ontario Asthma Surveillance Information System (OASIS)

The OASIS funded by the Ontario Ministry of Health (MoH) and Long-term Care, is a population-based asthma registry in Ontario, Canada. Established in 2003, OASIS follows over 2 million Ontarians of all ages with physician-diagnosed asthma who have been identified from provincial health administrative databases using a validated algorithm. The objective of OASIS is to provide ongoing asthma surveillance statistics, including asthma incidence, prevalence, measures of asthma-related morbidity, mortality, health services use, and provider practice patterns. The assessments of asthma health made possible by surveillance serve as a benchmark for monitoring changes in diagnosis, treatment and management in asthma across geographical regions and in different sub-groups. Furthermore, OASIS is also a rich data source that serves as a platform for novel epidemiological research. In recent years, the OASIS team has deconstructed the role of comorbidities in asthma, established indicators for quality of asthma care, and investigated the role of air pollution as a risk factor for the development of concurrent respiratory conditions in

those with asthma (5). The OASIS assists policymakers and stakeholders to make evidence-informed decisions on targeting health programs to at-risk populations and on developing structures to support effective, efficient and accessible asthma care (8-12).

Mozambique: morbidity, efforts and needs

Mozambique owns 27.978 million habitants with a life expectancy of 53.5 years. Sixty percent of the population live in rural areas. The burden of communicable diseases is high but we begin to observe a rising in NCDs since 2000. Prevalence of asthma in children between 6–7/13–14 years is 13.3%. In national hospitals, adult asthma is the first cause of morbidity at 0.5%, but the data for COPD is still unknown. Currently, the main noted constraints include limited access to health services, primary health center overloaded for infection diseases (CD) neglecting the other NCDs, the difficulty for physicians to diagnose CRDs, lack of spirometers and access to essential medicines.

Our achievements include: *Guidelines of Bronchial Asthma in Adults* was elaborated; the *Second STEPwise Approach to Surveillance 2014/2015* was finished; WHO Framework Convention on Tobacco Control (FCTC) was rectified and the ARELP (Respiratory Association of Portuguese Language) conference on CRDs and Tuberculosis was held.

Research was conducted to study lung function impairment in patients after TB treatment and to study the burden of respiratory diseases in the emergency departments of four hospitals.

To stop the growth of CRDs, we need to increase primary care physicians' ability to diagnose the prevalent CRDs and provide spirometeres/essential medicines, and show CRD prevalence evidence to make CRDs "visible" to change policy in Mozambique (13-18).

Portugal: Portuguese National Programme for Respiratory Diseases (PNPRD)

CRDs is a priority for Portugal since 2000, evidenced by the PNPRD by the Ministry of Health (MoH) under the scope of High Directorate of Health (2012–2020) and aligned with WHO strategies and GARD. The prevalence of asthma is estimated at 11.0% for children and 5.2% for adults, and the prevalence is 14.2% for COPD (≥40 y).

The aim of GARD activities in Portugal is to reduce the CRD burden by epidemiological surveillance, prevention, early diagnosis, treatment, monitoring, legislation proposal, communication and social mobilization, promotion of literacy and collaboration with national and international partners.

The intervention in PNPRD priority areas at high prevalence of asthma, COPD and sleep apnea syndrome includes primary and secondary care by implementing guidelines, electronic prescription, implementation of a national spirometry network, free influenza vaccination in specific groups, accessibility to smoking cessation, respiratory rehabilitation and reimbursement for medicines or home respiratory care in national health service (NHS). For cystic fibrosis (high differentiation area), the goals are neonatal screening, free treatment in reference centers and total reimbursement for home respiratory care. Results are published in annual reports.

Portugal is one of the European countries with the lowest hospitalizations for asthma and COPD and better-standardized mortality rate (0.1 and 1.3 respectively per 100,000 persons aged below 65). From 2011 to 2016, early diagnoses of asthma and COPD in primary care are increasing (>100%) and the variation of the sales of respiratory drugs shows that patients are better treated (salbutamol decreased by 15%; bronchodilators and inhaled corticosteroids increased by >25%) (19-23).

Brazil: morbidity, management and resources

The achievements achieved in Brazil include as follows: the Asthma and COPD guidelines launched by the MoH in 2010; asthma hospitalization reduced by 66% in the past 10 years; prevalence of tobacco smoking reduced from 33% to 15% in the past 25 years; less underdiagnosis of asthma among adolescents, i.e., an increase in the proportion of diagnosed asthma and an reduction in symptom prevalence last year; COPD diagnoses increased by 18%; asthma and COPD protocols and/or management programs implemented at state/province level; essential asthma medicines (beclomethasone-pMDI and albuterol-pMDI) available for free across the country; ICS+LABA combination, tiotropium and home oxygen therapy now provided by some state/province health authority; a special program on severe/difficult-to-treat and severe-resistant-to-treatment asthma managed by several tertiary referral centers (universities and other institutions) across the country; spirometry available although only at referral institutions (not at primary health care facilities) across the country; and implementation of outreach educational programs including the matrix support collaborative care

and Practical Approach to Care Kit (PACK).

The main issue is to get the MoH formally committed with GARD/GINA/ARIA activities and initiatives. Brazil urgently needs a wide public health policy to address CRDs, where the role of National, State and Municipal Health Authorities would be clearly defined (24-28).

Latin America: programs and proposals

In Latin America, COPD affects 10% to 20% of the population, while asthma prevalence is more than 30% in some countries of the region. In GARD 2017 annual meeting held in Brussels, joint actions as well as regional representations were evidenced as real unmet needs.

There are several successful programs on morbidity and mortality control of these diseases, like *Programa para controle da Asma e da Rinite Alérgica* (ProAR) and *Programa Infantil de Prevenção de Asma* (PIPA) in Brazil, and *Proyecto de Prevención en Asma*, *Prevención en Alergia* (PAPA) in México. Among others, Practical Approach to Care Kit (PACK) and an ARIA program involving the Integrated Care Pathways in Airways are on their way in Brazil and Uruguay, and an asthma program in the elderly in Argentina.

Participants from the region supported proposals of Latin American Society of Allergy, Asthma and Immunology (SLAAI): (I) to contribute on diffusion and knowledge of CRDs magnitude and risk factors; (II) to identify successful programs in Latin America to be replicated in the region; (III) to generate strategic alliances in order to strengthen joint actions.

Calling to members of SLAAI for a joint meeting with GARD representatives and applying for GARD membership were established as next steps in near future (29-33).

Syria: collaborated contributions and involvements of Tishreen University, Ministry of Higher Education, and Ministry of Health

On the basis of a multicenter national GARD-WHO Survey on prevalence and risk factors of CRDs and co-morbidities at primary care level lead by Tishreen University in collaboration with Syrian MoH, the National Center for Research on Chronic Respiratory Diseases and Comorbidities, Tishreen University, Ministry of Higher Education (MOHE) in Syria, collaborating with GARD and WHO, Regional Office for the Eastern Mediterranean (EMRO), was initiated. However, WHO program is rather emergency oriented during the war.

This national center edited a book entitled "*Technical Guide for Management of Chronic Respiratory Diseases in Primary Care*, *Emergency Rooms and General Medicine Outpatient Clinics in Public Hospitals*", which was printed in 2016, and distributed to primary care doctors, and residents in general hospitals in Syria, thanks to Ms. Elizabeth Hoff, WHO representative in Syria.

This guidebook includes: (I) guidelines for management of asthma and COPD in outpatients clinics of general secondary care hospitals; (II) audits for evaluation of practice based on GINA (www.ginasthma.org) and GOLD (www.goldcopd.org); (III) a book chapter on the essential facts that need to be known for primary care about asthma, COPD and allergic rhinitis, such as early diagnosis, patient education, smoking cessation, how to use inhalers and spacers, and safety of inhaled corticosteroids; (IV) how spacers could replace Nebulizer, peak flow, and how to interpret spirometry; and (V) algorithms protocols of WHO-PEN (translated to Arabic and adapted to Syria) for use in primary care centers.

This book was adopted by Syrian MoH and MOHE for training and programs. A committee for CRDs was established afterwards, managed by the MOH Department of NCD in collaboration with Tishreen University Center and WHO country office. Standardized power point presentations for training of residents, GPs, pharmacists and nurses, as well as educational brochures for patients were prepared and uploaded on the MOH website. Training on CRD and spirometry for primary care physicians are being continuously supported by WHO country office during the war.

Moreover, a survey was conducted to track under-diagnosed and uncontrolled asthma in shelters during the Syrian crisis. This was a GARD survey in collaboration between GARD, Syria and GARD AOSIS (Asthma Ontario Surveillance Information System).

Evidences showed that poor shelter or dwelling conditions may lead to deterioration of asthma control. Our research explored the characteristics of asthmatics living in the shelters in Syria, and estimated the prevalence of under-diagnosed asthma among refugees displaced in Syria during the conflict. The research site is the Al-Herjalleh shelter near Damascus, with 850 dwellers. The results showed that:

- Asthma was uncontrolled in all subjects. Only 4% used inhaled corticosteroids, compared to 30% before the war.
- Forty-four percent of non-diagnosed asthmatics

in the shelter replied yes to the question "Do you wake up by attacks of cough, wheezing and breathlessness", suggesting underlying undiagnosed asthma that could have been concealed by these poorer environmental and psychological conditions although new onset asthma cannot be excluded.

- ❖ Lung functions: FEV1 was lower than 80% predicted before bronchodilators in 61% and after bronchodilators in 7% of the respondents who replied yes to the above question.
- ❖ Post-traumatic stress disorder was noted in 35%, and allergic rhinitis in 57% of the respondents who replied yes to the above question.

An *ad hoc* help by medications was initiated. A national program for asthma and COPD in shelters and conflict zones is under consideration to be integrated with MOH-WHO and Red Cross-Red Crescent dispensaries and mobile clinics (34-37).

Vietnam: expanding the network of Asthma and COPD Outpatient Care Units (ACOCUs)

Asthma and COPD are two conditions with high prevalence and associated with enormous economic burden in Vietnam. The estimated numbers of Vietnamese asthmatic and COPD patients are around 7.2 million.

Although asthma and COPD are included in National Program against Non-communicable Diseases from 2015 to 2025 in Vietnam, spirometry and asthma-COPD drugs are not available at all province and district hospitals.

In collaboration with national and international organizations on development and expansion of ACOCU network, several interventions were conducted during 2000 and 2017. These included organizing workshops regarding management of asthma and COPD, setting up new ACOCUs and upgrading the capabilities of the current ones, improving the screening and management programs, and meeting with medical insurance organization.

A network of 161 ACOCUs has been built since 2000. Many future activities are planned to address the remaining challenges. These include building and upgrading more units to achieve optimal management, having a quality control group from National Program, and conducting a national study for reference values of spirometric parameters for Vietnamese people.

In conclusion, ACOCUs are feasible, sustainable and expandable as it meets the needs of any communities (38).

Turkey: achievements of a national control program and action plan for CRD

GARD Turkey is a national control program and action plan on chronic airway diseases (asthma and COPD) that involves the Turkish MoH and Turkish Thoracic Society (a non-governmental organization) with 64 collaborating parties. This program is integrated with other NCD national programs such as cardiovascular diseases, obesity and tobacco control.

To evaluate public awareness on COPD and asthma, a questionnaire was completed by 8,342 people and 680 primary care physicians (3). Turkish Statistical Institute randomly selected 680 doctors to evaluate primary care awareness. The total of 1,817 and 1,788 primary health care physicians attended the asthma and COPD face to face education, respectively. Results of those studies are in the references.

Meetings on COPD, asthma and pulmonary rehabilitation were held, attended by 42,095, 34,789 and 9,020 health-care workers and 482035, 414024 and 79768 community members, respectively. 160 press conferences, 356 radio-TV speeches, 1,738 news broadcasts, delivery of 1,552,320 printed handouts, distribution of 6,259 videos, 90,052 tree planting sessions (GARD forests), 2,114 stand shows, and 85,691 spirometry measurements were carried out.

GARD Turkey project has been accepted as a two-starred reference site for the European Parliament Initiative European Innovation for Active and Healthy Aging.

In the future, new online data entry and education program for all NCDs will start. We have started 'Allergy Dairy' by MACVIA ARIA. Accreditation of spirometry laboratories will start next year (39-41).

France: ARIA's care pathways implementing emerging technologies for predictive medicine in rhinitis and asthma across the life cycle

The initiative *Allergic Rhinitis and Its Impact on Asthma* (ARIA) commenced during a WHO workshop in 1999. The initial goals of ARIA were: (I) to propose a new allergic rhinitis classification; (II) to promote the concept of multi-morbidity in asthma and rhinitis, and (III) to develop guidelines with all stakeholders that could be used globally for all countries and populations.

ARIA is disseminated and implemented in over 70 countries globally. Currently, a new ARIA initiative has been

developed. This initiative, the MASK (MACVIA–ARIA Sentinel Network), is an example of a Good Practice focusing on the implementation of multi-sectoral care pathways for individualized and predictive medicine using emerging technologies with real life data in rhinitis and asthma multi-morbidity by a multidisciplinary group and by patients themselves. A mobile phone application for Android or IOS (MeDALL) is available in 20 countries and 15 languages. It uses a visual analogue scale to assess symptom control and work productivity as well as a clinical decision support system. It is associated with an inter-operable tablet for physicians and other health care professionals.

The scaling up strategy uses the recommendations of the European Innovation Partnership on Active and Healthy Ageing.

The aim of the novel ARIA approach is to provide an active and healthy life to rhinitis sufferers, whatever their age, sex or socioeconomic status, in order to reduce health and social inequalities incurred by the disease (42-46).

Czech: dedications of Czech Alliance against Chronic Respiratory Diseases (ČARO)

ČARO is the country partner of GARD in the Czech Republic. It was established in 1997 and since the beginning it has integrated 20 members—medical, patient and other non-governmental organizations. In 2017, ČARO was involved in CRD prevention, anti-smoking campaign, epidemiological studies on CRD, and management of highly specialized centers. ČARO provided open space spirometry measurements, press conferences and meetings with media in Prague (on TB Day, Asthma Day, COPD Day, and No Tobacco Day). ČARO organized meetings of experts and patients. A lecture cycle was launched for patients with lung diseases and their family members in Olomouc hospital. These patients were gathering in ČOPN (Czech Civic Association against Pulmonary Disease). A lecture day on the World COPD Day was organized in Prague with a program aimed at doctors, nurses and also accessible to patients and the general public. ČARO publishes and distributes booklets dedicated to the most frequent respiratory diseases for patients. In 2017, a booklet on respiratory rehabilitation was published. On May 30th, 2017, ČARO—GARD organized a meeting with MoH, and members for Senate, Czech Medical Society and Czech WHO Office. The meeting was dedicated to the 10th Anniversary of ČARO—GARD, No Tobacco Day and "Anti-smoking Law "in the Czech Republic. A special guest was Nikolai Khaltaev, who supported all activities of ČARO and presented increasing epidemiologic data of respiratory diseases in the world. ČARO supported the fight against smoking in restaurants.

Other very interesting activities from other countries or regions were reported (e.g., Using e-Learning to promote correct inhaler use: Education for Health UK, and the Finland Allergy program). We can find all posters on the link https://gard-breathefreely.org/resources-poster/

Miscellaneous

Launch of GARD Lusophone Project (CPLP)

On 18th April, 2017, the Portuguese Institute of Tropical Medicine (IHMT) held a meeting on CRDs and tuberculosis in Lisbon. The invited delegates and participants included speakers from Angola, Brazil, Cape Verde, Mozambique, Portugal and three members of the GARD Ex-Com (Álvaro Cruz, José Rosado Pinto and Nils Billo).

In the conclusion of this meeting, the heterogeneity of national situations with different realities was analyzed. A common strategic area was proposed to be implemented in terms of integrated patient centered care and priorities, bold policies and supportive systems, research and innovation projects and creation of a GARD common electronic platform in Portuguese, coordinated by IHMT. Finally, a GARD Lusophone project was decided to be launched.

The next steps were the establishment of a GARD Lusophone Study Group, contacts at country level with national MOHs, implementation of the CRD inclusion in national health programs as a priority and elaboration of an electronic platform with the IHMT-based secretariat. There was also the proposal for the GARD Lusophone project to be on the agenda of the Committee of the Portuguese Speaking Countries (CPLP) MoHs meeting in Brasilia, October 2017. Early in October 2017, a Skype Conference was made involving the delegates of the five countries and the GARD Secretary (Nils Billo). On October 26, the MoHs of CPLP (Angola, Brazil, Cape Verde, East Timor, Guinea-Bissau, Mozambique, Portugal, and São Tomé e Principe) approved the GARD Lusophone project based on GARD-Brasilia (Brazil) under the proposal of IHMT (47-53).

Studies on traffic related air pollution (TRAP) in several countries

TRAP has been known to be a major health hazard for

many years, but recent research has shown that it may have a greater impact on chronic disease onset than previously thought. TRAP is a major source of ozone-producing primary pollutants, including nitrogen oxides (NO_x) and volatile organic compounds (VOCs). Ozone has been known to cause oxidative damage in humans, and chronic exposure has been shown to lead to the onset and exacerbation of several chronic respiratory conditions, as well as other cardiovascular and endocrine conditions. Through a series of literature reviews, studies on TRAP and ozone's impacts on human health were designed and conducted for Brazil, Japan, the Netherlands, and Turkey. The analysis showed that though each country faces different air pollution problems, several important sources are common among all of the selected countries. The most important of these sources is TRAP from mobile sources, including cars, trucks, and cargo ships. Studies have shown that restrictions on these transport methods lead to significantly cleaner air quality and a reduction in chronic disease incidence and mortality. Significant investment in clean-energy public transportation could be the solution to reducing TRAP, and thus background ozone levels, in major cities (41,54-56).

GARD section in the Journal of Thoracic Disease (57)

Ever since August 2017, GARD has been collaborating with *Journal of Thoracic Disease* (*JTD*) on a featured section in this journal. The GARD section is a non-profiting, quick-response platform to publish GARD activities at country, regional and global level, and to provide advocacy and awareness, at all levels from the community and the patient to health services and governments, aiming at universal health coverage ("All people breath freely").

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Footnote

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