

"The WHO Report on the Global Tobacco Epidemic, 2008 gives countries a roadmap that builds on the WHO Framework Convention to turn this global consensus into a global reality through MPOWER, a package of six effective tobacco control policies." – Dr Margaret Chan

Tobacco is a major preventable cause of premature death and disease worldwide, and its control requires efficient and standardized monitoring. The Global Tobacco Surveillance System (GTSS) is an ambitious undertaking by the Centers for Disease Control and Prevention and the World Health Organization to monitor trends in prevalence, consumption, attitudes, and actions through the Global Youth Tobacco Survey (GYTS), the Global School Personnel Survey (GSPS), the Global Health Professions Student Survey (GHPSS), and the Global Adult Tobacco Survey (GATS).

To mark the 10th anniversary of the GTSS, this seminal atlas illustrates its findings as well as key data from WHO's Framework Convention on Tobacco Control and MPOWER. Vivid maps and graphics give shape and meaning to the statistics, and compare and contrast survey results between countries and regions, boys, girls, teachers, and health professions students.

Uruguay (Age-Adjusted Global Youth Tobacco Survey)
FACT SHEET

The Uruguay GYTS and other tobacco use as well as determinants of tobacco use, exposure to secondhand smoke, advertising, and school curricula components Uruguay could implement tobacco control program.

The Uruguay GYTS was conducted in grades 1 CB – 3 CB and 6 CB.

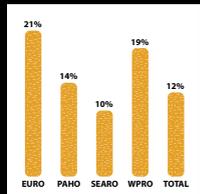
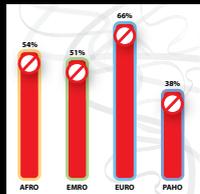
Prevalence
48.9% of students had ever used tobacco
23.2% currently use any tobacco product
20.2% currently smoke cigarettes
7.9% currently use other tobacco products

Topics include:

- tobacco use among boys and girls
- tobacco use by teachers
- tobacco use among dental, medical, nursing, and pharmacy students
- second-hand smoke • quitting
- tobacco promotion • tobacco tax
- bans and enforcement • smoking in schools
- training and counseling



Cover design by Myriad Editions
Front cover: Ghislain & Marie David de Lossy
Back cover pics (from left):
GTSS fact sheet: CDC
Research Co-ordinators attending an Eastern Mediterranean GYTS Analysis workshop: Nathan Jones / CDC
Cairo Tobacco-Free Sports group, Egypt
Student anti-smoking demonstration, Thailand: AFP / Getty Images
GTSS t-shirts signed by Research Co-ordinators around the world: Nathan Jones / CDC



GLOBAL TOBACCO SURVEILLANCE SYSTEM

Warren, Asma, Lee, Lea, Mackay

GLOBAL TOBACCO SURVEILLANCE SYSTEM

The GTSS Atlas

Charles W Warren
Samira Asma
Juliette Lee
Veronica Lea
Judith Mackay





GLOBAL TOBACCO
SURVEILLANCE SYSTEM



The **GTSS** Atlas





The GTSS Atlas



Charles W Warren
Samira Asma
Juliette Lee
Veronica Lea
Judith Mackay



First published by the CDC Foundation in 2009



Helping CDC Do More, Faster

The CDC Foundation is an independent, nonprofit enterprise that helps the Centers for Disease Control and Prevention do more, faster by forging effective partnerships between CDC and individuals, foundations and corporations to fight threats to health and safety.

Materials prepared by employees of the United States Government as part of their official duties are a work of the United States Government and are thus in the public domain.

Maps, graphics and original concept copyright © Myriad Editions 2009

Produced for the CDC Foundation by
Myriad Editions
59 Lansdowne Place
Brighton BN3 1FL, UK
www.myriadeditions.com

Edited and co-ordinated by Jannet King and Candida Lacey
Designed by Isabelle Lewis and Corinne Pearlman
Maps and graphics created by Isabelle Lewis

Printed on paper produced from sustainable sources.
Printed and bound in Hong Kong through Lion Production
under the supervision of Bob Cassels, The Hanway Press, London.

10 9 8 7 6 5 4 3 2 1

The contents of this publication are solely the responsibility of the authors and do not necessarily represent the official views of the United States Government.

For a full list of publications please contact:

CDC Foundation
55 Park Place, Suite 400
Atlanta, GA 30303, USA
www.cdcfoundation.org

	Foreword	7
	Preface	9
	Authors	10
	Acknowledgements	13
	Photo Credits	16
	Glossary and Abbreviations	17
PART ONE	Introduction	18
	1 WHO FCTC	20
	2 MPOWER Package	22
PART TWO	Global Tobacco Surveillance System	24
	3 GTSS Overview – GYTS and GSPS	26
	4 GTSS Overview – GHPSS and GATS	28
PART THREE	Global Youth Tobacco Survey	30
	5 GYTS Monitoring Coverage	32
	6 GYTS Monitoring Cigarette Smoking – Boys	34
	7 GYTS Monitoring Cigarette Smoking – Girls	36
	8 GYTS Monitoring Other Tobacco Use – Boys	38
	9 GYTS Monitoring Other Tobacco Use – Girls	40
	10 GYTS Protecting from Smoke	42
	11 GYTS Offering Help	44
	12 GYTS Warning of Dangers	46
	13 GYTS Enforcing Bans	48
	14 GYTS Raising Taxes	50

PART FOUR	Global School Personnel Survey	52
15	GSPS Monitoring Coverage	54
16	GSPS Monitoring Results	56
17	GSPS Protecting from Smoke	58
18	GSPS Offering Help	60
PART FIVE	Global Health Professions Student Survey	62
19	GHPSS Monitoring Dentistry and Medicine	64
20	GHPSS Monitoring Nursing and Pharmacy	66
21	GHPSS Monitoring Results	68
22	GHPSS Protecting from Smoke	70
23	GHPSS Offering Help	72
PART SIX	Global Adult Tobacco Survey	74
24	GATS Overview	76
PART SEVEN	Data Dissemination	78
25	GTSS Data Dissemination	80
PART EIGHT	Facts and Figures	82
26	Milestones	84
	World Table GTSS Data	86
	World Table Data Key	94
	Sources	102
	Global Tobacco Surveillance Publications	106
	Index	111



In this world of such rich diversity, of unique places and people, there are also innumerable things we share in common. Sadly, one of them is chronic disease. Chronic diseases, such as heart disease, stroke, cancer, chronic respiratory diseases and diabetes, are by far the leading cause of mortality in the world, representing 60 percent of all deaths.

80 percent of chronic disease deaths occur in low- and middle-income countries and the effects of chronic disease increase poverty and reduce potential progress towards economic development. The major risk factors for chronic disease are an unhealthy diet, physical inactivity, and tobacco use. In the global crisis in chronic disease, tobacco is a central driver.

The GTSS Atlas is a key resource for helping us “see and sell” the need for worldwide tobacco control. The pictures and maps you will find here are worth many thousands of words. The facts and the data speak eloquently and we must use them to carry out our work, which brings us closer to our vision of a world free of tobacco use and of the devastation of chronic disease.

Janet Collins PhD

Director, National Center for Chronic Disease Prevention and Health Promotion
US Centers for Disease Control and Prevention



Tobacco kills up to half of those who use it. Today, the global patterns of use of this lethal product result in more than 5 million deaths each year. However, tobacco use is becoming more widespread throughout the world due to low prices, aggressive and widespread marketing, lack of awareness about its dangers, and inconsistent public policies against its use. This means that if the current trends continue, the toll will increase to about 8 million deaths by 2030, with over a billion lives lost in this century.

Based on our belief that you have to know the epidemic to fight the epidemic, the Global Tobacco Surveillance System (GTSS) has been monitoring worldwide tobacco use and issues for more than 10 years. And thanks to WHO and others, we now have the MPOWER strategy, which further underscores the importance of surveillance and monitoring as primary elements in global tobacco control.

The GTSS monitoring system was first built around youth tobacco use and more recently includes adults. For the first time, we are compiling youth and adult survey results into a graphic atlas that shows the stark facts in a strongly visual way. The GTSS Atlas can help us see the epidemic in its global scale and allows us to compare situations in countries and regions at a glance.

In combating the global tobacco epidemic, we need as many useful and effective tools as we can possibly get. We hope that many will find this GTSS Atlas a welcome addition.

Matthew McKenna MD, MPH

Director, National Center for Chronic Disease Prevention and Health Promotion
US Centers for Disease Control and Prevention
Office on Smoking and Health

Surveillance is the ongoing, systematic collection, analysis, and interpretation of health-related data essential to the planning, implementation and evaluation of public health practice. It is closely integrated with the timely dissemination of data to those responsible for prevention and control.

The atlas visualizes a decade of work in establishing the Global Tobacco Surveillance System (GTSS), which has become the largest public health surveillance system ever developed and maintained.

The atlas documents the components of the GTSS, which include the monitoring of tobacco use and tobacco control measures among youth, school personnel, health professions students and adults. It maps the coverage of the surveys and provides data on the various elements of a comprehensive tobacco control strategy as outlined in the WHO- FCTC and MPOWER policy. It illustrates the importance of enhancing country capacity to develop, implement and evaluate tobacco control programs through partnerships and a systematic framework.

This resource will be invaluable to policy makers, public health practitioners, scholars and students interested in tobacco control.

This atlas is also available online at www.cdc.gov/tobacco/global/atlas

Charles Warren

CDC

Samira Asma

CDC

Juliette Lee

CDC

Veronica Lea

CDC

Judith Mackay

World Lung Foundation

February 2009

Authors



Dr Charles W Warren is a Distinguished Consultant/Statistician-Demographer with the Office on Smoking and Health, Centers for Disease Control and Prevention (CDC), Atlanta, Georgia. He is currently working on international tobacco prevention and control programs, including the Global Tobacco Surveillance System (GTSS). Dr Warren has worked at CDC for more than 30 years.

From 1978 to 1991, he worked in the Division of Reproductive Health, conducting international, national, and state Family Planning and Maternal/Child Health (FP/MCH) surveys, and from 1991–97 in the Division of Adolescent and School Health, where he assisted with and conducted national, state, and international Youth Risk Behavior Surveys (YRBS). Since 1997 he has worked in the Office on Smoking and Health. Dr Warren has published more than 300 refereed articles and co-authored numerous CDC publications. He received his PhD from Emory University, and a Certificate in Demography from the Office of Population Research at Princeton University.



Dr Samira Asma has been the Associate Director for the Global Tobacco Control Program at the Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control (CDC) since 2000. In this role, Dr Asma provides leadership and scientific expertise to global tobacco research, surveillance, policy and program initiatives through a broad-level partnership with domestic, bilateral, governmental, and international agencies.

Dr Asma is a dentist, with a Doctor of Dental Surgery from Bangalore University, India. She received her Masters in Public Health from the University College London, UK. Prior to joining CDC, Dr Asma worked with the World Health Organization (WHO) on oral health and tobacco control initiatives.



Juliette Lee is an Epidemiologist with the Office on Smoking and Health, Centers for Disease Control and Prevention (CDC), Atlanta, Georgia. She works on international tobacco prevention and control programs, including the Global Tobacco Surveillance System (GTSS) school-based surveys. Juliette has worked on this project for nine years. She received her Masters in Public Health from the University of Alabama at Birmingham.



Veronica Lea works for Northrop Grumman as a contract Health Analyst for the Office on Smoking and Health, Centers for Disease Control and Prevention (CDC), Atlanta, Georgia. She works on international tobacco prevention and control programs, including the Global Tobacco Surveillance System (GTSS) school-based surveys. Veronica has worked on this project for six years. She received her Masters in Public Health from Tulane University.

Dr Judith Longstaff Mackay is a medical doctor based in Hong Kong. She is Senior Advisor to the World Lung Foundation; Senior Policy Advisor to the World Health Organization, and Director of the Asian Consultancy on Tobacco Control. She holds professorships at the Chinese Academy of Preventive Medicine in Beijing, and the Department of Community Medicine at the University of Hong Kong. She is a Fellow of the Royal Colleges of Physicians of Edinburgh and of London.

After an early career as a hospital physician, she moved to preventive and public health. Dr Mackay has received many international awards, including the WHO Commemorative Medal, Royal Awards from the Queen in the UK and from the King of Thailand, the Fries Prize for Improving Health, the Luther Terry Award for Outstanding Individual Leadership, the International Partnering for World Health Award, the Founding International Achievement Award from the Asia Pacific Association for the Control of Tobacco, and the Lifetime Achievement Award from the International Network of Women Against Tobacco. In 2007, she was selected as one of the TIME 100 World's Most Influential People. She has authored or co-authored several Myriad atlases: *The Tobacco Atlas*, *The State of Health Atlas*, *The Penguin Atlas of Human Sexual Behavior*, *The Atlas of Heart Disease and Stroke* and *The Cancer Atlas*.



GTSS Collaborating group

Centers for Disease Control and Prevention (CDC) -- Office on Smoking and Health

Office of the Director: Michael Eriksen, Elizabeth Majestic, Lawrence Green, Rosemarie Henson-Simpson, Corinne Husten, Matthew McKenna (Current Director), Lorna English (Current Deputy Director), Rachel Kaufmann, Dana Shelton.
Global Unit: Linda Anton, Samira Asma (Director), Scott Batchelor, Oksana Bilukha, Curtis Blanton, Michelle Carlberg, Ann Goding, Stephanie Hess, Lynn Hughley, Jason Hsia, Nathan R Jones, Danielle Kahn, Akiko Kizushi, Veronica Lea, Juliette Lee, Tracy Lee, Melissa Lewis, Cliff Loo, Kirsten McCall, Sara Mirza, Jeremy Morton, Brandon O'Hara, Xiaowu Lu, Lelia McKnight, Krishna M Palipudi, Stephanie Staras, Mark Tabladillo, Charles W Warren, Trevor Wollery, Leah Zinner.

Centers for Disease Control and Prevention (CDC)

Office of Global Health – Stephen Blount (Director).
National Centers for Chronic Disease Prevention and Health Promotion – Janet Collins (Director), Rosemarie Henson-Simpson (Deputy Director), Rick Hull.
Division of Adolescent and School Health – Laura Kann.

Canadian Public Health Association (CPHA)

James Chauvin, and Chris Rosene.

WHO – Tobacco Free Initiative (TFI)

TFI Directors: Douglas W Bettcher (Current Director), Derek Yach, Vera Costa de Silva, Yumiko Mochizuki-Kobayashi.
Headquarters: Heide Richter-Airijoki, Carmen Audera-Lopez, Daniel Ferrante, Theresa E P Musa, Sassan Noazin, Armando Peruga, Samir Pujari, Leanne Riley, Dehnan Swart, Leonard Mukenge Tshibaka, Edouard Tursan d'Espaignet, Ayda Yurekli.

African Region: Jean-Pierre Baptiste (Current Regional Advisor), M Belhocine, Tecla Butah, Rufaro Chatora, Joyce Nato, Karen Klimowski, Allel S Louazani, Charles Maringo, M Moeti, Phillip Nyahoda, Nivo Ramanandraibe, Boureima H Sambo, Lardja Sanwodou.

Region of the Americas: Adriana Blanco (Current Regional Advisor), Indira Badal, Beverley Barnett, Gayle Gollop, Armando Peruga, Heather Selin, Vera Costa de Silva, Maritza Rojas, Jaime Perez-Martin, Ana Luiza Curi Hallal, Eric Nawar, Kerstin Schotte, Renee Franklin-Peroune, Rosa Carolina Sandoval, Erica Tang, Roberta de Betania Caixeta.

Eastern Mediterranean Region: Fatimah el Awa (Current Regional Advisor), Nisreen Abdul-Latif, Heba Fouad.

European Region: Agis Tsouros (Current Regional Advisor), Haik Nikogosian, Paul Alexander, Ionela Petrea, Kerstin Schotte, Kristina Mauer-Stender.

South-East Asia Region: Khalil Rahman (Current Regional Advisor), Martha Osei, Sawat Ramaboot, Kamar Rezwan, Dharendra N Sinha.

Western Pacific Region: Susan Mercado (Current Regional Advisor), Harley Stanton, Burke Fishburn, Annette David, Ali Akbar, Jonathan Santos.

Country Research Coordinators by WHO Region

African Region: Djamel Zoughailech (Algeria); Nazaré Baptista Dos Santos, Luisa Paim, Helena Sequeira, Filomena Wilson (Angola); Victor Hounkonnou, Comlan Julien Toessi (Benin); Tebogo Maule, Gaesi Mophuting, Tudueto Ramokate, Eprhaim Rapalai (Botswana); Larda Theodore Kangoye, Mathias Some, Drabo Maxime, Vitalien Kpoda, Arouna Ouedraogo (Burkina Faso); Protais Baragasika, Thierry Gahungu (Burundi); Pascal Magloire Awono (Cameroun); Felisberto Moreira (Cape Verde); Côme Kamalo (Centrafrique); Ahmed Ouledi, Msaidie Mohamed (Comoros); Rosalie Likibi-Bobo (Congo); Aka Michel Yessoh, Pascal Bogui, N'guessan Kouame (Cote d'Ivoire); Asgodom Mosazghi (Eritrea); Sefanit Mengistu Gebreab, Abdurahman Abdo (Ethiopia); Alphonse Louma, Oyane Awa Jessica aoudou (Gabon); Cherno Jallow, Momodou Fatajo, Ebraima Manneh (Gambia); Edith Wellington, S O Sackey (Ghana); Manuel Nguema Ntutumu (Guinea Equatoriale); Mamadou Rafi Diallo (Guinée); Mario Fernando Dos Santos (Guinée-Bissau); Joyce Nato, Ezra Ouma Ogbwell, Monica A Okoth, David Mutonga (Kenya); Itumelleng Kimane, Maletela Tuoane, Makholu Lebaka (Lesotho); C Sanford Wesseh (Liberia); Jean-Pierre Rakotoniaina, Nivo Ramanandraibe (Madagascar); Maitre Mahamane Cisse, Abdoulaye Cisse, Nazoum Diarra (Mali); Patrick Kanyimbo, Adamson S Muula, John Kapito, Esther Chaswa, Andrew Ussi (Malawi); Maitre Mahamane Ibrahim Cisse, Nazoum Diarra, Abdoulaye Cisse (Mali); Elhadj Diop (Mauritania); Deowan Mohee (Mauritius); Augusto Nunes, Francisco Cabo, Jose L Adalima (Mozambique); Taimi Amaambo, Elizabeth Indongo, V Z Z Du Preez, Stanley Sinvula Mugambwa Maazuu Zauana (Namibia); Daga Magagi, Kaine Abdou-Aziz (Niger); Ima-Obong Ekanem (Nigeria); Mirundi Bilongo, Célestin Banza Lubaba, Rigobert Mbuyu Muteba Yambele (RDC); Frida Mokiti (Rep of Tanzania); Jay Bahumura, Jean Bosco Gasherebuka (Rwanda); Eduardo Ferreira Matos, Helena Costo Neto, Marta Maria Posser (Sao Tome & Principe); Ngozi Dana Ekundayo Kennedy (Sierra Leone); Cheikh Ibrahima Niang, Samba Cor Sarr, Lamine Mané Mohamadou, Malang Coly (Senegal); Bharathi Viswanathan, Pascal Bovet (Seychelles); Priscella Reddy, Dehnan Swart, Fred Koopman,

Shegs James (South Africa); Muhle Nimrid Dlamini, Africa Magongo, David Pritchard, Africa Magongo, Sydney Nkambule, Nokuthula Mahlalela (Swaziland); Frida T Mokiti (Tanzania); Mahamat Taher Ali, Egip Bolsane, Ganguenon G Donbe (TChad); Komi Adjoh, Ossen Tidjani, Abdou Gbadamassi, Gafarou A Gbadamassi (Togo); Lillian Mpabulungi, Frederick Musoke, Victoria N Mukasa (Uganda); Richard Zulu, Mbiko Msoni, Fastone Goma (Zambia); Pepukai Chikukwa, Christopher Zishiri, Edwin G V Sithole, Shungu Munyati (Zimbabwe).

Region of the Americas: Colin O’Keiffe, Joan A Moses (Antigua & Barbuda); Bruno Linetzky, Hugo A Miguez, Raul Pitarque, Ana Maria Tambussi (Argentina); Angela Albury, Collas Miller-Pinder, Carolyn Russell, Judith Scavella, Larrie Williams, Sherilee Rolle (Bahamas); Beverley D Barnett, Elaine M King, Peter Wickham, Sean Daniel, Ruchelle Roach, Serleen Harewood, Denise Carter Taylor, Jonathan Yearwood (Barbados); Kimani Avila, Englebert Emmanuel (Belize); Franklin Alcaraz del Castillo, Manuel Alejandro Vasquez Machaca (Bolivia); Luisa Goldfarb, Valeska Caralho Figueiredo, Adelemara Mattoso Allonzi, Leticia Casado Costa, Liz Maria de Almeida, Roberta de Betânia Caixeta (Brazil); Ivy George, Sheila L Samiel (British Virgin Islands); Luis Caris, Claudia Gonzalez Wedmaier, Alejandra Burgos Bizama, Lorena Hoffmeister (Chile); Carlos Jose Castro, Carolina Weisner Ceballos, Constanza Parda Ramos, Raul Murillo (Colombia); Zeidy Mata Azoifeifa, Julio Bejarano, Hubert Blanco, Hilda M^a Salzar Bolaños, Sandra F Chaves, Roy Wong M^cCluve, Anngelina Cesenjo Salazar (Costa Rica); Lucia Lances Cotilla, Jose Manuel Morales Rigau (Cuba); Jacinta Bannis, Joan Henry, Alestina James (Dominica); Raquel Pimentel, Ramon Jiménez Perez (Dominican Republic); Silvia Corella Ramirez, Patricio Jacome, Myriam Velez Gonzalez (Ecuador); Mario Ernesto Soriano Lima, Carmen Elena Moreno (El Salvador); A Alister Antoine, Hazelene Benjamin, Lydia Phillip (Grenada); Mirna Alicia Gracia, Irma Perez, Miguel Garces, Ana Garces, Delmy WZ Allarcon (Guatemala); Lucy Anderson, Renee Franklin-Peroune, Shradhanand Haviprshad, John Mensah, Marcia Paltoo, Preeta Saywack, Preet Singh (Guyana); Gilbert Jean Charles, Gerald Lerebours (Haiti); Maria Gertrudis, Erin Joel Matute Romero, Ramos Suazo (Honduras); Karen Prendergast, Ellen Grizzle (Jamaica); Maria J Hoy, Pablo Kuri-Morales, Raydel Valdes Salgado, Blanca Villa-Contreras, Jesus Felipe Gonzalez Roldan, Luz Myriam Reynales Shigematsu, Rosibel R Bolanos, Oswaldo Palma-Coca, Mauricio Hernandez Aliva (Mexico); Almae O’Garro (Montserrat); Pedro Lopez, Douglas Lopez Fernandez, Marcos Membreno Idiaquez, Silvia Narvaez Flores (Nicaragua); Reina G Roa (Panama); Graciela Gamarra de Caceres, Amaldo Vera Morinigo, Victor San Martin (Paraguay); Martínez Vargas, Alfonso Zavaleta (Peru); Milagros Sanchez (Puerto Rico); Petronella Edwards, William Turner, Hazel Williams-Roberts (Saint Kitts & Nevis); Patricia Joseph, Elvina Lawrence, Edward L Emmanuel, Cyprian Yarde, Sharon Belmar-George (Saint Lucia); Patsy Wyllie (Saint Vincent and the Grenadines); Manodj Hindori, Gerold Vliet, Kris Rambali, M Mangroo, Oscar Bhagwandin, Radjeshkoemar Ori (Suriname); Diane Renaud, Leo Alleyne, Nicole Cooper, Angelina Garcia (Trinidad & Tobago); Julia Sheen-Aaron, Sharon Williams (U S Virgin Islands); Raquel Magri, Gabriela Olivera, Winston Abascal, Ana Lorenzo, Julio Vignolo (Uruguay); Ricardo Granero, Ligia de Pinto, Natasha Herrera (Venezuela).

Eastern Mediterranean Region: Sayed Ali Shah Alawie (Afghanistan); Salah Ali Abdulrahman, Khadem Al-Halwaji, Maha El Mokhla, Maha Megla, Maha Al-Muqla (Bahrain); Samira Ali Higo, Abdulrahman Mohamed Abubaker (Djibouti); Nevein Moneir Dous, Samy Ghanem, Ehab Makram, Mohamed Mehrez Mostafa, Nargis Labib, Randa Abou El Naga (Egypt); Samah Eriqat, Salah Shaker Isa Soubani, Moein Al Kariry (Gaza Strip and West Bank); Ahmed Ali Bahaj, Ali Asghar Farshad, Hassan Azaripour Masooleh (Iran); Sameerah Maki Jasim Barto, Dilyara Barzani, Sarhang Jalal Saeed, Mohamed el Hasoni (Iraq); Mohammed Shreim, Heba Ayoub, Imam Al Jaghbeer, Malek Habashneh (Jordan); Sami Al Nasser (Kuwait); Georges Saade, Nagib Ghosn (Lebanon); Mohamed I Salah, Ahmed Buni, Mohamed Salah (Libya); Sanaa Cherqaoui, Nouredine Chaouki, Abdelkhalek Moujarrade, Ahmed Sabiri (Morocco); Sahar Abdou Helmy, Issa Al-Shuaili, Jawad Al-Lawati, Salah Al Muzahmi (Oman); Shahzad Alan Khan, Muhammad Najeeb Khan, Zulfiqar Khan, Muhammad Yaqoob Qureshi (Pakistan); Ahmad Moh’d Almulla, Ahmed Al-Ibrahim, Hamda Qotba (Qatar); Abdullah Ben Mohammed Al-Bedah, Abdulla Mohamed Al Rabeah, Riyadh M Alsughaier, Jamal Basahi (Saudi Arabia); Mohamed Hussien Abdi, Ali Sheikh Omar, Muse Yusuf Shirwae, Ali Sheikh Omaer Kabil, Mohamed Said Mohamed (Somalia); Ibrahim Abdelmageed Mohamed Ginawi, Ilham Abdalla Bashir, Mohamed I Ali Mohammed (Sudan); Bassam Abu Al Zahab (Syria); Mohamed Nabil Ben Sahem, Alya Mahjoub Zarrouk, Mohamed Mokdad, Mongi Hamrouni, Radhouane Fakhfakh (Tunisia); Jasim Kulaib, Bassam Abi Saab, Hala Haidar, Ayesha Al-Mutawa (United Arab Emirates); Ali Klader, Yassir Turki, Yousef Shahin (UNRWA); Tarek Salah Assad, Ahmed Ali-Bahaj, Mohammed Al Khawlani (Yemen).

European Region: Roland Shuperka (Albania); Alexander Bazarjyan (Armenia); Irina Zastenskaya (Belarus); Antoaneta Manolova (Bulgaria); Tanja Coric, Dijana Mayer, Hrvoje Vrazic, Nick Schneider (Croatia); Mary Economou, Ourania Kolokotroni, Elpidoforos Soteriades (Cyprus); Hana Sovinova (Czech Republic); Kadi Lepp, Krystiine Liiv (Estonia); Aida Ramic-Catak, Zivana Gavric, Darko Markovic (Bosnia & Herzegovina); Elena Kosevska (FYR Macedonia); Nana Nikolaishvili, Akaki Gamkrelidze (Georgia); Elpidoforos Soteriades, Anastasia Barbouni (Greece); Agnes Nemeth, Judit Kiss, Andrea Kelemen (Hungary); Kazbek Tulebaev, Alma Zhylkaidarova (Kazakhstan); Ivana Jovanovic, Naser Ramadani (United Nations

administered province of Kosovo); Aisha Tokobaeva (Kyrgyzstan); Iveta Pudule, Nikola Tilgale (Latvia); Antanas Gostautas, Aurelijus Veryga (Lithuania); Agima Ljaljevic (Montenegro); Krzysztof Przewoznjak, Witold Zatonski, Dorota Kaleta (Poland); Varfolomei Calmic (Republic of Moldova); Libija Dimitrijevic-Tanskovic, Djordje Stojilkovic, Andjelka Dzeletovic (Republic of Serbia); Ileana Mirestean, Feana Mirestean (Romania); Elena Skvortsova, Konstantine Vitalievich Vyshinsky, Irina Parfenova, Andrei Demine, Galina M Sakharova, Olga Zlatopolskaya, Oleg Storozhenko (Russian Federation); Tibor Baska (Slovakia); Mojca Juricic (Slovenia); Zulfiya Nisanbaeva (Tajikistan); Toker Erguder, Mesut Yildirim, Kemal Masit Hisar, Cengiz Karakaya, Banu Cakir (Turkey); Konstantin Krasovsky, Nadezhda Polka, Tatiana Andreeva, Nataliya Korol (Ukraine); Nargiza Mahkamova, Nodira Mamatova (Uzbekistan).

South East Asia Region: Zulfiqar Ali, Mizanur Rahman Mazumder, Jasmin Nahar, Mostafa Zaman, Sohel Choudhury (Bangladesh); Tshering Gyeltshen, Sonam Phuntsho, Palden Lepcha, Nima Yoezor (Bhutan); Choe Pok Nam, Ryu Tok, Su Kim Yong (DPR Korea); Nunik Kusumawardani (East Timor); Dinesh Bhatnagar, Dharendra Sinha, Prakash Gupta, Urmi Sen, Surendra Shastri, Vendhan Gajalakshmi, Monika Arora, Mira Aghi, Rameshwar Sharma, M Prakashamma, G Gururaj, Arun Chaturvedi, Sanjeev Misra, K V S Rao, Mihir Shah, Rajesh Dixit, R Thulasidasan, SK Jindal, Mangesh Pednekar, Vinayak M Prasad, Gupteshwar Singh, Niki Shrestha, Sukhvinder Kaur (India); Anhari Achadi, Tjandra Yoga Aditama, Budhi Antariksa, Julianty Pradono, Jan Speets, Elisna Syahrudin, Sonny Warouw (Indonesia); Ahmed Waheed, Maimoona Aboobakar, Hawwa Zahira Ahmed, Aishath Eenaz Ali (Maldives); Htay Aung, Nyo Nyo Kyaing (Myanmar); Padma Raj Dhungana, M R Pandey, Ramjee Pd Pathak, Hom Lal Shrestha, Nirakar Man Shrestha (Nepal); P W Gunasekera, Piyasena Samarakoon (Sri Lanka); Mondha Kenggnapanich, Nawarat Petcharoen, Silichai Phantana, Nithat Sirichotiratana, Pongari Srimoragot, Sirikul Vongsirisopak, Aree Suthiart, Chaweevan Waiyanate, Sawat Ramaboot (Thailand).

Western Pacific Region: Sivia Sunia (American Samoa); Sin Sovann, Sung Vin Tak (Cambodia); Jiangping Sun, Jiang Yuan, Yanwei Wu (China); Edwina Tangaroa (Cook Islands); Brenda Hadley Epenam, Mary Ann Eperiam (Federated States of Micronesia); Ifereimi Corerega, Ilisapeci Movono, Mosese Salusalu, Vasemaca L Naulumatua, Tharid Ali, Shalvindra Raj (Fiji); Francis Victor Epres, Joleen Almandres (Guam); Vivian Chan (Hong Kong); Jee Sun Ha, Ji Eun Yun (Korea); Khattanaphone Phandouangsy, Anothay Kongsayasak, Ketkeo Boupha, Khampone Insixiangmay, Vanphanom Sychareun (Laos); Uu Veng Ian, Leong Ka Wai, Chan Tan Mui (Macao SAR); Manimaran Krishnan (Malaysia); Marita Edwin (Marshall Islands); Dondog Jargalsaikhan, L Erdenebayar, Palam Enkhtuya, Tsogzolmaa Bayandorj, Galsandorj Batbaatar (Mongolia); Ingrid McDuff, Andrew Morehu Waa (New Zealand); Isamu Abraham, Kevin Villagomez (Northern Mariana Islands); Valerie Whipps, Annabel Lyman, Andrew Tabelual, Sylvia Matinag Andres, Debra Toribiong, Jessica Yaipupu (Palau); Jubal Agale, Jessica Yaipupu, James Wangi, Thomas Vinit (Papua New Guinea); Marina Miguel-Baquilod, Noel Juban (Philippines); Toaiva Lauano, Nancy MacDonald, Herbert Peters, Taumafaimolealii Poleka (Samoa); Chng Chee Yeong, Foo Ling Li, Kaven Cheong, Lam Sian Lian (Singapore); Josephine Watoto (Solomon Islands); Weigang Huang, Ping-Ling Chen (Taiwan); Amatsu Yibor (Togo); Teimana Avaniatele (Tuvalu); Winch Garae (Vanuatu); Phan Thi Hai, Nguuyen Viet Dung, Huyen Khanh Pham (Viet Nam).

CDC Foundation: Charles Stokes, William Parra, Michael Green, Nabil Issa, Brandon Talley, Verla Neslund.

Johns Hopkins Bloomberg School of Public Health: Jonathan Samet, Benjamin Apelberg.

Research Triangle Institute Support: Donn Smith, Mathew Bensen, Susan Davenport, Corinne Tefler-James, Lisa Thalji, Jay Levinsohn, Steve Litavec, Donna Medeiros.

University of North Carolina – Chapel Hill: William Kalsbeek, Michael Bowling.

Expert Consultants: Gary Giovino, Ron Borland, Prakash Gupta, Mostfa Mohammed, T K Roy.

Myriad Editions

Candida Lacey, Corinne Pearlman, Jannet King, Isabelle Lewis.

World Lung Foundation

Judith Mackay, Ellie Rampton, Stephen Hamil, Sandra Mullin, Yvette Chang.

Bloomberg Philanthropies: Thomas Frieden, Kelly Henning, Jennifer Ellis.

The GTSS Atlas was made possible by funding from Bloomberg Philanthropies.

Page:

19: Cormac Hanley / Getty Images
 25: Penny Tweedie / Getty Images
 26–27: Nathan Jones / CDC
 29: Nathan Jones / CDC
 31: Ziggy Kaluzny / Getty Images
 39: Sara Mizra / CDC
 41: Arkady Chubykin / iStockphoto
 44 (left): Lihee Avidan / Getty Images
 44 (middle): Dorling Kindersley / Getty Images
 44 (right): Penny Tweedie / Getty Images
 45 (left): Dario Mitidieri / Getty Images
 45 (right): Anneke Schram / iStockphoto
 47: World Lung Foundation
 53: Britt Erlanson / Getty Images
 55: Nathan Jones / CDC
 56: David De Lossy / Getty Images
 58: Joseph Justice / iStockphoto
 61: Dorling Kindersley / Getty Images
 63: Ron Hohenhaus / iStockphoto
 65: Nathan Jones / CDC
 67: Nathan Jones / CDC
 68 (top): Emre Ogan / iStockphoto
 68 (bottom): Wendell Franks / iStockphoto
 69 (top): Jose Luis Pelaez, Inc / Getty Images
 69 (bottom): Michael Hitosh / Getty Images
 71: Lihee Avidan / Getty Images
 72: Tetra Images / Getty Images
 75: Christopher Pillitz / Getty Images
 76: Luis Sierra / iStockphoto
 77: Krishna Palipudi / CDC
 79: Nathan Jones / CDC
 80: CDC
 83: Getty Images / Getty Images

CDC	Centers for Disease Control and Prevention
RC	Research Co-ordinator
GTSS	Global Tobacco Surveillance System
GYTS	Global Youth Tobacco Survey
GSPS	Global School Personnel Survey
GHPSS	Global Health Professions Student Survey
GATS	Global Adult Tobacco Survey
WHO	World Health Organization
RO	Regional Offices, WHO
AFR	African Region
AMR	Region of the Americas
EMR	Eastern Mediterranean Region
EUR	European Region
SEAR	South-East Asian Region
WPR	Western Pacific Region
CPHA	Canadian Public Health Association
FCTC	Framework Convention on Tobacco Control, WHO
MPOWER	2008 WHO publication with six key strategies M onitor tobacco use and prevention policies P rotect people from tobacco smoke O ffer help to quit tobacco use W arn about the dangers of tobacco E nforce bans on tobacco advertising, promotion and sponsorship R aise taxes on tobacco
SHS	Second-hand smoke
SFA	Smoke-free areas