スセンター報告. 地方衛生研究所全国協議会東海北陸支部微生物部会. 三重県、2013 年 3 月

36. 皆川洋子:平成24年度東海地区麻疹・風疹レファレンスセンター報告、平成24年度地方衛生研究所全国協議会東海・北陸支部微生物部会、鈴鹿市、2013年3月8日
37. 倉田貴子 他 大阪府内における2012年風疹患者発生状況 第60回日本ウイルス学会(大阪)2012
38. 庵原俊昭:感染症の診断と血清抗体価の測定. 第 22 回東海外来小児科学研究会. 2012 年 4 月、名古屋
39. 庵原俊昭:免疫学からみたワクチンの最前線. 第22回日本産婦人科・新生児血液学会. 2012 年 6 月、津
40. 渡辺俊平, 白銀勇太, 鈴木諭, 池亀聡, 古賀律子, 柳雄介. 麻疹ウイルスの神経病原性はウイルスの膜融合能によって規定される. 第60回日本ウイルス学会学術集会, 大阪, 11月15日, 平成24年.
41. 福原秀雄、橋口隆生、黒木喜美子、尾瀬農之、前仲勝実 機能および構造解析に向けた細胞表面蛋白質の調製法日本蛋白質科学会・ワークショップ、招待講演 愛知 2012.6
42. 武田森・福原秀雄・橋口隆生・柳雄介・竹田誠・Philipe Plattet・三尾和弘・佐藤主税・前仲勝実 犬ジステンパーウイルス F タンパク質の精製方法及び電子顕微鏡解析 、2nd Negative strand virus-Japan symposium、沖縄、2013 年 1 月
43. 東端将哲・福原秀雄・伊藤由梨・逢坂文那・齊藤貴士・児玉耕太・酒匂幸・梶川瑞穂・橋口隆生・竹田誠・柳雄介・尾瀬農之・前仲勝実 in silico スクリーニングによる麻疹ウイルス H タンパク質の侵入阻害化合物の探索 22nd Negative strand virus-Japan symposium、沖縄、2013 年 1 月

3. ウエブページからの情報提供

麻しん患者調査事業における麻しん患者報告状況

http://www.pref.aichi.jp/eiseiken/2f/msl/msl_2012.html(政令市を含む愛知県内医療機関から届出の翌開庁日中に掲載・更新)

4. マスメディアへの情報提供

・風疹の流行状況、予防接種について。中京テレビ「ニュースキャッチ」2012年8月7日放送

・風疹の流行について。名古屋テレビ「ドデスカ！」2012年9月10日放送

・風疹の流行状況、予防法等について。名古屋テレビ「ドデスカ！」クエスチョン枠。2012年10月10日放送

・「風疹 東海でも急増」讀賣新聞中部支。2012年10月10日付

・風疹の流行状況、予防法等について。名古屋テレビ「ドデスカ！」クエスチョン枠。2012年10月10日放送

・皆川洋子:風疹の流行状況、予防法等について。東海ラジオ放送 「安蒜豊三 夕焼けナビ」内「聴きナビ」コーナー 2012年10月15日放送

早期麻疹排除及び排除状態の維持に関する研究(H22-新興-一般-012)

平成24年度　第2回班会議
平成25年1月9日
竹田　誠

2000年	西太平洋地域:麻疹による推計死亡25,000人	汎アメリカ地域、ヨーロッパ地域　推計死亡0人
2001年	日本、推計20-30万人の大流行	
2003年	西太平洋地域委員会会議決議:R54.R3	国家的計画の策定、2回の麻疹ワクチン接種、サーベイランスや実験室診断の確立・強化
2004年	西太平洋地域事務局麻疹排除のためのガイドライン	'排除'へ向けた運用上の定義と指標(暫定基準)
2005年	西太平洋地域事務局:2012年排除目標を公式に発表	
2006年	日本、2回接種の導入	一回しか接種機会がなかったのは先進国では例外的
2007年	日本、成人例を多数含んだ全国的大流行	263の学校で休校(大学83、高校73)
2007年12月	麻しんに関する特定感染症予防指針(厚生労働省告示第445号)	
2007年	西太平洋地域:麻疹による推計死亡7,000人	
2008年		西太平洋地域:麻疹症例の97%以上が日本と中国から
	中高生への補足的ワクチン接種(3期、4期)	
	定点把握から全数報告へ	症例報告数11,015例
2009年		症例報告数739例
2010年9月	中国、9646万人(約1億人)の小児を対象とした麻疹ワクチン接種キャンペーンを実施	
2010年10月	西太平洋地域委員会決議:WPR/RC61.R7)	各国毎の麻疹排除検証の仕組みを整備

United Nations General Assembly 国連総会
18 September 2000
A/RES/55/2
United Nations Millennium Declaration

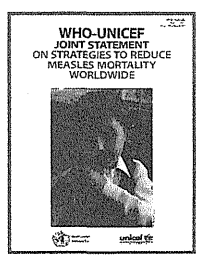
The United Nations set eight goals for development, called the Millennium Development Goals (MDGs). These goals set an ambitious agenda for improving the human condition by 2015.

Goal 4: Reduce child mortality
By 2015, reduce by two thirds the mortality rate among children under five

The main indicators for progress towards this goal are:
- Under-five mortality rate;
- Infant mortality rate;
- Proportion of 1-year-old children immunized against measles.

WHO/V&B/01.40
Distr.:General
UNICEF/PD/Measles/01
December 2001

MEASLES INITIATIVE



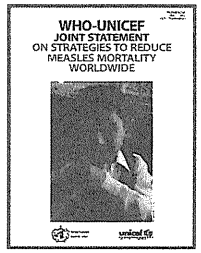
WHO-UNICEF Joint Statement on Strategies to Reduce Measles Mortality Worldwide
Strategies for achieving sustainable reduction of measles mortality

Goal
✔ Reduce the number of annual measles deaths by half by 2005.
1. Routine immunization — achieve >90% routine vaccination coverage (in each district and nationally) with at least one dose of measles vaccine administered at 9 months of age or shortly thereafter.
2. Second opportunity for measles vaccination — for all children through routine or supplemental activities.
3. Measles surveillance — establish effective surveillance for measles to report regularly the number, age and vaccination status of children contracting or dying from measles, to conduct outbreak investigations and to monitor immunization coverage.
4. Improve management of complicated cases — including vitamin A supplementation and adequate treatment of complications.

American Red Cross　CDC　unicef　World Health Organization　UNITED NATIONS FOUNDATION

WHO/V&B/01.40
Distr.:General
UNICEF/PD/Measles/01
December 2001

MEASLES INITIATIVE



WHO-UNICEF Joint Statement on Strategies to Reduce Measles Mortality Worldwide
Strategies for achieving and maintaining interruption of indigenous measles transmission

Goal

✔ Achieve and maintain interruption of indigenous measles transmission in large geographical areas.

1. Routine immunization — achieve very high (i.e. > 95%) immunization coverage (in each district and nationally) with the first dose of measles vaccine administered through routine services.
2. Second opportunity for measles vaccination — to maintain the number of susceptible population below the critical threshold for 'herd' immunity.
3. Measles surveillance — investigation and laboratory testing of all suspected measles cases (case-based surveillance). Isolation of measles virus should be attempted from all chains of transmission.
4. Improve management of complicated cases — including vitamin A supplementation and adequate treatment of complications.

American Red Cross CDC unicef World Health Organization UNITED NATIONS FOUNDATION

WHA56.20

2. REQUESTS the Director-General:
(1) to work with Member States through regional offices to strengthen national immunization programmes and disease-surveillance systems, using the status of measles control as one of the leading indicators of progress in reducing child mortality;
(2) to strengthen partnerships at global, regional and subregional levels with UNICEF and other international bodies, nongovernmental organizations and the private sector to mobilize the additional resources needed to implement fully the WHO-UNICEF strategy for the expanded programme on immunization and measles mortality-reduction strategies;
(3) to report to the Fifty-seventh World Health Assembly, through the Executive Board, on progress made in implementing this resolution.

World Health Organization

世界保健総会(World Health Assembly). WHOの最高意思決定機関であり、全加盟国で構成され、毎年1回5月にジュネーブにて開催される。

56th World Health Assembly
WHA56.20
28 May 2003
Reducing Global Measles Mortality

World Health Organization

1. URGES Member States:
(1) to implement fully the WHO-UNICEF strategic plan for measles mortality reduction 2001-2005 in countries with high measles mortality within their national immunization programmes;
(2) to provide the financial support necessary for full implementation of national immunization programmes in which the strategy to reduce measles mortality is embedded, including measles vaccine for routine and supplementary immunization activities and strengthening of epidemiological and laboratory surveillance for measles and other vaccine preventable diseases;
(3) to use the strategic approach of reducing global measles mortality as a tool for strengthening national immunization programmes, with special emphasis on improving access to immunization services, ensuring safe immunization practices, and enhancing human-resource capability, laboratory networks, epidemiological surveillance and cold-chain systems;

WHO Regional Committee for the Western Pacific
54th session
8-12 September 2003

World Health Organization Western Pacific Region

WPR/RC54.R3

Expanded programme on immunization: measles and hepatitis B

The Regional Committee,
- Mindful of the high burden of disease, disability, and deaths from vaccine-preventable diseases, especially measles and hepatitis B;
- Aware that this burden could be very significantly reduced by use of available vaccines that are safe, effective and inexpensive;
- Noting that in some countries there is a lack of laboratory capacity for confirmation of measles cases;
- Recalling resolution WHA56.20 on global reduction of measles mortality;
- Noting that 95% population immunity is essential to achieve measles elimination;
- Recognizing that some countries have made significant progress towards achieving this level of immunity;

Global Alliance on Vaccines and Immunization and other partners;
1. DECIDES that, in the Western Pacific Region, measles elimination and hepatitis B control should be the two new pillars to strengthen the EPI;
2. CONFIRMS that measles elimination should be a regional goal and that the establishment of a target date should be made at the earliest opportunity and should be based on an annual review of progress;
3. FURTHER CONFIRMS that the objective of hepatitis B control programmes should be HBsAg prevalence of less than 1% in five-year-olds born after hepatitis B immunization started;
4. ENDORSES the Western Pacific Regional Plan of Action for Measles Elimination and the Western Pacific Regional Plan to Improve Hepatitis B Control through Immunization;

Global Alliance on Vaccines and Immunization and other partners;
6. REQUESTS the Regional Director:
(1) to further strengthen technical cooperation with Member States, in particular the improvement of immunization coverage and surveillance, including strengthening laboratory capacity in the Region, in order to achieve measles elimination and to improve hepatitis B control;
(2) to seek the additional resources required to support these activities;
(3) to report on progress regularly to the Regional Committee and to propose a target date for regional measles elimination in due course.

Global Alliance on Vaccines and Immunization and other partners;
5. URGES Member States:
(1) to develop or strengthen national plans for measles elimination and hepatitis B control as part of overall plans for immunization services;
(2) to use measles elimination and hepatitis B control strategies to strengthen EPI and other public health programmes, such as prevention of congenital rubella syndrome;
(3) to offer, in principle, all children two doses of measles vaccine, taking into account local situations, so that the 95% population immunity of each birth cohort can be achieved and maintained in every district;
(4) to develop or strengthen measles surveillance systems and laboratory confirmation of cases;
(5) to ensure that at least 80% (ideally 95%) of each birth cohort in every district receives three doses of hepatitis B vaccine by the age of 12 months, except in countries where a highrisk approach (i.e. immunization for babies of carrier mothers) has been shown to be effective;
(6) to improve the quality of routinely reported immunization coverage data and to monitor both immunization (including timely scheduled birth dose of hepatitis B vaccine, i.e. within 24 hours of birth) and disease data at district level in order to improve programme management;

WHO WPRO
Field Guidelines for Measles Elimination
2004

The Western Pacific Region is now moving towards measles elimination. These guidelines provide guidance for countries to implement the Western Pacific Regional Plan of Action for Measles Elimination as urged by the 2003 Regional Committee Meeting resolution (R54.R3).

GLOSSARY
Measles elimination is a dynamic situation in a large and well-populated geographical area where endemic measles transmission does not occur and where importation of measles virus does not result in sustained transmission. All isolated cases and chains of transmission should be linked to importations.
To maintain elimination, high population immunity must be maintained through appropriate measles immunization.

3.1 Operational definition and indicators for 'elimination'

Interim criteria are proposed for an operational definition that a country or area has achieved elimination (see Glossary). Regional experience may lead to modifications of these definitions when the target date for regional elimination is set. The following interim criteria are proposed:

(1) less than one confirmed measles case reported per million population per year (excluding imported cases) – not applicable in countries with less than one million population;

(2) excellent surveillance with comprehensive reporting and investigation of all fever and rash cases and chains of transmission, as demonstrated by:

(a) at least one suspected measles case reported per 100 000 population per year in at least 80% of districts (or equivalent, as used for AFP surveillance);

(b) serum samples adequate for detecting measles IgM collected in at least 80% of suspected measles cases (excluding from the denominator cases that are epidemiologically linked to a laboratory-confirmed case); and

(c) viral isolate obtained from every confirmed chain of transmission (for genotyping to help identify source of virus); and

(3) maintaining 95% immunity to measles in each cohort in every district, as demonstrated by:

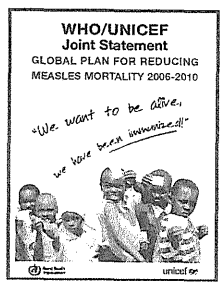
(a) at least 95% coverage with two doses of measles-containing vaccine; and

(b) importations lead only to small outbreaks (< 100 cases, < three months duration).

The key issue is having adequate quality surveillance, as otherwise measles transmission may not be detected (see *Surveillance*, Section 5).

WHO/IVB/05.11 and UNICEF/PD/Measles/05.01
January 2006

WHO/UNICEF Joint Statement
Global Plan for Reducing Measles Mortality 2006-2010



The WHO/UNICEF global plan focuses on 47 priority countries that account for approximately 98% of global measles deaths.

Goals

Across countries and continents, the success of the measles mortality reduction strategy demonstrates that the strategy works and that by the end of 2005 priority countries can cut measles deaths in half. Building on this achievement, the global goal now is to reduce annual global measles deaths by 90% by 2010 from 2000 estimates. In 2000, the UN Millennium Summit set a goal to reduce the under-five mortality rate by two-thirds, between 1990 and 2015. Routine measles vaccination coverage is used as an indicator and measles mortality reduction is an important step towards achieving this goal.

MEASLES INITIATIVE

American Red Cross CDC unicef World Health Organization UNITED NATIONS FOUNDATION

WPR/RC56.R8
23 September 2005

World Health Organization Western Pacific Region

Resolution

Measles Elimination, Hepatitis B Control and Poliomyelitis Eradication

1. DECIDES that the Region should aim by 2012:
   (1) to eliminate measles;
   (2) to reduce the seroprevalence of HbsAg to less than 2% in five year-old children as an interim milestone towards the final regional goal of less than 1% HbsAg;
2. URGES Member States:
   (1) to develop or strengthen national plans for measles elimination and hepatitis B control, as part of comprehensive multi-year plans for immunization services to enable achievement of the twin regional goals;
   (2) to regularly monitor the implementation of activities under measles elimination and hepatitis B control plans;
   (3) to maintain polio-free status by sustaining high-quality acute flaccid paralysis surveillance and high immunization coverage of polio vaccines;
3. REQUESTS the Regional Director:
   (1) to further strengthen technical cooperation with Member States and seek the additional resources required to support country and area activities to achieve the measles elimination and hepatitis B control goals;
   (2) to report regularly to the Regional Committee on progress towards measles elimination and hepatitis B control.

事 務 連 絡
平成21年1月15日

麻しんの検査診断体制の整備について

日頃より、感染症発生動向調査事業に対し、ご理解ご協力を賜り厚く御礼申し上げます。さて、麻しんの届出については、感染症の予防及び感染症の患者に対する医療に関する法律（平成10年10月2日法律第114号）の一部改正に伴い、平成20年1月1日より国内で発生したすべての症例を把握することとなり、昨年一年間に11，005人の患者数を報告いただきましたが、そのうち検査診断による届出は、約35%と非常に少ない状況です。

麻しんに関する特定感染症予防指針（平成19年12月28日厚生労働省告示第442号）においては、麻しん患者の発生数が一定数以下になった場合、原則としてすべての発生例を検査診断することとしており、本年度以降、研修会等を開催し、地方衛生研究所の検査体制の強化を図っているところです。

つきましては、麻しん排除に向けた対策のより一層の推進のため、麻しん患者との接触歴が明らかではない第1例は確実に検査診断し、また、二次感染以降の患者についても、各自治体の実状に応じて可能な限り検査診断を実施する体制を整備していただけますよう、貴管内の保健所及び医療機関に周知方よろしくお願いいたします。
ご参考までに、病原体検出マニュアル「麻しん検査マニュアル（第2版）」及び「麻しん排除に向けた積極的疫学調査ガイドライン（第2版）」を添付しますのでご活用ください。

厚生労働省

WER 84, 349–360
28 August 2009

World Health Organization

Measles vaccines: WHO position paper

In accordance with its mandate to provide guidance to Member States on health policy matters, WHO issues a series of regularly updated position papers on vaccines and combinations of vaccines against diseases that have an international impact on public health. These papers, which are concerned primarily with the use of vaccines in large-scale immunization programmes, summarize essential background information on diseases and vaccines, and conclude with the current WHO position concerning their use in the global context. The papers have been reviewed by a number of experts within and outside WHO, and since 2006 have been reviewed and endorsed by WHO's Strategic Advisory Group of Experts on immunization. The position papers are designed for use mainly by national public health officials and managers of immunization programmes. However, they may also be of interest to international funding agencies, the vaccine manufacturing industry, the medical community, scientific media and the public.

○麻しんに関する特定感染症予防指針

第三 発生の予防及びまん延の防止
三 予防接種法に基づく予防接種の一層の充実
1 中学一年生と高校三年生に相当する年齢の者（麻しん及び風しんに既に罹患したことが確実な者及びそれぞれの予防接種を二回接種した者を除く。）を時限的に追加するものとする。

第六 国際的な連携
二 国際機関で定める目標の達成
世界保健機関においては、二回の予防接種において、それぞれの接種率が九十五％以上となることの達成を目標に掲げているほか、世界保健機関西太平洋地域事務局においては、平成二十四年（二千十二年）には同地域から麻しんの排除を達成することを目標に掲げており、我が国も本指針に基づき、麻しん対策の充実を図ることにより、その目標の達成に向けて取り組むものとする。
第七 評価及び推進体制の確立
二 麻しん対策委員会の設置

厚生労働省

○麻しんに関する特定感染症予防指針
（平成十九年十二月二十八日）
（厚生労働省告示第四百四十二号）

厚生労働省

世界保健機関西太平洋地域事務局は、平成二十四年（二千十二年）までに麻しんの排除（国外で感染した者が国内で発症する場合を除き、麻しんの診断例が一年間に人口百万人当たり一例未満であり、かつ、ウイルスの伝播が継続しない状態にあることをいう。以下同じ。）を達成するという目標を掲げており、我が国を含め、世界保健機関西太平洋地域事務局管内の各国は、目標の達成に向けた対策を求められているところである。

本指針はこのような状況を受け、平成二十四年度までに麻しんを排除し、かつ、その後も排除状態を維持することを目標とし、そのために、国、地方公共団体、医療関係者、教育関係者等が連携して取り組んでいくべき施策についての新たな方向性を示したものである。

第二 原因の究明
二 麻しんの発生動向の調査及び対策の実施
国内で発生したすべての症例を把握するものとする。
三 麻しんの届出基準
当面は臨床での診断をもって届出の判断材料とすることを継続するが、検査室での診断を行った場合には、その結果についても保健所に報告を求めるものとする。麻しん患者の発生数が一定数以下になった場合には、原則として検査室での診断で麻しんと診断した症例のみの報告を求めるものとする。

WPR/RC61.R7
14 October 2010

World Health Organization Western Pacific Region

Resolution
Vaccine Preventable Diseases: Measles Elimination, Hepatitis B Control, and Poliomyelitis Eradication

1. REAFFIRMS the 2012 measles elimination goal and the hepatitis B control goal and milestone, and the maintenance of poliomyelitis-free status;
2. URGES Member States:
   (1) to commit the human and financial resources necessary to achieve and sustain the measles elimination and hepatitis B control goals, and to maintain poliomyelitis-free status;
   (2) to develop and implement workplans to ensure high immunization coverage against measles, hepatitis B and poliomyelitis, and sensitive and timely epidemiologic and laboratory surveillance to achieve measles elimination and maintain poliomyelitis-free status;
   (3) to report measles and poliomyelitis, and where feasible rubella, surveillance data to the Regional Office in a regular and timely manner;
   (4) to establish an independent national verification process for measles elimination following the establishment by the WHO Regional Office for the Western Pacific of standardized regional verification mechanisms;
   (5) to accelerate control of rubella and the prevention of congenital rubella syndrome;
   (6) to vigorously implement all activities to maintain poliomyelitis-free status;

3. REQUESTS the Regional Director:
   (1) to establish regional verification mechanisms for measles elimination;
   (2) to strengthen technical cooperation with Member States to achieve regional immunization goals;
   (3) to seek additional resources to achieve regional goals utilizing frequent interagency coordination committee meetings and other mechanisms;
   (4) to report progress periodically to the Regional Committee.

World Health Organization
Western Pacific Region

厚生労働省

健感発1111第2号
平成22年11月11日

麻しんの検査診断について

麻しん対策については、「麻しんに関する特定感染症予防指針」に基づき、平成24年までに麻しんを排除することを目標として取り組んでおり、その一環として、平成21年1月15日付け厚生労働省健康局結核感染症課事務連絡「麻しんの検査診断体制の整備について」により、麻しん患者の検査診断の実施に関する体制整備をお願いしているところです。

さて、麻しん患者の報告の約6割が「IgM抗体検査」による検査診断に基づいておりますが、麻しんの「IgM抗体検査」は、麻しん以外の発疹性ウイルス疾患に罹患している場合にも陽性になることがあると指摘されています。このため、麻しんの確定診断には、遺伝子検査(RT-PCR法)を含めた精度の高い検査を実施していく必要があります。

麻しん患者の報告数は、平成20年11,015件、平成21年741件、本年396件(第40週まで)と顕著に減少しており、麻しん排除に向けた取り組みを進めるためにも、麻しんの正確な診断が一層重要となっています。

このような状況を踏まえ、第6回麻しん対策推進会議(平成22年11月1日開催)において、麻しん患者と診断された患者の検体を可能な限り確保し、遺伝子検査を推進すべきとの提言がなされました。
今後は、地方衛生研究所及び保健所等が連携して、麻しん患者の、発症早期の検体(咽頭ぬぐい液、血液、尿)を可能な限り確保し、遺伝子検査を実施するとともに、別添を参考に、管内の医療機関に、感染症法に基づく麻しん患者の発生の届出と併せて、患者の検体の提出を依頼するようお願いいたします。

なお、都道府県等が行う当該遺伝子検査は、感染症法第15条に基づく積極的疫学調査の一環として行うことができるものであり、感染症発生動向調査事業の国庫補助の対象となります。

WER 85, 489–496
3 December 2010
Monitoring Progress Towards Measles Elimination

World Health Organization

Definitions / Indicators for monitoring progress towards measles elimination / Targets suggestive of having achieved measles elimination (WHO)

Definition	Definition	Definition
Measles elimination: The absence of *endemic measles transmission* in a defined geographical area for ≧12 months in the presence of a high-quality surveillance system	*An endemic measles case:* a case of measles confirmed by laboratory testing or epidemiological linkage resulting from endemic transmission of measles virus	*Endemic measles transmission:* the existence of continuous transmission of indigenous or imported measles virus that persists for ≧12 months in any defined geographical area
	An imported case of measles: a case with virological or epidemiological evidence, or both, of exposure outside the region or country during the 7-21 days prior to rash onset	
	A measles case related to importation: a locally acquired infection occurring as part of a chain of transmission originated by an imported case as supported by epidemiological or virological evidence, or both. (If transmission of measles cases related to importation persists for ≧12 months, cases are no longer considered to be import-related: they are considered to be endemic.)	

A minimum set of recommended core indicators and targets to verify the quality of a surveillance system		
Indicators	Targets	Definition
Reporting rate:	At the national level, a rate of ≧2 *discarded measles cases*/100 000 population per year. In addition, ≧2 *discarded measles case* should be reported annually per 100 000 population in ≧80% of subnational administrative units	*Discarded measles case:* a case that meets the clinical case definition for measles and that has been investigated and discarded as a non-measles case using (a) laboratory testing in a proficient laboratory or (b) epidemiological linkage to an outbreak that has been confirmed by a laboratory not to be measles
Laboratory confirmation	*Specimens adequate for detecting acute measles infection* should be collected from ≧80% of *suspected cases* and tested in a proficient laboratory. (Any clinical cases of measles that are not tested by a laboratory and are (a) confirmed as measles by epidemiological linkage or (b) discarded as non-measles by epidemiological linkage to laboratory-confirmed case of another communicable disease or by epidemiological linkage to a case negative for measles IgM should be excluded from the denominator of suspected cases.)	*Suspected case:* any case under investigation with fever and maculopapular rash and any of the following: cough, coryza or conjunctivitis or any case for which a clinician suspects measles infection *Adequate samples* for serology are those collected within 28 days after rash onset that consist of ≧0.5ml serum of ≧3 fully filled circles of dried blood on a filter-paper, or oral fluid. For oral fluid samples, the sponge-collection device should be rubbed for about 1 minute along the gum until the device is thoroughly wet.
Viral detection:	*Samples adequate for detecting measles virus* should be collected from ≧80% of laboratory-confirmed *outbreaks* and tested in an accredited laboratory.	*Outbreak:* ≧2 confirmed cases are temporally related (with dates of rash onset occurring between 7 and 21 days apart) and are epidemiologically or virologically linked, or both. *Adequate samples:* for virus isolation, adequate throat or urine samples are those collected within 5 days after rash onset. For virus detection using molecular techniques, adequate throat samples are those collected ≦14 days after rash onset, and adequate oral fluid samples are those collected ≦21 days after rash onset
Adequacy of investigation:	At a minimum, ≧80% of all suspected measles cases should have had *an adequate investigation* initiated within 48 hours of notification.	*An adequate investigation* includes at a minimum collection of all of the following data from each suspected case of measles: name or identifiers, place of residence, place of infection (at least to district level), age (or date of birth), sex, date of rash onset, date of specimen collection, vaccination status, date of last vaccination, date of notification and date of investigation (excluding cases that are either confirmed as measles by epidemiological linkage or discarded as non-measles by being epidemiologically linked to another laboratory-confirmed case of communicable disease or by epidemiological linkage to a case negative for measles [illegible]

The 2 basic measures for monitoring progress towards elimination of measles		
	Targets	Definition
Vaccine coverage	Achieving and maintaining ≧95% coverage annually with both MCV1 and MCV2 in all districts, or their administrative equivalent, and nationally	
Incidence	An incidence of <1 measles case confirmed by laboratory or epidemiological linkage (excluding clinically compatible and imported cases) per 1 000 000 population (Incidence per 1 000 000 population should be determined only for confirmed measles cases (i.e. either laboratory confirmed or confirmed by epidemiological linkage) that result from transmission within the country; this incidence measure excludes *clinically compatible* and imported cases.)	*A clinically compatible measles case:* a case that meets the clinical case definition for measles but for which no adequate blood specimen was taken and which has not been linked epidemiologically to another case positive for measles IgM or another laboratory-confirmed communicable disease

The achievement of individual surveillance indicators, or coverage or incidence levels, does not mean elimination has been achieved, but rather that all of the information on the quality of surveillance and measures for monitoring progress need to be reviewed and a judgment made after all the evidence has been considered

Reference: WHO WER (2010) 85, 489-496

WER 85, 489–496
3 December 2010
Monitoring Progress Towards Measles Elimination

World Health Organization

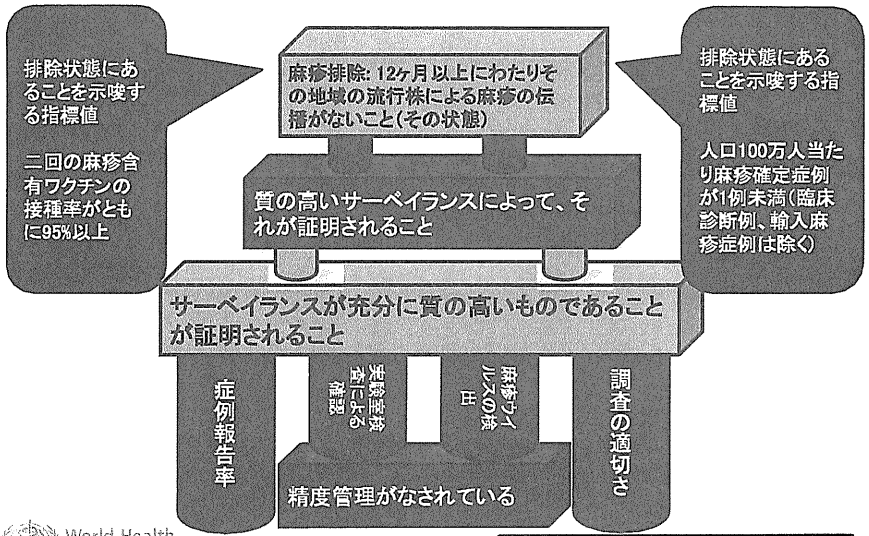
Definitions

2. Measles elimination: the absence of endemic measles transmission in a defined geographical area (e.g. region) for ≥12 months in the presence of a well performing surveillance system.

In areas where incidence is low the following target has been proposed as a measure of near elimination: an incidence of <1 measles case confirmed by laboratory or epidemiological linkage (excluding clinically compatible and imported cases) per 1 000 000 population; the numerator is total number of measles cases confirmed by laboratory or epidemiological linkage, excluding imported cases.

WHO(2010年): 麻疹排除へ向けての進展モニタリング

定義、サーベイランスの指標と目標値、ならびにモニタリングの手段

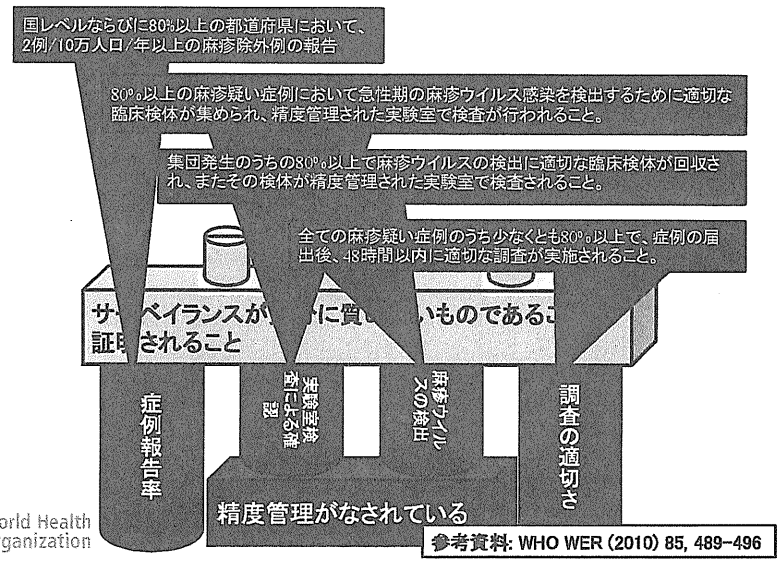


World Health Organization

参考資料: WHO WER (2010) 85, 489–496

WHO(2010年): 麻疹排除へ向けての進展モニタリング

定義、サーベイランスの指標と目標値、ならびにモニタリングの手段



World Health Organization

参考資料: WHO WER (2010) 85, 489–496

		基準値(目標値)	オーストラリア	カナダ	イングランドとウェールズ	メキシコ	韓国	アメリカ合衆国
			参考資料4	参考資料10	参考資料7	参考資料5、6	参考資料2、3	参考資料8、9
排除について公表年			2009年	2004年	2003年	2000年	2007年	2000年
排除達成の時期			2005年	1998年	1995年	1997年	2002年	1997年
症例数	輸入例を除く確定症例数	人口100万人当たり1未満	達成年あり	達成年あり	達成年あり	達成	達成	達成
サーベイランスの質を示すための基準	麻疹除外症例の報告数	人口10万人あたり2以上	未達成	約17–22	約4.4	約10	達成	達成
	48時間以内の適切な調査	80%以上の麻疹疑い症例で	記載なし	記載なし	記載なし	達成	達成	記載なし
	適切な検査検体の採取	80%以上の麻疹疑い症例で	記載なし	記載なし	記載なし	達成	達成	記載なし
	ウイルスの検出に適切な検体の採取	80%以上の流行において	記載なし	記載なし	未達成	記載なし	達成	記載なし
高い免疫保有率	2回のワクチン接種率	95%以上	達成	1回のワクチンで95%以上	未達成	達成	達成	少なくとも1回のワクチンで95%以上
	地域性の流行株について	存在しないこと	達成	達成	達成	報告なし?	達成	達成

主参考資料: Heywood et al. (2009) Bull World Health Organ 87:64–71

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WER 86, 301–316
15 July 2011

World Health Organization

Rubella vaccines: WHO position paper

In accordance with its mandate to provide guidance to Member States on health policy matters, WHO issues a series of regularly updated position papers on vaccines and combinations of vaccines against diseases that have an international public health impact. These papers are concerned primarily with the use of vaccines in large-scale immunization programmes; they summarize essential background information on diseases and vaccines, and conclude with the current WHO position on the use of vaccines worldwide. The papers have been reviewed by external experts and WHO staff, and since 2006 they have been reviewed and endorsed by the WHO Strategic Advisory Group of Experts (SAGE) on Immunization. The position papers are designed to be used mainly by national public health officials and managers of immunization programmes. They may also be of interest to international funding agencies, vaccine manufacturers, the medical community, the scientific media and the public.

技術顧問グループ(TAG)からのRecommendations(助言)

WPR/RC61.R7決議の則りRegional verification commission (RVC)(麻しん排除の達成状況を検証する地域委員会)を立ち上げること。国ごとに排除の進展状況が大きくことなるので、RVCの役割とは、排除達成の成否を検証することのみではなく、排除へ向けての活動の評価を含めること。麻疹の排除の検証においてはさまざまな種類のエビデンスを考慮に入れること。

TAGとしては、「一年以上、土着の株による流行がないこと」という麻疹排除の定義に賛同し、支持する。しかしながら、人口100万人当たり1例未満を達成することは、(輸入例、輸入関連症例がその数を上回る可能性を考慮し)必ずしも必要ではないと考える。

各国は流行実態をさらに明らかにするため、サーベイランスや症例調査のさらなる向上を目指すこと(ウイルス学的検査のサンプル収集(咽頭拭い液など)を含む)。各症例の適切な分類(判断)をサポートするためのExpert Review Committee(専門家審議委員会)を立ち上げるのもよい。

World Health Organization Western Pacific Region

第20回WHO西太平洋地域(WPR)予防接種およびワクチンで予防可能疾患に関する技術顧問会議

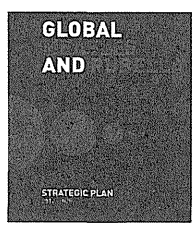
20th Meeting of the Technical Advisory Group (TAG) on Immunization and Vaccine Preventable Diseases in the Western Pacific Region

2011年8月9～12日、フィリピン、マニラ

年1回開催される。ポリオ・麻疹・ジフテリア・百日咳・破傷風・結核の6種類のEPI (Expanded Program on Immunization)ワクチンに加えて、地域で問題になるB型肝炎・日本脳炎などのWPRにおける感染症の発生状況の推移、対策としてのワクチンプログラムが有効に機能しているかなどについて各国が発表し意見交換を行い、さらなる対策について技術顧問会議がWHOに対し助言を行うものである。IASR 2011年9月号 岡部信彦

World Health Organization Western Pacific Region

Global Measles and Rubella Strategic Plan 2012–2020
24 April 2012



GOALS

By end 2015

- Reduce global measles mortality by at least 95% compared with 2000 estimates.
- Achieve regional measles and rubella/CRS elimination goals.

By end 2020

- Achieve measles and rubella elimination in at least five WHO regions.

MEASLES & RUBELLA INITIATIVE

American Red Cross CDC unicef World Health Organization UNITED NATIONS FOUNDATION

MILESTONES

By end 2015

- Reduce annual measles incidence to less than five cases per million and maintain that level.
- Achieve at least 90% coverage with the first routine dose of measles-containing vaccine (or measles- rubella-containing vaccine as appropriate) nationally, and exceed 80% vaccination coverage in every district or equivalent administrative unit.
- Achieve at least 95% coverage with M, MR or MMR during supplementary immunization activities (SIAs) in every district.
- Establish a rubella/CRS elimination goal in at least three additional WHO regions.
- Establish a target date for the global eradication of measles.

By end 2020

- **Sustain the achievement of the 2015 goals.**
- **Achieve at least 95% coverage with both the first and second routine doses of measles vaccine (or measles- rubella-containing vaccine as appropriate) in each district and nationally.**
- **Establish a target date for the global eradication of rubella and CRS.**

MEASLES & RUBELLA INITIATIVE

65th World Health Assembly
WHA65.17
26 May 2012
Global Vaccine Action Plan

DECADE of VACCINES COLLABORATION

1. **ENDORSES the Global Vaccine Action Plan;**

2. URGES Members States:
   (1) **to apply the vision and the strategies of the Global Vaccine Action Plan in order to develop the vaccines and immunization components of their national health strategy and plans**, paying particular attention to improving performance of the Expanded Programme on Immunization, and according to the epidemiological situation in their respective countries;
   (2) to commit themselves to allocating adequate human and financial resources **to achieve the immunization goals and other relevant key milestones;**
   (3) to report every year to the regional committees during a dedicated Decade of Vaccines session, on lessons learnt, progress made, remaining challenges and updated actions to reach the national immunization targets;

World Health Organization

65th World Health Assembly
A65/22
11 May 2012
Draft Global Vaccine Action Plan

World Health Organization

DECADE of VACCINES COLLABORATION

SUMMARY OF RECOMMENDED INDICATORS

Goal-level indicators

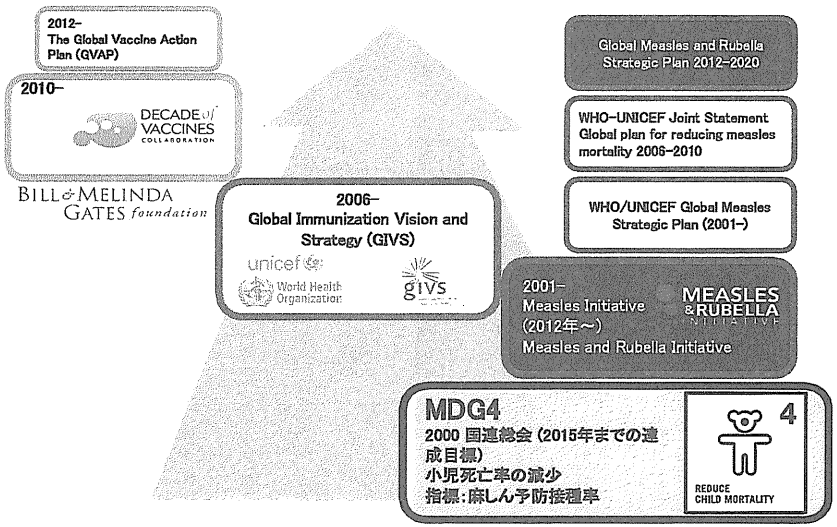
Goal	By 2015	By 2020
Achieve a world free of poliomyelitis	• Interrupt wild poliovirus transmission globally	• Certification of poliomyelitis eradication
Meet global and regional elimination targets	• Neonatal tetanus eliminated in all WHO regions • Measles eliminated in at least four WHO regions • Rubella/congenital rubella syndrome eliminated in at least two WHO regions	• Measles and rubella eliminated in at least five WHO regions

WHA65.17

3. REQUESTS the Director-General:
   (1) to foster alignment and coordination of global immunization efforts by all stakeholders in support of the implementation of the Global Vaccine Action Plan;
   (2) to ensure that the support provided to the Global Vaccine Action Plan's implementation at regional and country level includes a strong focus on strengthening routine immunization;
   (3) to identify human and financial resources for the provision of technical support in order to implement the national plans of the Global Vaccine Action Plan and monitor their impact;
   (4) to mobilize more financial resources in order to support implementation of the Global Vaccine Action Plan in low-income and middle-income countries;
   (5) to monitor progress and report annually, through the Executive Board, to the Health Assembly, until the Seventy-first World Health Assembly, on progress towards achievement of global immunization targets, as a substantive agenda item, using the proposed accountability framework to guide discussions and future actions.

World Health Organization

麻しん排除計画の世界的背景と行動計画



21st Meeting of the Technical Advisory Meeting (TAG) on Immunization and Vaccine Preventable Diseases (VPD) in the Western Pacific Region (WPR)
Manila, 21–23 August 2012

Measles Elimination and Rubella Control

Conclusions

The Regional Committee in its 2005 meeting endorsed the year of 2012 as the target year of measles elimination in the Western Pacific Region. All countries and areas in the Region have made tremendous efforts to achieve and sustain measles elimination. As a result, the Region is making rapid and remarkable progress and now is on the verge of eliminating measles. However, some critical challenges remain to interrupt endemic transmission eventually in all countries and areas, requiring greater political commitment and resources and intensified efforts.

The TAG acknowledges the good progress made in the Region towards establishing the regional verification mechanisms for measles elimination, including criteria, indicators, structure and processes.

World Health Organization Western Pacific Region

Recommendations

The TAG reaffirms the critical importance, based on the 2009 WHO measles vaccine position paper.
The TAG urges all countries and areas to assess their measles surveillance performance by province and district, to plan activities to address existing surveillance gaps and to improve sensitivity and specificity of surveillance, emphasizing case detection and notification, in-depth case investigation, sample collection for serology and virus identification (blood and swab), and proper case classification.

The TAG advises that every country and area should comprehensively describe every measles case and the affected community, including social-economic and service delivery details, to help guide a decision on rational outbreak control interventions.

The TAG recommends all countries to implement the 2010 TAG recommendation calling for establishment of Expert Review Committees (ERC) whenever possible, while clear instruction should be developed to ensure ERC functions properly.

World Health Organization Western Pacific Region

Recommendations

The TAG emphasizes that regular risk assessment, adequate preparedness and response to measles outbreak (caused by either endemic or imported measles virus) are critical for all countries and areas to achieve and sustain measles elimination.

The TAG suggests countries and areas to synergize measles elimination and rubella control activities, through using measles and rubella combination vaccines and integrating measles and rubella surveillance whenever possible.

The TAG acknowledges the efforts of the WHO measles and rubella laboratory network to support the regional goal. It encourages network laboratories with pending accreditation status to be accredited as soon as possible and high performance level of all network laboratories to be maintained.

World Health Organization Western Pacific Region

麻しんに関する特定感染症予防指針の改正案の概要

（注）現行の指針では、麻しんの排除の定義を「国外で感染した者が国内で発症する場合を除き、麻しんの診断例が一年間に人口百万人当たり一例未満であり、かつ、ウイルスの伝播が継続しない状態にあること」とし、平成24年度を排除目標年度としているが、その後、遺伝子検査技術の普及により土着株と輸入株との鑑別が可能となったこと等を踏まえ、平成24年に世界保健機関西太平洋地域事務局より新たな定義として「適切なサーベイランス制度の下、土着株による感染が1年以上確認されないこと」が示され、また、麻しん排除達成の認定基準として「適切なサーベイランス制度の下、土着株による感染が3年間確認されず、また遺伝子型解析により、そのことが示唆されること」が示された。同機関は、現在、西太平洋地域の37の国及び地域のうち、我が国を含めすでに32の国及び地域で土着株の流行が無くなっている可能性があることを表明しており、同機関による排除認定作業が行われている。

厚生労働省

DefinitionsのRegion毎の不一致

	Measles Elimination
WER	the absence of endemic measles transmission in a defined geographical area (e.g., region) for ≥12 months in the presence of a well performing surveillance system
PAHO	interruption of endemic measles virus transmission in all the countries of the Americas for a period >12 months, in the presence of high-quality surveillance
WPRO	Same as WER article as of today. Notes: some experts proposed to use 36 m instead of 12 m to avoid confusion due to a time difference between this definition and verification criteria.
EURO	The absence of endemic measles or rubella cases in a defined geographical area for a period of at least 12 months or more, in the presence of a well-performing surveillance system. Regional elimination can be declared after 36 or more months of the absence of endemic measles or rubella in all Member States.
EMRO	At country level: The absence of endemic measles transmission at the country level for a period of at least 12 months or more, in the presence of a well-performing surveillance system. In EMR: The absence of endemic measles transmission at the EMR level for a period of at least 12 months or more, in the presence of a well-performing surveillance system.

麻しんに関する特定感染症予防指針の改正案の概要

○ 目標 ：平成27年度までに麻しんの排除を達成。世界保健機関による麻しんの排除の認定を受け、その後も麻しんの排除の状態を維持する。
○ 届出・検査・相談体制の充実 ：原則として診断後24時間以内の臨床診断としての届出、血清IgM抗体検査等の血清抗体価の測定の実施及びウイルス遺伝子検査用の検体の提出を求め、必要時には届出の取り下げを求めることとする。可能な限り、国立感染症研究所及び地方衛生研究所において、遺伝子配列の解析を行う。都道府県等は、麻しん対策の会議を設置した上で、地域における施策の進ちょく状況を評価する。必要に応じて、関係団体と連携して、麻しんの診断等に関する助言を行うアドバイザー制度の設置を検討する。
○ 第1期及び第2期の定期接種の接種率目標(95%以上)の達成・維持
○ 第3期及び第4期の定期接種の時限措置の終了と今後の新たな対策 ：時限措置は当初の予定どおり平成24年度をもって終了し、今後は、麻しん患者が一例でも発生した場合に、積極的疫学調査の実施や、周囲の感受性者に対して予防接種を推奨することも含めた対応を強化することが必要である。
○ 国際貢献 ：国際保健水準の向上に貢献するのみならず、海外で感染し、国内で発症する患者の発生を予防することにも寄与する。そのため、国は、世界保健機関等と連携しながら、国際的な麻しん対策の取組に積極的に関与する。
○ 排除認定会議の設置 ：国は、麻しんが排除・維持されているかを判定し、世界保健機関に報告する排除認定会議を設置する。

厚生労働省

DefinitionsのRegion毎の不一致

	Suspected case of measles
WER	any case under investigation with fever and maculopapular rash (i.e., non-vesicular) and any of the following cough, coryza (i.e., runny nose) or conjunctivitis (i.e., red eyes) or any case in whom a clinician suspects measles infection
PAHO	A patient in whom a health-care worker suspects measles or rubella infection or a patient with fever and maculopapular rash.
WPRO	Same as WER article
EURO	A person with signs and symptoms consistent with measles clinical criteria: ・fever and ・maculopapular rash and ・cough or coryza (runny nose) or conjunctivitis (red eyes)
EMRO	A patient in whom a health care worker suspects measles or rubella infection or a patient with fever, maculopapular rash, and either a cough, coryza, or conjunctivitis. Countries with a different case definition should follow the case definition as defined by the country.

DefinitionsのRegion毎の不一致

	Epidemiologically-linked confirmed measles case
WER	a clinical case of measles that has not been confirmed by a laboratory but that was geographically and temporally related (with dates of rash onset occurring between 7 and 21 days apart) to a laboratory-confirmed case or (in the event of an outbreak) to another epidemiologically confirmed measles case
PAHO	A suspected measles or rubella case that has positive laboratory results or is epidemiologically linked to a laboratory-confirmed case.
WPRO	Same as WER article
EURO	A person with signs and symptoms consistent with measles clinical criteria, who has not been adequately tested by laboratory, and who was in contact with a laboratory-confirmed case 7-18 days before the onset of symptoms.
EMRO	A case epidemiologically linked to a laboratory confirmed case.

WHO Strategic Advisory Group of Experts (SAGE) on Immunization
6-8 November 2012
予防接種に関する戦略諮問委員会(Strategic Advisory Group of Experts on Immunization: SAGE)は、ワクチンの研究開発から予防接種の配分に至るまでの事項を取り上げて、WHO 事務局長に報告する。

Framework for Verifying Elimination of Measles and Rubella
SAGE Working Group on Measles and Rubella
(Draft of 18 October 2012)

Definitions for verifying measles and rubella elimination

Measles elimination: the absence of endemic measles transmission in a defined geographical area (e.g., region or country) for ≥12 months in the presence of a well performing surveillance system.

Note: verification of measles elimination takes place after 36 months of interrupted measles virus transmission.

Endemic measles or rubella virus transmission: the existence of continuous transmission of indigenous or imported measles virus or rubella virus that persists for ≥12 months in any defined geographical area.

Endemic measles or rubella case: laboratory or epidemiologically-linked confirmed cases of measles or rubella resulting from endemic transmission of measles or rubella virus.

Epidemiologically linked confirmed measles case: a clinically-compatible case of measles that has not been confirmed by a laboratory but that was geographically and temporally related (with dates of rash onset occurring between 7 and 21 days apart) to a laboratory-confirmed case or (in the event of a chain of transmission) to another epidemiologically confirmed measles case

Measles or rubella outbreak in an elimination setting: a single laboratory confirmed case.

Suspected case of measles or rubella: a patient in whom a health-care worker suspects measles or rubella infection or a patient with fever and maculopapular (non-vesicular) rash.

Laboratory confirmed measles case or rubella case: a clinically-compatible case of measles or rubella that has been confirmed by a proficient laboratory.

Note: a proficient laboratory is one that is WHO accredited and/or has an established quality assurance programme.

Non-measles non-rubella discarded case: a suspected case that has been investigated and discarded as a non-measles and non-rubella case using (a) laboratory testing in a proficient laboratory or (b) epidemiological linkage to a laboratory-confirmed outbreak of another communicable disease that is neither measles nor rubella.

Criteria for verifying elimination

Three criteria for verifying elimination are recommended based on experience with assessing measles and rubella elimination in the Region of the Americas. They are:

1. documenting the interruption of endemic measles, or rubella, virus transmission for a period of at least 36 months from the last known endemic case
2. the presence of a high-quality surveillance system that is sensitive and specific enough to detect imported and import-related cases, and
3. genotyping evidence supporting interruption of endemic transmission.

All 3 criteria are necessary to verify elimination at the regional level. As some small countries may not have genotyping information prior to interruption of endemic transmission, this criterion is not an absolute requirement for determining if elimination has been achieved at the country level.

World Health Organization

Surveillance indicators

Viral detection: Proportion of laboratory-confirmed chains of transmission with samples adequate for detecting measles or rubella virus collected and tested in an accredited laboratory (Target: ≥80%). The numerator is the number of chains of transmission for which adequate samples have been submitted for viral detection and the denominator is the number of chains of transmission identified.

Note: Where possible, samples should be collected from 5–10 cases early in a chain of transmission and every 2–3 months thereafter if transmission continues. For virus isolation, adequate throat or urine samples are those collected within 5 days after rash onset. For virus detection using molecular techniques, adequate throat samples are those collected up to 14 days after rash onset, and adequate oral fluid samples are those collected up to 21 days after rash onset.

World Health Organization

Surveillance indicators

Reporting rate of discarded nonmeasles non-rubella cases: Reporting rate of discarded non-measles non-rubella cases at the national level (Target: ≥2 cases per 100 000 population per year)

Laboratory confirmation: Proportion of suspected cases with adequate specimens for detecting acute measles or rubella infection collected and tested in a proficient laboratory (Target: >80%). Any suspected cases of measles that are not tested by a laboratory and are (a) confirmed as measles by epidemiological linkage or (b) discarded as non-measles by epidemiological linkage to another laboratory confirmed communicable disease case should be excluded from the denominator of suspected cases.

Note: Adequate specimens are: blood sample, minimum of 0.5 ml; dried blood sample, at least 3 fully filled circles on filter paper collection device; oral fluid, sponge collection device should be rubbed along the gum until the device is thoroughly wet (this usually takes one minute). Adequate samples for serology are those collected within 28 days after rash onset.

Note: a proficient laboratory is one that is WHO accredited and/or has an established quality assurance programme

World Health Organization

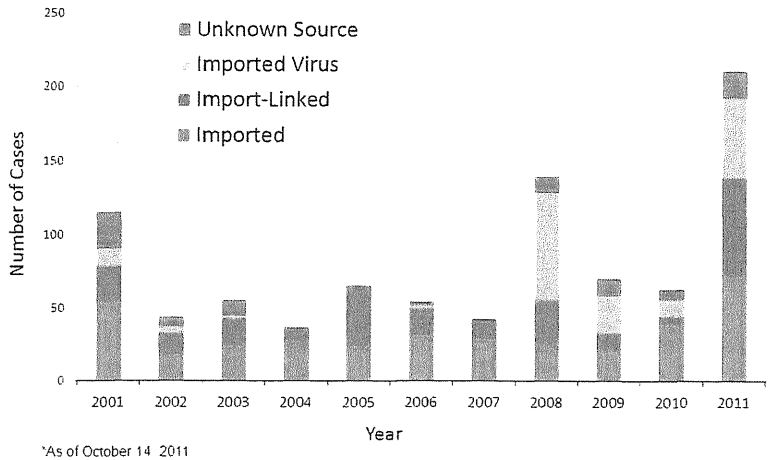
Documentation and Verification of Measles, Rubella and Congenital Rubella Syndrome Elimination in the Region of the Americas

United States National Report, March 28, 2012

Table 1: Import Status of US Measles Cases by Year, 2001-2011

Year	All Cases	Imported			Import-Linked	Imported-Virus	Unknown Source	Import Associated
		Total	Non Res	US Res				
2001	116	54 (47%)	34	20	25(22%)	12 (10%)	25 (22%)	91 (78%)
2002	44	18 (41%)	8	10	15 (34%)	4 (9%)	7 (16%)	37 (84%)
2003	56	24 (43%)	13	11	19 (34%)	2 (4%)	11 (20%)	45 (80%)
2004	37	27 (73%)	13	14	6 (16%)	0 (0%)	4 (11%)	33 (89%)
2005	66	24 (36%)	7	17	38 (56%)	0 (0%)	4 (6%)	62 (94%)
2006	55	31 (56%)	12	19	19 (35%)	2 (4%)	3 (5%)	52 (95%)
2007	43	29 (67%)	12	17	12 (28%)	0 (0%)	2 (5%)	41 (95%)
2008	140	25 (18%)	13	12	31 (22%)	73 (52%)	11 (8%)	129 (92%)
2009	71	21 (30%)	7	14	12 (17%)	26 (37%)	12 (17%)	59 (83%)
2010	64	39 (61%)	15	24	5 (8%)	12 (19%)	8 (13%)	56 (88%)
2011	212	72 (34%)	20	52	67 (32%)	54 (25%)	19 (9%)	193 (91%)
Total	904	364 (40%)	154	210	249 (28%)	185 (20%)	106 (12%)	798 (88%)

Figure 3. Measles Cases by Import Status
United States, 2001-2011*



*As of October 14 2011

Table 2: Unknown Source Cases by County by Year 2001-2011,
Counties with >1 Unknown Source Case

State	County	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011*	County total
AR	Scott								2				2
CA	Los Angeles	5	1						1	1	1		9
CA	San Francisco	2			2								4
CA	Orange		2						1				3
CA	Marin	2											2
HI	Honolulu	1		5									6
MA	Middlesex											5	5
MA	Suffolk											2	2
MA	Worcester											2	2
MI	Wayne			1				1					2
MO	Warren									6			6
MO	Green										3		3
NY	New York	2				1							3
NY	Bronx				1				1				2
OR	Washington	2											2
PA	Allegheny	1					1		1				3
WA	Island	2											2
	Year Total	17	3	6	3	1	1	1	6	7	4	9	58

Figure 7. Measles Chains of Transmission
Proportion by Chain Length, United States 1997- 2011

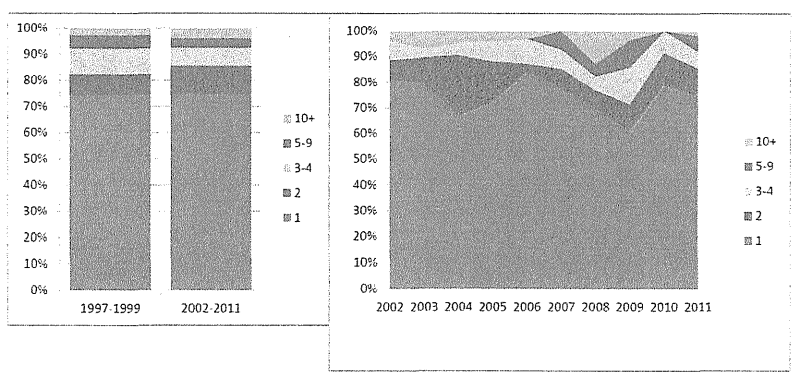
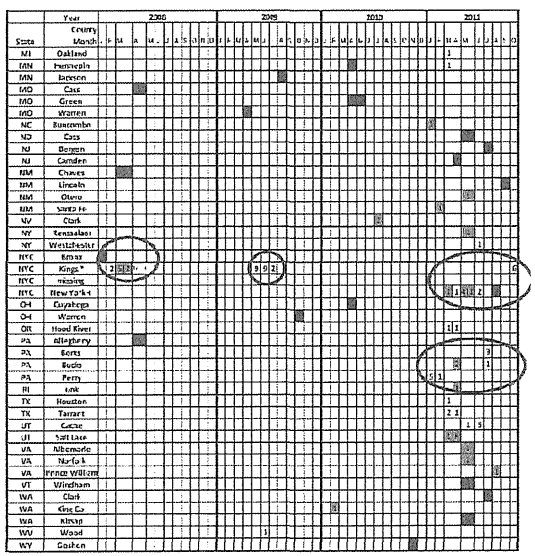


Table 3: Summary of Measles Outbreaks by Year, 2001-2011

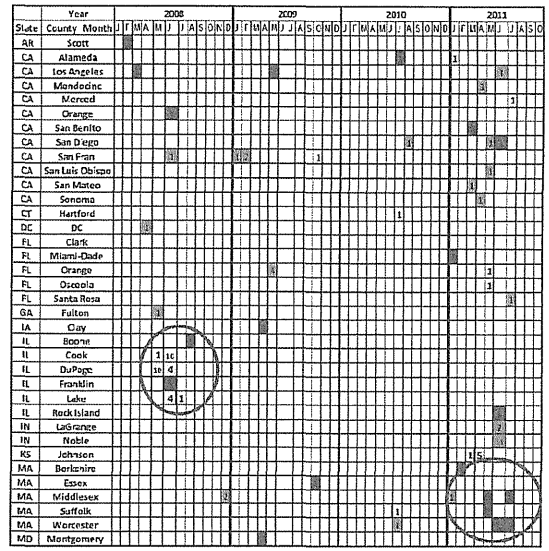
Year	Measles cases #	Cases associated with outbreaks	Outbreaks #	Outbreak Size Median (max)
2001	116	57 (49%)	10	4 (14)
2002	44	19 (43%)	3	3 (13)
2003	56	27 (48%)	3	11 (13)
2004	37	13 (35%)	2	6.5 (10)
2005	66	40 (61%)	3	18.5 (34)
2006	55	26 (47%)	4	3 (17)
2007	43	18 (42%)	4	4 (7)
2008	140	108 (77%)	7	14 (30)
2009	71	48 (68%)	8	5 (15)
2010	63	14 (22%)	4	3.5 (4)
2011	212	106 (50%)	16	5.5 (21)

Table 6 (cont.): Measles Cases with D4 Genotype and Unknown Sources Cases, 2008-2011



Imported-virus Case D4 Genotype
Imported Case D4 Genotype

Table 6: Measles Cases with D4 Genotype and Unknown Sources Cases, 2008-2011



Imported-virus Case D4 Genotype
Imported Case D4 Genotype

Measles Elimination (Definition)

Measles elimination: the absence of endemic measles transmission in a defined geographical area (e.g., region or country) for ≥12 months in the presence of a well performing surveillance system.

麻疹ウイルスの
遺伝子型別都道府県別検出状況

島田智恵
国立感染症研究所感染症情報センター

方法

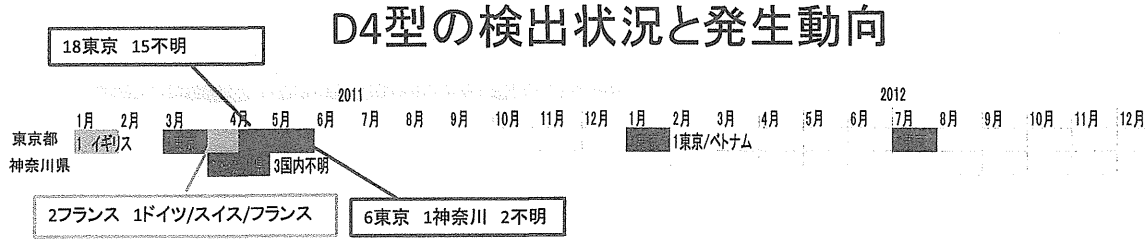
- 2009～2012年(12月26日現在の第51週まで)の下記のデータに基づき、麻疹ウイルスの遺伝子型別都道府県別検出状況を検討した。
  - 麻疹ウイルス分離・検出報告状況
  - 感染症発生動向調査へ麻疹の報告例および取下げ例

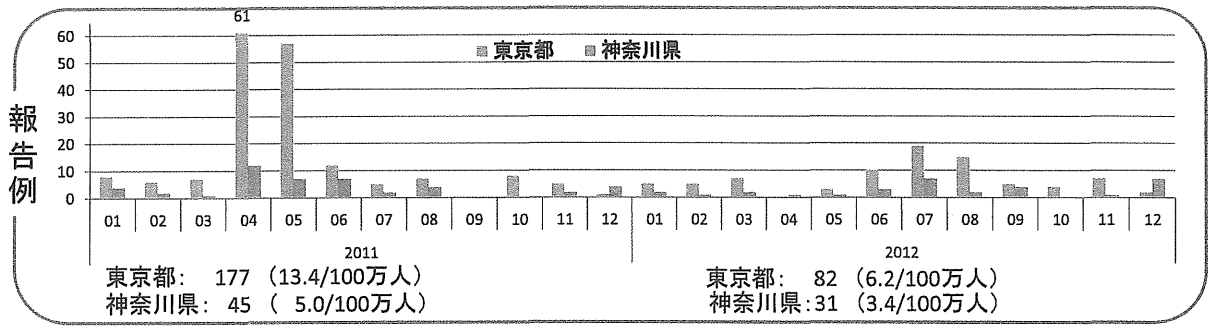
各遺伝子型別都道府県別検出状況
（別紙参照）

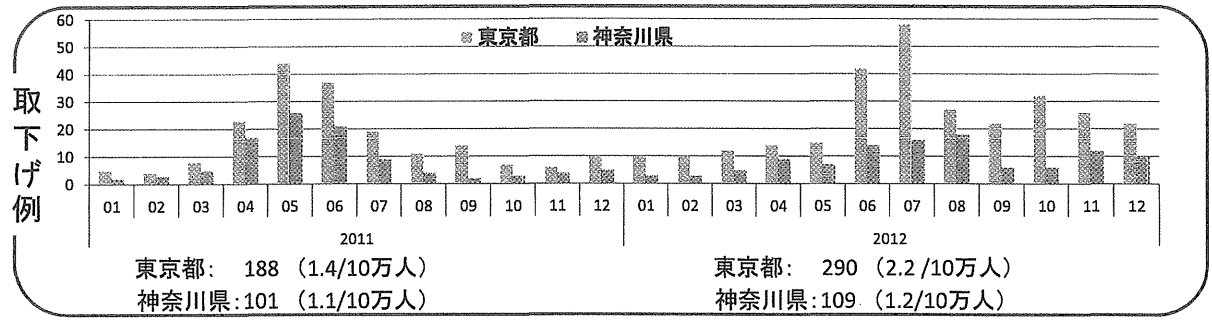
- D4（n=66）
- D5（n=4）
- D8（n=53）
- D9（n=78）
- G3（n=2）
- H1（n=8）

D4型、D9型の解釈は？

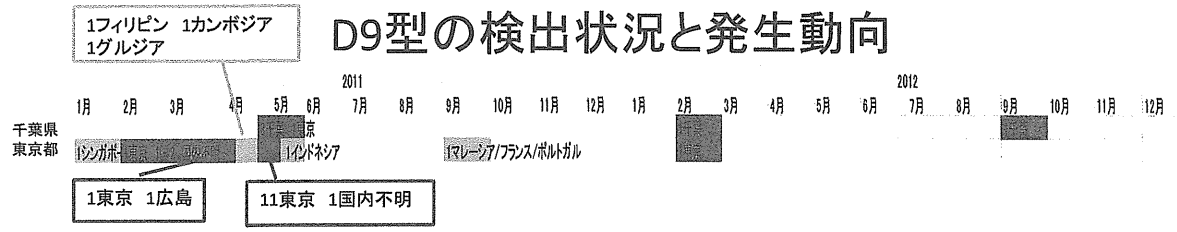
D4型の検出状況と発生動向

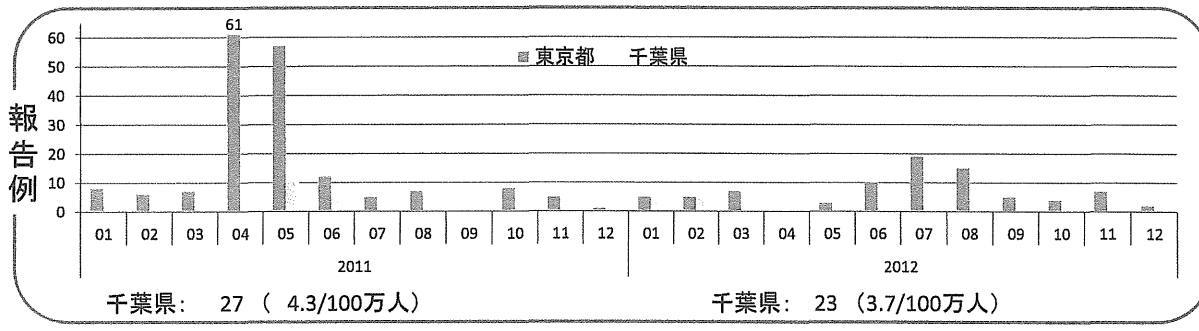


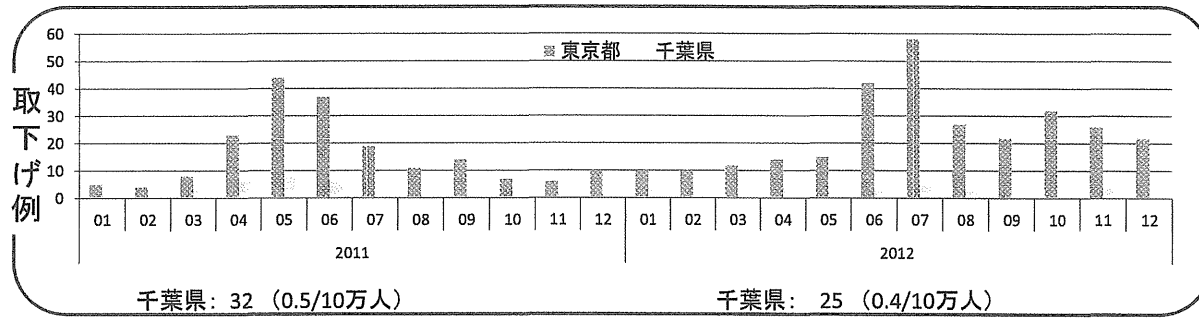




D9型の検出状況と発生動向







より適切に判断するために・・・

- 系統樹と合わせた解釈
- 検査診断の判断・解釈へのアドバイス（自治体の仕組みとしての）
- 積極的疫学調査の徹底

謝辞

- 感染症発生動向調査（病原体・症例）に関わった全ての届出医・保健所・地衛研・自治体の皆様および積極的疫学調査にご協力いただいた皆様に深謝いたします。