STATE IMMUNIZATION UPDATE

Pejman Talebian, Director
Immunization Division
Massachusetts Department of Public Health

October 17, 2019 | MIAP Pediatric Immunization Skills Building Conference

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Disclosure

- I, Pejman Talebian, have been asked to disclose any significant relationships with commercial entities that are either providing financial support for this program or whose products or services are mentioned during my presentations.
  - I have no relationships to disclose.
- I may discuss the use of vaccines in a manner not approved by the U.S. Food and Drug Administration.
  - But in accordance with ACIP recommendations.

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Vaccine Management Updates

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Vaccine Supply

- 2019-2020 influenza vaccine is available for sites to order.
- Massachusetts is fully universal for all routinely recommended ACIP vaccines.
  - MDPH supplies Men B vaccine for high risk children 10-18 years of age and VFC eligible patients 16-18 years of age regardless of risk.
  - Full and part-time students, 18 and under, that attend one of the schools in the Five College Consortium are no longer considered high risk.
- Sites should be aware that many vaccine manufacturers are transitioning to only offering pre-filled syringes. Pre-filled syringes take up more space, and sites should ensure that storage units are not overfilled.

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Hepatitis B Vaccine Shortage

- There is still a national shortage for pediatric Hep B vaccine.
- Supply has increased enough to allow DPH to approve additional orders of vaccine on a case by case basis.
  - Supplies still not adequate to support transitioning back to a full Pentacel DTaP-primary series
- Shortage is anticipated to last into 2020.

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Vaccine Storage and Handling

- In 2020, the Vaccine Management Unit will begin re-evaluating non-state-supplied digital data loggers to ensure they meet the most up to date standards set by the CDC. Those standards include but are not limited to:
  - Primary and Back-up coordinators should always have access to the current, minimum and maximum temperature.
  - The report should easily identify alarms, the duration of the alarm and current, minimum, and maximum temperatures.
  - In addition, data logger reports should be able to be uploaded into the MIIS as a .pdf.
- Please look out for updates in Vaccine Management Monthly Updates.

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Massachusetts Immunization Information System (MIIS) Status

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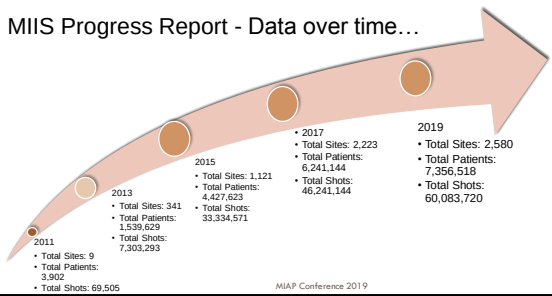
MIIS Progress Report - Data over time…



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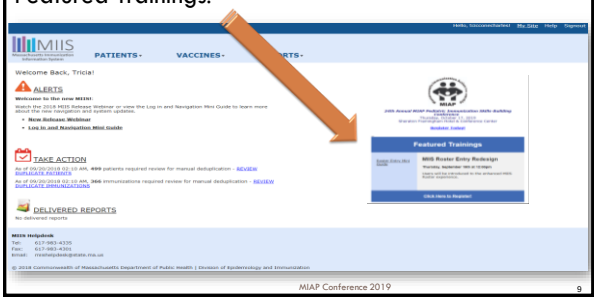
Featured Trainings!



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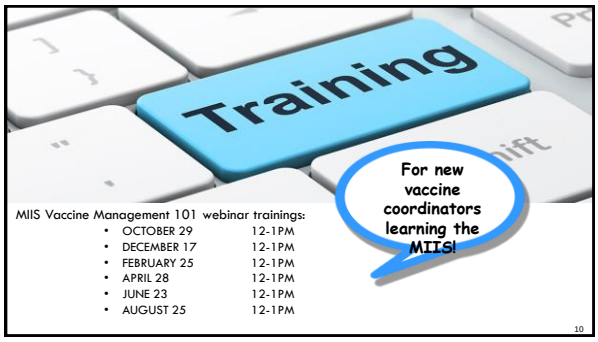

MIIS Vaccine Management 101 webinar trainings:

- OCTOBER 29 12-1PM
- DECEMBER 17 12-1PM
- FEBRUARY 25 12-1PM
- APRIL 28 12-1PM
- JUNE 23 12-1PM
- AUGUST 25 12-1PM

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Current Status of Vaccine Preventable Diseases

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Vaccine-Preventable Diseases in Massachusetts*, 2009 to Date

Disease	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 YTD
Measles	2	3	24	0	1	8	0	1	0	2	3
Mumps	15	9	4	6	71	5	6	258	192	44	49
Rubella	1	0	0	1	0	0	0	0	1	0	0
Meningococcal	14	8	14	6	11	11	12	11	11	21	9
Pertussis	361	296	280	653	348	298	253	198	383	259	169
Hib < 5	1	1	0	2	1	1	0	1	2	1	0
Hepatitis A	70	50	40	43	46	43	35	64	53	371	159
Hepatitis B (Acute)	43	42	68	61	42	36	34	32	52	47	24
Tetanus	0	0	0	0	0	0	0	0	0	0	1
Diphtheria	0	0	0	0	0	0	0	0	0	0	0
Polio	0	0	0	0	0	0	0	0	0	0	0
Pneumococcal Disease < 5	81	72	40	51	24	27	20	31	21	26	15
Varicella	1415	770	606	627	475	469	356	290	382	291	229

No cases of Polio or Diphtheria.

Data are current as of October 10, 2019 and are subject to change.

*Both confirmed and probable cases are reported for measles, mumps, rubella, tetanus, and varicella to reflect the true burden of disease. All other diseases confirmed cases only.

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Measles in Massachusetts 2019

- **Three confirmed cases as of 10/10/19**
  - 161 cases investigated (usually 40-50 cases to date)
- All had recent travel
- **Hundreds of people exposed** in medical and other settings
- Enormous post-exposure efforts to identify susceptibles and vaccinate (or refer for immune globulin)
- Dozens of people quarantined

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Measles in the US 2019

- From January 1 to October 3rd, **1,250** individual cases of measles have been confirmed in **31** states.
- This is the greatest number of cases reported in the U.S. since 1992 and since measles was declared eliminated in 2000.
- The majority of cases are among people who were not vaccinated against measles.
- More than 75% of the cases this year were linked to outbreaks in New York.

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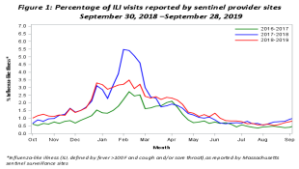
Influenza Season 2018 - 2015

- H1N1 predominant nationally for the season but influenza A(H3) viruses were more commonly reported starting in late February.
- A longer season than usual (remained above baseline 24 weeks) but not as severe as last season.



- Four pediatric flu-related deaths in MA
- 136 pediatric deaths nationally (9/28/19)

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Immunization Coverage

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Estimated Vaccination Coverage with Individual Vaccines Among Children by 24 Months of Age in MA, NIS

	2015 Birth Year	2016 Birth Year	Percentage Point Difference
4+ DTaP	88%	88%	+0.1
3+ Polio	97%	98%	+0.8
1+ MMR	96%	97%	+0.8
Hib-FS	93%	90%	-2.9
3+ Hep B	95%	97%	+1.3
HepB birth dose	72%	78%	+5.9
1+ Varicella	95%	96%	+0.4
4+ PCV	91%	92%	+1.0
2+ HepA	86%	84%	-2.1
Rotavirus	82%	91%	+8.8
2+ Influenza	76%	84%	+8.1
4:3:1:3*:3:1:4	80%	81%	+0.9

NIS Data, CDC

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Seasonal Influenza Vaccination Rates in Massachusetts by Age, 2018-19 Influenza Season, July 2018– May 2019

	MA	US	Ranking
Everyone 6 mos+	**59% (+9.2)***	**49% (+7.5)***	**2**
Children 6 mos – 17 years	**81% (+7.3)***	**63% (+4.7)***	**1**
• Children 6 mos – 4 years	88% (+12.2)*	73% (+5.6)*	1
• Children 5 – 12 years	82% (+7.4)*	64% (+4.1)*	1
• Children 13 – 17 years	76% (+3.2)	52% (+4.8)*	1
Adults 18+	**54% (+9.8)***	**45% (+8.2)***	**2**
• Adults 18 – 64 years	48% (+8.2)*	39% (+7.9)*	2
• Adults HR 18- 64 years	55% (+8.3)*	48% (+9.1)*	8
• Adults 50 – 64 years	54% (+8.5)*	47% (+7.6)*	5
• Adults 65+	72% (+14.6)*	68% (+8.5)*	9

NIS – Flu
Parentheses denote percent-point difference in coverage from the 2017-18 influenza season
HR – Persons with asthma, diabetes, or heart disease, *Statistically significant

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Healthcare Provider Influenza Vaccination Rates

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- Annual influenza vaccination is the best method of preventing influenza and potentially serious complications. The current Healthy People 2020 goal for influenza vaccination among healthcare personnel is 90%.
- The table below outlines influenza vaccination rates for different groups of healthcare workers. Vaccination rates in acute care hospitals, both nationally and in MA have surpassed the Healthy People 2020 goal and should be congratulated. However, rates for healthcare workers in general are much lower.

Healthcare Personnel Setting	MA 2017-18	MA 2018-19	US 2017-18[2]	US 2018-19[4]
All Healthcare Personnel	60%[1]	N/A	78%	81%
Acute Care Hospitals	93%[2]	94%[2]	92%	95%
Nursing Homes (MA)/Long Term Care Settings* (US)	71%[2]	72%[2]	67%	68%

Source: [1]MA BRFSS for 2017 Calendar Year [2]Influenza Vaccination of Health Care Personnel in MA Nursing Homes and Acute Care Hospitals
[3]Influenza Vaccination Coverage Among Health Care Personnel — United States, 2017–18 Influenza Season, MMWR, September 28, 2018 / 67(38);1050–1054
[4]Influenza Vaccination Coverage Among Health Care Personnel — United States, 2018–19 Influenza Season, FluVaxView
*Long Term Care settings included nursing homes, home health agencies, home health care settings, assisted living facilities, or other LTC settings

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Adolescent Vaccination Coverage with Tdap, MenACWY, and HPV, Massachusetts, NIS, 13-17 years, 2008 – 2018

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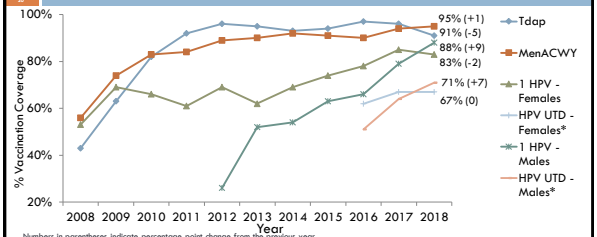

Numbers in parentheses indicate percentage point change from the previous year
*HPV Up to date (UTD): 2 doses if the first dose given before the 15th birthday and doses were separated by at least 5 months, otherwise, 3 doses
NIS Data, CDC

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Adolescent Vaccination Coverage with HPV, NIS, 13-17 Years of Age, MA vs US, 2017 vs 2018

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	MA				US			
	Females		Males		Females		Males	
	2017	2018	2017	2018	2017	2018	2017	2018
1+ HPV	85%	83%	79%	88%	69%	70%	63%	66%◊
HPV UTD*	67%	67%	64%	71%	53%	54%	44%	49%◊

HPV-UTD – 2 doses if the first dose was given before the 15th birthday and doses were separated by five months, otherwise, 3 doses
◊ Statistically significant improvement from the previous year

NIS Data, CDC

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Coverage Rates for Required Vaccines among Massachusetts Students, 2018-19

- Kindergarten

5 DTaP	4 Polio	2 MMR	3 Hep B	2 Varicella
97.1%	96.9%	96.9%	97.6%	96.5%

- Grade 7

2 MMR	3 HepB	2 Varicella	1 Tdap
98.7%	98.5%	98.4%	93.2%

2 Varicella- Includes history of disease and lab evidence of immunity.

Source: Massachusetts School Immunization Surveys

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Fully Vaccinated Students, 2018-19

	Students with all required vaccines*
Kindergarten	95.5%
Grade 7	92.0%

*Kindergarten: 5 DTaP + 4 Polio + 2 MMR + 3 HepB + 2 Varicella
Grade 7: 2 MMR + 3 HepB + 2 Varicella + 1 Tdap

Also includes lab evidence of immunity and history of chickenpox disease

Source: Massachusetts School Immunization Surveys

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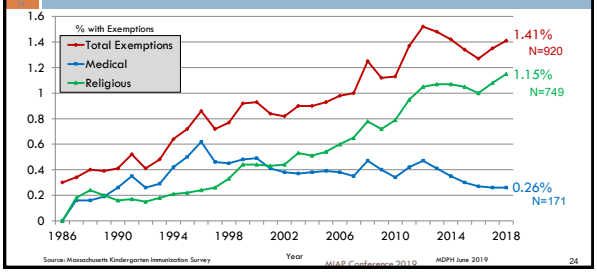
Religious and Medical Exemptions Among Massachusetts Kindergarten Students 1986-2018



Source: Massachusetts Kindergarten Immunization Survey

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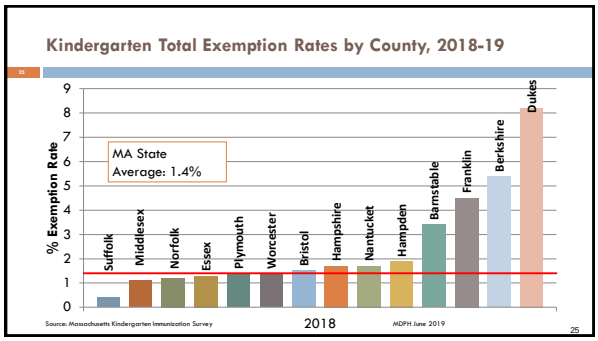
Kindergarten Total Exemption Rates by County, 2018-19
% Exemption Rate
MA State Average: 1.4%
Suffolk
Middlesex
Norfolk
Essex
Plymouth
Worcester
Bristol
Hampshire
Nantucket
Hampden
Barnstable
Franklin
Berkshire
Dukes
2018
Source: Massachusetts Kindergarten Immunization Survey
MDPH June 2019
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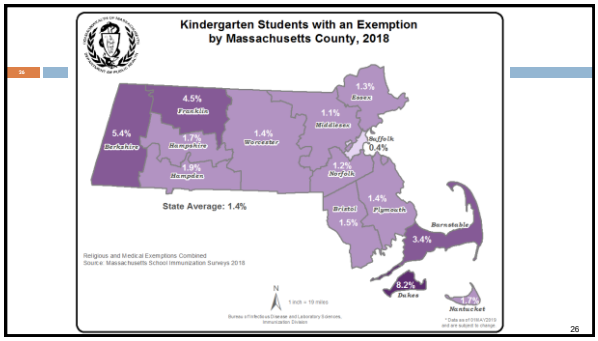
Kindergarten Students with an Exemption by Massachusetts County, 2018
4.5% Franklin
1.3% Essex
1.1% Middlesex
5.4% Berkshire
1.7% Hampshire
1.4% Worcester
1.9% Hampden
0.4% Suffolk
1.4% Norfolk
1.4% Plymouth
1.5% Bristol
3.4% Barnstable
8.2% Dukes
1.7% Nantucket
State Average: 1.4%
Religious and Medical Exemptions Combined
Source: Massachusetts School Immunization Surveys 2018
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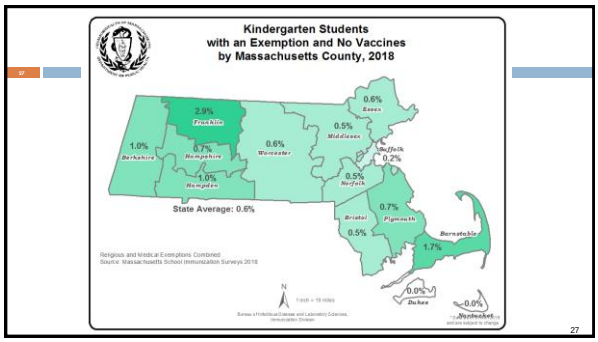
Kindergarten Students with an Exemption and No Vaccines by Massachusetts County, 2018
2.9% Franklin
0.6% Essex
0.5% Middlesex
1.0% Berkshire
0.7% Hampshire
0.6% Worcester
0.2% Suffolk
1.0% Hampden
0.5% Norfolk
0.7% Plymouth
0.5% Bristol
1.7% Barnstable
0.0% Dukes
0.0% Nantucket
State Average: 0.6%
Religious and Medical Exemptions Combined
Source: Massachusetts School Immunization Surveys 2018
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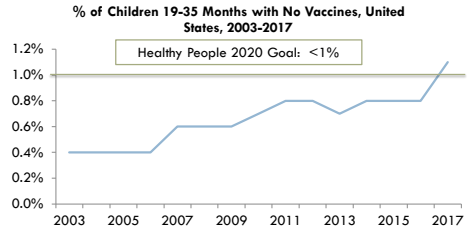
Worrisome Trend of More Toddlers with No Vaccines in US



Source: National Immunization Survey – Child

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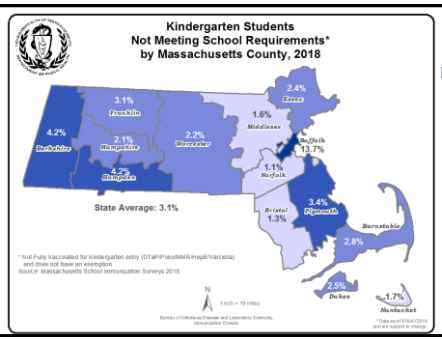

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NEW – Meningococcal Vaccine School Requirement

- Beginning with the 2020-2021 school year, quadrivalent MenACWY vaccine will be required for:
  - Grade 7: One dose MenACWY for all students
  - Grade 11: One booster dose MenACWY received on or after 16 years of age (one or more doses of MenACWY vaccine are acceptable as long as one dose was received on or after 16 years of age)

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Projects to Improve Immunization Rates:

- IQIP
- Vaccine Confidence

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IQIP Immunization Quality Improvement for Providers

- IQIP is CDC's new national, provider-level immunization quality improvement (QI) program (to replace AFIX)
- Purpose is to *promote* the implementation of *provider-level* immunization QI strategies to *increase routine* ACIP *childhood/adolescent* vaccinations
- IQIP provides technical assistance to providers to support 3 strategies:
  - Schedule next immunization visit before patient leaves office
  - Leverage MIIS functionality to improve immunization practice
  - Give strong vaccine recommendation

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IQIP Mechanics

- About 205 IQIP visits to VFC providers in the state
- Conducted by Immunization Nurses and Immunization Epidemiologists
- Begins with ~60-minute site visit to discuss current immunization practices, immunization coverage, and identify strategies for improvement
- Brief 2-month and 6-month check-in phone calls; provide technical assistance
- Final 12-month follow-up phone call; update on progress toward goals; review year-over-year change in immunization coverage

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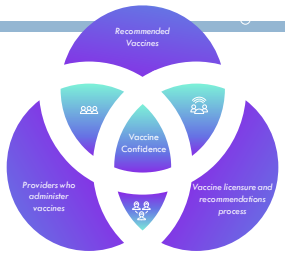
The Vaccine Confidence Project

The Vaccine Confidence Project is a statewide initiative formed in 2018 by the Immunization Initiative of the Massachusetts Chapter, American Academy of Pediatrics (MCAAP) and the Immunization Division of the Massachusetts Department of Public Health (MDPH).

The goal of the Vaccine Confidence Project is to increase vaccine confidence throughout Massachusetts to ensure that all residents are fully protected against serious, vaccine-preventable disease.



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Vaccine Confidence Project Highlights

- As was seen in the county level school coverage data, several counties in western MA, and on the Cape and Islands, have higher exemption rates.
- Focus groups in 2018-19 in western Massachusetts informed us of the challenges faced by providers in that area.
- Using this feedback, we have started to curate resources for a tool kit that we'll disseminate to providers in those priority areas.
- We kicked off our Cape and Islands outreach on Martha's Vineyard in September, 2019 and will be taking a similar approach to western MA (focus groups then targeted resources).
- Providers are the most trusted source of health care information for patients, and providing them with responses to common questions and misunderstandings will hopefully improve vaccine confidence and lowering exemption rates.

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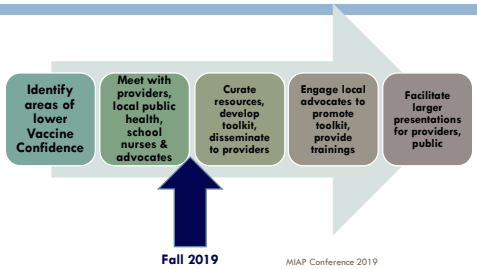
Vaccine Confidence Project



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MDPH Immunization Division Contact Information

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General Information
- **Phone:** 617-983-6800
- **Fax:** 617-983-6840
- **Website:** www.mass.gov/dph/imm

MIIS Help Desk
- **Phone:** 617-983-4335
- **Fax:** 617-983-4301
- **Email:** miishelpdesk@state.ma.us
- **Websites:** www.contactmiis.info | www.mass.gov/dph/miis

MDPH Vaccine Unit
- **Phone:** 617-983-6828
- **Fax:** 617-983-6924
- **Email:** dph-vaccine-management@state.ma.us
- **Website:** www.mass.gov/dph/imm (click on Vaccine Management)

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