COVID-19 Vaccination Snowflake IRIS COVID DATA Dictionary

Vaccinate ALL 58

Last Updated 4/8/2022

LHJ Data Source in IRIS

View Name: VW_ALL_ IIS_RECIPIENTS_LHJ

View Description: This is a <u>recipient level view</u> that contains one row per vaccine recipient and is used by the California Department of Public Health (CDPH) vaccine data team for calculations that involve measures of people (e.g., partially/fully vaccinated, race/ethnicity). The data include COVID-19 vaccine doses reported to the California Immunization Registry (CAIR2), the Healthy Futures Registry, and the San Diego Immunization Registry. Doses administered by the following federal agencies and reported directly to the CDC are not included: Veterans Health Administration, Department of Defense, the Federal Bureau of Prisons, and most Indian Health Service clinics.

FIELD DEFINITIONS

Field Number	COVID-19 Data Element	Variable Name	Data Element Description and Extract Guidance	Value Set	Notes
1	Recipient ID	recip_id	Unique ID for this recipient. This can be the ID used by your system or a randomly assigned unique identifier. However, the ID must be consistent across reports to allow linking doses to the same recipient ID.	n/a	

Field	COVID-19 Data	Variable Name	Data Element	Value Set	Notes
Number	Element		Description and Extract Guidance		
2	Administration	ds1_admin_date	The first recorded dose	n/a	Ignores DOSE_NUM field in
	date – Dose 1		administration date for		VW_ALL_IIS_LHJ for
			the recipient.		determination.
3	Administration	ds2_admin_date	The second recorded	n/a	Ignores DOSE_NUM field in
	date – Dose 2		dose administration		VW_ALL_IIS_LHJ for
			date for the recipient.		determination.
4	Days between	days_between_doses	Number of days	n/a	Ignores DOSE_NUM field in
	doses		between first and		VW_ALL_IIS_LHJ for
			second doses.		determination.
5	Vaccine types	vax_received	The manufacturer name	Locally Defined Value Set:	
	received		(s) of all vaccines	Moderna	
			received, for up to 4	Pfizer	
			doses.		
6	Vaccination	fully_vaccinated	Recipient's vaccination	Locally Defined Value Set:	The following criteria were
	status		status	FALSE (Partially vaccinated)	removed on 2/22/2022:
				TRUE (Fully vaccinated)	- Three or more vaccination records
				A vaccine recipient is considered fully	- Only dose in IRIS is labeled
				vaccinated if they meet at least one of the	as dose number 2
				following criteria:	
				1) They received one dose of J&J	
				2) They received two Pfizer doses >= 17 days	
				apart	
				3) They received two Moderna doses >= 24	
				days apart	
				4) They received a combination of	
7	Flag: Potential	flag notontial had date	Flag for potential bad	Pfizer/Moderna doses >= 17 days apart. Locally Defined Value Set:	A recipient's record can only
/	bad data	flag_potential_bad_data	data	INV or UNK 1 st or 2 nd dose	be in one of these categories
			uala	<15 Days Between Doses	at a time, even though these
					scenarios are not mutually
					exclusive. '3+ doses' and
					'Multiple CVX Received'
					removed as criteria on
					11/23/2021.
L					11/23/2021.

Field	COVID-19 Data	Variable Name	Data Element	Value Set	Notes
Number	Element		Description and Extract Guidance		
8	Recipient name: first	recip_first_name	Recipient's first name	n/a	Derived from value recorded for second dose, unless null, then first dose value is used.
9	Recipient name: middle	recip_middle_name	Recipient's middle name	n/a	Derived from value recorded for second dose, unless null, then first dose value is used.
10	Recipient name: last	recip_last_name	Recipient's last name	n/a	Derived from value recorded for second dose, unless null, then first dose value is used.
11	Recipient date of birth	recip_dob	Recipient's date of birth	n/a	Derived from value recorded for second dose, unless null, then first dose value is used.
12	Recipient age	recip_age	Recipient's age in years	n/a	Derived from value recorded for second dose, unless null, then first dose value is used.
13	Recipient age group	recip_age_group	Recipient's age group, in years	Locally Defined Value Set: 0-17* 18-49 50-64 65+ Unknown *Birthdates within 60 days of the vaccination date are categorized as 'Unknown'	Derived from value recorded for second dose, unless null, then first dose value is used.
14	Recipient sex	recip_sex	Recipient sex	HL7 User Defined Table 0001 M (Male) F (Female) U (Unknown/undifferentiated)	Derived from value recorded for second dose, unless null, then first dose value is used.
15	Recipient race/ethnicity	recip_race_eth	Recipient's race/ethnicity	When ethnicity is marked 'Hispanic or Latino' then 'Latino', when more than one specified race code (1002-5, 2028-9, 2076-8, 2054-5, 2106-3) is noted then 'Multiracial', otherwise first race is noted.	Derived from value recorded for second dose, unless null, then first dose value is used.

Field Number	COVID-19 Data Element	Variable Name	Data Element Description and Extract Guidance	Value Set	Notes
				Derived from original ethnicity and race codes: HL7 User Defined Table 0189 2135-2 (Hispanic or Latino) 2186-5 (Not Hispanic or Latino) UNK (Unknown ethnicity) POL (Unable to report to do policy/law) HL7 User Defined Table 0005 1002-5 (American Indian or Alaska Native) 2028-9 (Asian) 2076-8 (Native Hawaiian or Other Pacific Islander) 2054-5 (Black or African American) 2106-3 (White) 2131-1 (Other Race) UNK (Unknown) POL (Unable to report due to policy/law)	
16	Recipient address: street	recip_address_street	The street component of the recipient's address	n/a	UPDATED 4/5/2022. Derived from value recorded for most recent dose. Previously derived from second dose value.
17	Recipient address: street 2	recip_address_street_2	The street 2 component of the recipient's address	n/a	UPDATED 4/5/2022. Derived from value recorded for most recent dose. Previously derived from second dose value. Previous name: recip_recip_address_street_ 2.
18	Change in recipient address	chng_recip_address	Did recipient address change between doses?	TRUE/FALSE	Only uses recip_address_street field to determine if value changed.
19	Recipient address: city	recip_address_city	The city component of the recipient's address	n/a	UPDATED 4/5/2022. Derived from value recorded for

Field Number	COVID-19 Data Element	Variable Name	Data Element Description and Extract Guidance	Value Set	Notes
					most recent dose. Previously derived from second dose value.
20	Change in recipient city	chng_recip_city	Did recipient city change between doses?	TRUE/FALSE	
21	Recipient address: zip code	recip_address_zip	The zip code of the recipient's address (5 digit or 10 digits, with hyphen, are acceptable)	n/a	UPDATED 4/5/2022. Derived from value recorded for most recent dose. Previously derived from second dose value.
22	Change in recipient zip code	chng_recip_zip	Did recipient zip code change between doses?	TRUE/FALSE	
23	Recipient county name	recip_county_label	The county name component of the recipient's address	Derived from FIPs based on County_Code. When recip_address_county is null, derived from recip_address_zip. See Recip_Address_County_New.	UPDATED 4/5/2022. Derived from value recorded for most recent dose. Previously derived from second dose value. 'Outside California' category includes out-of-state residents and records where recipient's state of residence is blank.
24	Change in recipient county	chng_recip_county	Did recipient county change between doses?	TRUE/FALSE	
25	Responsible organization	responsible_org	The name of the parent organization or health system that originated and is accountable for the content of the record. If an organization has several clinics or facilities, this would be the organization that	n/a	UPDATED 4/5/2022. Derived from value recorded for most recent dose. Previously derived from second dose value.

Field	COVID-19 Data	Variable Name	Data Element	Value Set	Notes
Number	Element		Description and Extract		
			Guidance		
			represents all of the		
			clinics/facilities. (The		
			"Administered at		
			location" field is the		
			name of individual		
			physical location.)		
26	Change in	chng_org	Did responsible	TRUE/FALSE	
	responsible		organization change		
	organization		between doses?		
27	Administered at	admin_name	The name of the physical	n/a	UPDATED 4/5/2022. Derived
	location		clinic or facility that		from value recorded for
			reported the		most recent dose. Previously
			vaccination, refusal, or		derived from second dose
			missed appointment. In		value.
			a small practice setting,		
			this could be the same		
			as the responsible		
		· · · ·	organization.		
28	Change in	chng_admins	Did vaccinating	TRUE/FALSE	
	vaccinating		provider/site change		
20	provider/site Administration		between doses?		UPDATED 4/5/2022. Derived
29	address:	admin_address_zip	The zip code component of where the vaccine is	n/a	from value recorded for
	zip code		being administered/		most recent dose. Previously
	zip code		planned to be		derived from second dose
			administered. Exception		value.
			for mobile clinics.		value.
30	Change in	chng_admin_zip	Did vaccine	TRUE/FALSE	
	administration	0_*** ··*P	administration zip code	· -	
	zip code		change between doses?		
31	Administration	admin_county_label	The county component	Join with FIPS table based on County_Code to	UPDATED 4/5/2022. Derived
	address:		of where the vaccine is	get the name/desc.	from value recorded for
	county name		being administered/		most recent dose. Previously
			planned to be		derived from second dose
			administered. Exception		value.
			for mobile clinics.		

Field Number	COVID-19 Data Element	Variable Name	Data Element Description and Extract Guidance	Value Set	Notes
32	Change in administration county	chng_admin_county	Did county of vaccinating provider/site change between doses?	TRUE/FALSE	
33	Mixed zip	mixed_zip	If recipient zip code is null, this field is populated by admin zip code.		Derived from value recorded for second dose, unless null, then first dose value is used.
34	Mixed county	mixed_county	If recip_address_county_n ew is NULL or unknown, populate this with admin_county_label.		Derived from value recorded for second dose, unless null, then first dose value is used. 'Outside California' category includes out-of-state residents and records where recipient's state of residence is blank.
35	Local health jurisdiction	LHJ	Local health jurisdiction of recipient's residence; if zip code (mixed_zip) is in Berkeley, Long Beach, or Pasadena cities, LHJ = Berkeley, Long Beach and Pasadena, respectively, otherwise LHJ = mixed_county	<pre>when mixed_zip in ('94701', '94702', '94703', '94704', '94705', '94707', '94708', '94709', '94710', '94712', '94720') then 'Berkeley' when mixed_zip in ('90801', '90802', '90803', '90804', '90805', '90806', '90807', '90808', '90809', '90810', '90813', '90814', '90815', '90822', '90831', '90832', when mixed_zip in ('90833', '90834', '90835', '90840', '90842', '90844', '90845', '90846', '90847', '90848', '90853', '90888', '90899') then 'Long Beach' when left(mixed_zip,5) in ('91101', '91102', '91103', '91104', '91105', '91106', '91107', '91109', '91110', '91114', '91115', '91116', '91117', '91121', '91123', '91124', '91125', '91126', '91129', '91131', '91182', '91184', '91185', '91188', '91189', '91191', '91199') then 'Pasadena' ELSE mixed_county</pre>	Derived from value recorded for second dose, unless null, then first dose value is used. 'Outside California' category includes out-of-state residents and records where recipient's state of residence is blank.

Field Number	COVID-19 Data Element	Variable Name	Data Element Description and Extract Guidance	Value Set	Notes
36	VEM quartile	hpiquartile	Vaccine Equity Metric (VEM) score quartiles based on mixed_zip Vaccine Equity Metric (VEM) score quartiles combine the Public Health Alliance of Southern California's Healthy Places Index	Locally Defined Value Set: 1 (VEM Quartile 1) 2 (VEM Quartile 2) 3 (VEM Quartile 3) 4 (VEM Quartile 4) Null (no VEM score assigned)	Derived from value recorded for second dose, unless null, then first dose value is used.
			(HPI) measure with CDPH-derived scores to estimate factors that impact health, like income, education, and access to health care. Zip codes range from less healthy community conditions in Quartile 1 to more healthy community conditions in Quartile 4.		
37	VEM quartile based on recipient zip code	hpiquartile_rcp_zip	Vaccine Equity Metric (VEM) score quartiles based on recipient zip code Vaccine Equity Metric (VEM) score quartiles combine the Public Health Alliance of Southern California's Healthy Places Index (HPI) measure with	Locally Defined Value Set: 1 (VEM Quartile 1) 2 (VEM Quartile 2) 3 (VEM Quartile 3) 4 (VEM Quartile 4) Null (no VEM score assigned)	Derived from value recorded for second dose, unless null, then first dose value is used.

Field Number	COVID-19 Data Element	Variable Name	Data Element Description and Extract Guidance	Value Set	Notes
			CDPH-derived scores to estimate factors that impact health, like income, education, and access to health care. Zip codes range from less healthy community conditions in Quartile 1 to more healthy community conditions in Quartile 4.		
38	Recipient address: county based on zip code	hpi_county_rcp_zip	The county name of the recipient's address, derived from the zip code of the recipient's address.	County derived from recip_address_zip.	Derived from value recorded for second dose, unless null, then first dose value is used.
39	Administered at location: type	admin_type_desc	The characteristic of the provider site that reported the vaccination, refusal, or missed appointment	Labels from Locally Defined Value Set: 1 (Commercial vaccination service provider) 2 (Corrections/detention health services) 3 (Health center – community) 4 (Health center – migrant or refugee) 5 (Health center – occupational) 6 (Health center – occupational) 6 (Health center – STD/HIV clinic) 7 (Health center – student) 8 (Home health care provider) 9 (Hospital) 10 (Indian Health Service) 11 (Tribal health) 12 (Medical practice – family medicine) 13 (Medical practice – pediatrics) 14 (Medical practice – other specialty) 15 (Medical practice – other specialty) 17 (Pharmacy – chain) 18 (Pharmacy – independent) 19 (Public health provider – public health	Derived from value recorded for second dose, unless null, then first dose value is used.

Field Number	COVID-19 Data Element	Variable Name	Data Element Description and Extract Guidance	Value Set	Notes
				clinic) 20 (Public health provider – Federally Qualified Health Center) 21 (Public health provider – Rural Health Clinic) 22 (Long-term care – nursing home, skilled nursing facility, federally certified) 23 (Long-term care – nursing home, skilled nursing facility, non-federally certified) 24 (Long-term care – assisted living) 25 (Long-term care – intellectual or developmental disability) 26 (Long-term care) 28 (Other) UNK (Unknown)	
40	MCE	MCE	Provider affiliated with state agency multi- county entity, health system multi-county entity, or pharmacy entity participating in CDC Long Term Care or Retail Pharmacy Partnership programs.	Locally Defined Value Set: CDCR (State Agency MCE - California Department of Corrections and Rehabilitation) DHS (State Agency MCE - Department of State Hospitals) AHMC Healthcare (Health System MCE) Dignity Health (Health System MCE) Kaiser Permanente (Health System MCE) Providence (Health System MCE) Sutter Health (Health System MCE) UC Health (Health System MCE) UC Health (Health System MCE) UC Health (Health System MCE) CVS (Pharmacy) Rite Aid (Pharmacy) Walgreens (Pharmacy) Albertson Companies, Inc. (Pharmacy) Costco (Pharmacy) Walmart (Pharmacy) Topco (Pharmacy) Good Neighbor (Pharmacy)	Derived from value recorded for second dose, unless null, then first dose value is used.

Field Number	COVID-19 Data Element	Variable Name	Data Element Description and Extract Guidance	Value Set	Notes
				Health Mart (Pharmacy) CPESN (Pharmacy) Cardinal (Pharmacy) GeriMed (Pharmacy) MHA (Pharmacy) Premier-Innovatix (Pharmacy)	
41	Lot numbers	lot_numbers	The lot numbers for all COVID vaccinations administered, concatenated.	n/a	
42	Original dose number – Dose 1	ds1_orig_dose_num	Original reported dose number in vaccination series for first dose.	Locally Defined Value Set: 1 (Valid first dose) 2 (Valid second dose) INV (Invalid dose) UNK (Unknown validity)	
43	Original dose number – Dose 2	ds2_orig_dose_num	Original reported dose number in vaccination series for second dose.	Locally Defined Value Set: 1 (Valid first dose) 2 (Valid second dose) INV (Invalid dose) UNK (Unknown validity)	
44	Dose 1 vaccination event ID	ds1_vax_event_id	The vaccination event's unique identifier within the system for first reported dose (based on vaccination date).	n/a	
45	Dose 2 vaccination event ID	ds2_vax_event_id	The vaccination event's unique identifier within the system for second reported dose (based on vaccination date).	n/a	
46	Dose 3 vaccination event ID	ds3_vax_event_id	The vaccination event's unique identifier within the system for third	n/a	

Field	COVID-19 Data	Variable Name	Data Element	Value Set	Notes
Number	Element		Description and Extract		Notes
			Guidance		
			reported dose (based on		
			vaccination date).		
47	Dose 4	ds4_vax_event_id	The vaccination event's	n/a	
	vaccination event		unique identifier within		
	ID		the system for fourth		
			reported dose (based on		
			vaccination date).		
48	Snapshot time	snapshot_time	Data current as of this	n/a	
			timestamp.		
49	Partially	partially_vaccinated_dat	Date recipient became	n/a	
	vaccinated date	e	partially vaccinated (i.e.,		
			received first dose of		
			Pfizer or Moderna)		
50	Fully vaccinated	fully_vaccinated_date	Date recipient became	n/a	
	date		fully vaccinated.		
51	Email	Email_Address	Recipient's email		Derived from value recorded
					for second dose, unless null,
					then first dose value is used.
52	Phone number	Phone_Number	Recipient's phone		Derived from value recorded
			number		for second dose, unless null,
					then first dose value is used.
53	Administration	ds3_admin_date	If given, the third	n/a	Ignores DOSE_NUM field in
	date – Dose 3		recorded dose		VW_ALL_IIS_LHJ for
			administration date for		determination.
			the recipient.		
54	Administration	ds4_admin_date	If given, the fourth	n/a	Ignores DOSE_NUM field in
	date – Dose 4		recorded dose		VW_ALL_IIS_LHJ for
			administration date for		determination.
			the recipient.		
55	Original dose	ds3_orig_dose_num	Original reported dose	Locally Defined Value Set:	
	number – Dose 3		number in vaccination	1 (Valid first dose)	
			series for third dose.	2 (Valid second dose)	
				INV (Invalid dose)	
50	Ordetine al de se		Onining language and a d	UNK (Unknown validity)	
56	Original dose	ds4_orig_dose_num	Original reported dose	Locally Defined Value Set:	
	number – Dose 4		number in vaccination	1 (Valid first dose)	
		1	series for fourth dose.	2 (Valid second dose)	

Field Number	COVID-19 Data Element	Variable Name	Data Element Description and Extract Guidance	Value Set	Notes
				INV (Invalid dose) UNK (Unknown validity)	
57	Booster dose flag – Pfizer	Pfizer_Booster	Received at least 3 doses of Pfizer and 12+ years of age	0 (FALSE) 1 (TRUE)	UPDATED 1/25/2022. Previous names: Is_Pfizer_3+_18+; Is_Pfizer_3+_12+ (1/11/2022).
58	Booster dose flag - Pfizer with minimum interval	Pfizer_Booster_Interval	Received at least 3 doses of Pfizer, with minimum interval of 136 days between 2 nd and 3 rd dose, and 12+ years of age	0 (FALSE) 1 (TRUE)	UPDATED 1/25/2022. Previous names: Is_Pfizer_3+_18+_164+; Is_Pfizer_3+_12+_136+ (1/11/2022).
59	Additional dose flag	HAS_ADDITIONAL_DOSE_ AND_24_DAYS	Received additional dose administered at least 24 days after series completion (Pfizer recipients 5+ years of age, Moderna and J&J recipients 18+ years of age)	0 (FALSE) 1 (TRUE)	Includes any dose that was administered at least 24 days after series completion (2 mRNA or 1 J&J). Includes both additional doses and booster doses.
60	Booster dose flag – Moderna	Moderna_Booster	At least 3 doses of Moderna and 18+ years of age	0 (FALSE) 1 (TRUE)	UPDATED 1/25/2022. Previous name: Is_Moderna_3+_18+.
61	Booster dose flag – Moderna with minimum interval	Moderna_Booster_Interv al	At least 3 doses of Moderna, with minimum interval of 136 days between 2 nd and 3 rd dose, and 18+ years of age	0 (FALSE) 1 (TRUE)	UPDATED 1/25/2022. Previous name: Is_Moderna_3+_18+_164+. Changed minimum interval from 164 days to 136 days per updated CDC recommendations.
62	Booster dose flag – J&J	JJ_Booster	At least 2 doses of J&J and 18+ years of age	0 (FALSE) 1 (TRUE)	UPDATED 1/25/2022. Previous name: Is JJ 2+ 18+.
63	Booster dose flag – J&J with minimum interval	JJ_Booster_Interval	At least 2 doses of J&J, with minimum interval of 52 days between 1st	0 (FALSE) 1 (TRUE)	UPDATED 1/25/2022. Previous name: Is_JJ_2+_18+_52+.

Field Number	COVID-19 Data Element	Variable Name	Data Element Description and Extract	Value Set	Notes
Number	Element		Guidance		
			and 2 nd dose, and 18+ years of age		
64	Booster dose flag – mixed mRNA	Pfizer_or_Moderna_Boos ter	At least 3 doses of Pfizer or Moderna combined and 18+ years of age	0 (FALSE) 1 (TRUE)	UPDATED 1/25/2022. Previous name: Is_Pfizer_or_Moderna_3+_1
					8+.
65	Booster dose flag – mixed mRNA with minimum interval	Pfizer_or_Moderna_Boos ter_ Interval	At least 3 doses of Pfizer or Moderna combined, with a minimum interval of 136 days between 2 nd and 3 rd dose, and 18+ years of age	0 (FALSE) 1 (TRUE)	UPDATED 1/25/2022. Previous name: Is_Pfizer_or_Moderna_3+_1 8+_164+. Changed minimum interval from 164 days to 136 days per updated CDC recommendations.
66	Additional dose flag – 52 day interval	HAS_ADDITIONAL_DOSE_ AND_52_DAYS	Additional dose administered at least 52 days after series completion	0 (FALSE) 1 (TRUE)	
67	Recipient address: state	RECIP_ADDRESS_STATE	The state component of the recipient's address	US Postal Service two-character state codes	UPDATED 4/5/2022. Derived from value recorded for most recent dose. Previously derived from second dose value.
68	Administration address: state	ADMIN_ADDRESS_STATE	The state component of where the vaccine is administered/ planned to be administered. Exception for mobile clinics.	US Postal Service two-character state codes	UPDATED 4/5/2022. Derived from value recorded for most recent dose. Previously derived from second dose value.
69	Patient sharing indicator	LOCKED_IND	Patient sharing status.	0 (FALSE) 1 (TRUE)	If 1, patient has requested that their record not be shared with organizations other than their own provider or public health.

70	Booster eligibility flag	IS_BOOSTER_ELIGIBLE		 0 (FALSE) 1 (TRUE) A vaccine recipient is considered eligible for a booster if they meet at least one of the following criteria: 1) Age 18+ and received at least two doses of Moderna vaccine >= 136 days ago 2) Age 12+ and received at least two doses of Pfizer vaccine >= 136 days ago 3) Age 18+ and received at least one dose of J&J vaccine >= 52 days ago 	
71	Booster dose flag – 2 nd Pfizer booster with minimum interval	Pfizer_Booster_2_Interval	At least 4 doses of Pfizer, with minimum interval of 108 days between 3 rd and 4 th dose, and 12+ years of age	0 (FALSE) 1 (TRUE)	NEW 4/19/2022.
72	Booster dose flag – 2 nd Moderna booster with minimum interval	Moderna_Booster_2_Inte rval	At least 4 doses of Moderna, with minimum interval of 108 days between 3 rd and 4 th dose, and 18+ years of age	0 (FALSE) 1 (TRUE)	NEW 4/19/2022.
73	Booster dose flag – 2 nd booster of mixed mRNA with minimum interval	Pfizer_or_Moderna_Boos ter_2_Interval	At least 4 doses of Pfizer or Moderna combined, with a minimum interval of 108 days between 3 rd and 4 th dose, and 12+ years of age	0 (FALSE) 1 (TRUE)	NEW 4/19/2022.
74	Booster dose flag – 2 nd J&J booster with minimum interval	JJ_Booster_2_Interval	At least 3 doses of J&J, with minimum interval of 108 days between 2 nd and 3 rd dose, and 18+ years of age	0 (FALSE) 1 (TRUE)	NEW 4/19/2022.
75	Additional dose flag – 108 day interval	has_additional_dose_and _108_ days	Second additional dose after completion of primary series	0 (FALSE) 1 (TRUE)	NEW 4/19/2022. Additional dose that is 108 days after IS_ADDITIONAL_DOSE_A

	ND_24_DAYS flag is set
	for mRNA vaccine; OR
	Additional dose that is
	108 days after
	IS_ADDITIONAL_DOSE_/
	ND_52_DAYS flag is set
	for J&J vaccine.

Notes:

Minimum intervals are based on CDC recommendations, using 28-day months and including a 4-day grace period.