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Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

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Appendix

Effectiveness of one dose of MVA-BN smallpox vaccine against mpox in England using the case-coverage method: an observational study

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Figure S1: Flowchart

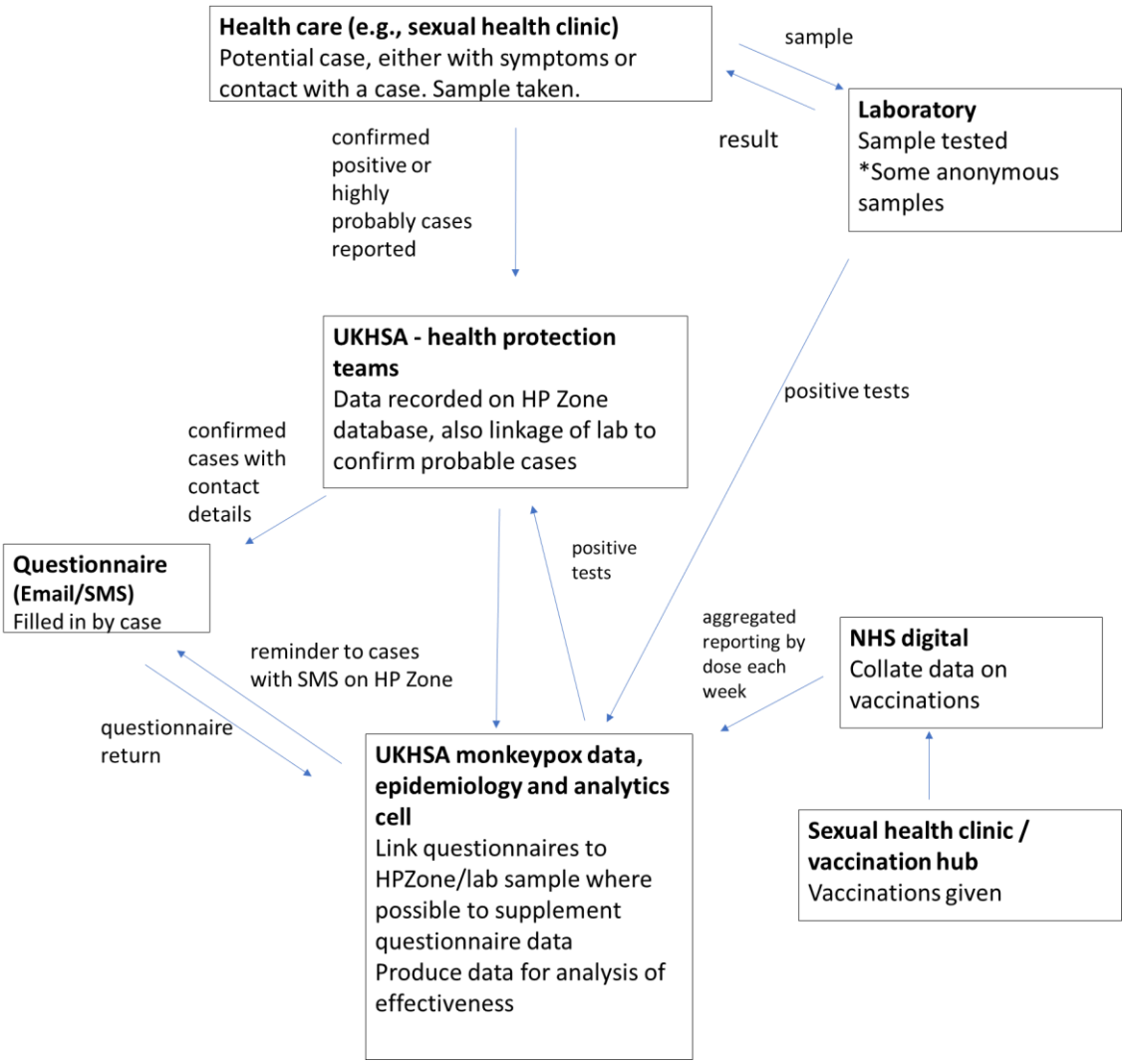

Table S2: Vaccine first doses and coverage estimation as well as vaccination status of the 362 cases included in the final analysis by week in GBMSM, England

		GBMSM coverage information							Case Information		
Week number	Week commencing	First doses	Doses 0-13 days ago	Cumulative doses	Doses ≥14 days ago	Denominator	Coverage 0-13 days ago	Coverage ≥14 days ago*	Vaccinated 0-13 days ago	Vaccinated ≥14 days ago*	Unvaccinated
26	27/06/2022	90	90	90	-	89,240	0.1%	0.0%	-	-	-
27	04/07/2022	1,050	1,140	1,140	-	89,240	1.3%	0.0%	0	0	69
28	11/07/2022	2,439	3,489	3,579	90	89,240	3.9%	0.1%	3	0	60
29	18/07/2022	4,939	7,378	8,518	1,140	89,240	8.3%	1.3%	7	0	53
30	25/07/2022	6,762	11,701	15,280	3,579	89,240	13.1%	4.0%	8	0	46
31	01/08/2022	7,401	14,163	22,681	8,518	89,240	15.9%	9.5%	2	0	31
32	08/08/2022	5,567	12,968	28,248	15,280	89,240	14.5%	17.1%	7	0	24
33	15/08/2022	2,800	8,367	31,048	22,681	89,240	9.4%	25.4%	2	3	9
34	22/08/2022	2,492	5,292	33,540	28,248	89,240	5.9%	31.7%	2	1	13
35	29/08/2022	2,388	4,880	35,928	31,048	89,240	5.5%	34.8%	0	1	4
36	05/09/2022	2,259	4,647	38,187	33,540	89,240	5.2%	37.6%	0	1	4
37	12/09/2022	1,754	4,013	39,941	35,928	89,240	4.5%	40.3%	1	1	3
38	19/09/2022	1,897	3,651	41,838	38,187	89,240	4.1%	42.8%	0	1	3
39	26/09/2022	1,676	3,573	43,514	39,941	89,240	4.0%	44.8%	0	0	0
40	03/10/2022	1,463	3,139	44,977	41,838	89,240	3.5%	46.9%	0	0	3

*Any cases occurred in week 27 would be excluded from the ≥14 days analysis because they would match 0% coverage. Also when assessing effectiveness from 14 days after vaccination any cases vaccinated within 0-13 days would be excluded as would the coverage % within 0-13 days ago. For example in week 34 coverage within the cases for the ≥14 days analysis is 1/14 (7.1%) and coverage in the population 31.7/(100-5.9) = 33.7%.

Table S3 STROBE Statement—Checklist of items that should be included in reports of *case-control studies*

	Item No	Recommendation	Page No
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	1
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	3-4
Objectives	3	State specific objectives, including any prespecified hypotheses	4
Methods			
Study design	4	Present key elements of study design early in the paper	4-5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	4-5
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls	4-5
		(*b*) For matched studies, give matching criteria and the number of controls per case	6
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	4-5
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	4-5
Bias	9	Describe any efforts to address potential sources of bias	5
Study size	10	Explain how the study size was arrived at	4-5
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	5
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	5
		(*b*) Describe any methods used to examine subgroups and interactions	5

			(*c*) Explain how missing data were addressed	5
			(*d*) If applicable, explain how matching of cases and controls was addressed	6
			(*e*) Describe any sensitivity analyses	5
Results				
Participants		13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	6-7 and Table S2
			(b) Give reasons for non-participation at each stage	6-7, S1
			(c) Consider use of a flow diagram	S1
Descriptive data		14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	7-8, Figure 1, Figure 2
			(b) Indicate number of participants with missing data for each variable of interest	Page 7, Table 1
Outcome data		15*	Report numbers in each exposure category, or summary measures of exposure	Table 1
Main results		16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	9
			(*b*) Report category boundaries when continuous variables were categorized	9
			(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A
Other analyses	17		Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	9
Discussion				
Key results	18		Summarise key results with reference to study objectives	10
Limitations	19		Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	11
Interpretation	20		Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	12

Generalisability	21	Discuss the generalisability (external validity) of the study results	11
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	1