Supplementary Online Content

Patel A, Praveen D, Maharani A, et al. Association of multifaceted mobile technology–enabled primary care intervention with cardiovascular disease risk management in rural Indonesia. *JAMA Cardiol.* Published online August 28, 2019. doi:10.1001/jamacardio.2019.2974

This supplementary material has been provided by the authors to give readers additional information about their work.

eAppendix 1. SMART*health* Program in Indonesia

The SMART*health* program is a complex intervention with multiple components, each of which includes a component of digital support using mobile devices (underlined):

Raising community awareness through strengthening existing programs
Through a government-funded chronic disease management program at village and neighbourhood-level health centers, *kaders* and nurses raised community awareness of CVD and its risk factors. Activities occurred on an approximately monthly basis and included role play, traditional theatre and doctor-led group education sessions. A guided physical activity demonstration occurred once a week in all villages. These activities strengthened with additional training and adding individualised patient counselling by *kaders* during fortnightly household visits using a risk communication tool with pre-recorded animations on the SMART*health* application (see below).

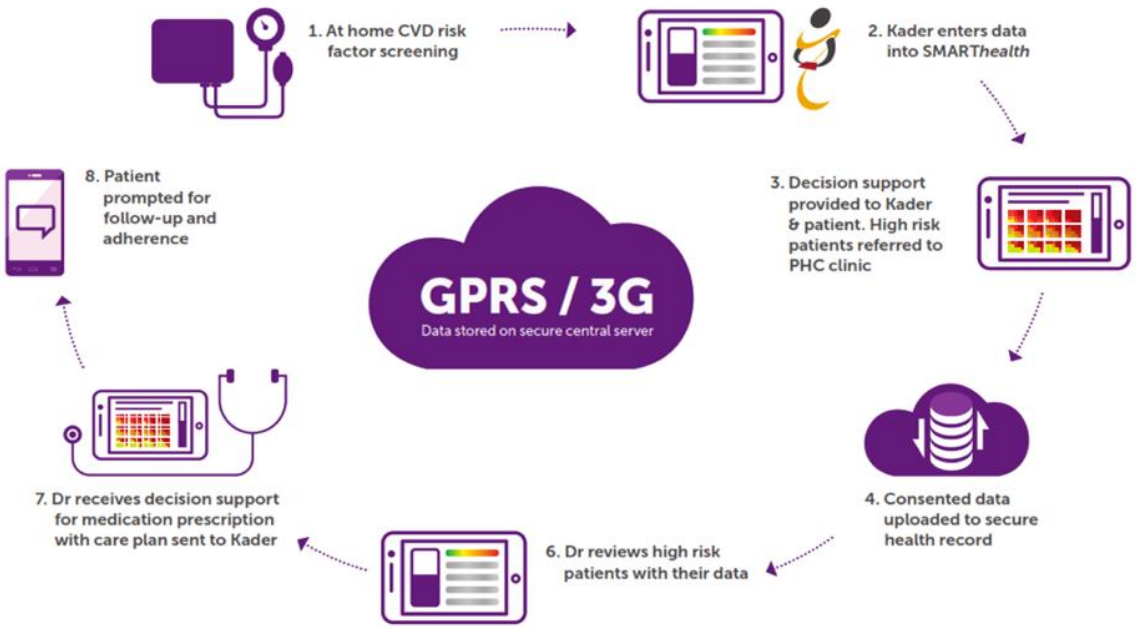
Training, performance management of and activity-based remuneration for healthcare providers
Kaders participated in an intensive 5-day training programme with subsequent ongoing remote or in-person support from district-level field supervisors. The training session consisted of modules to improve knowledge about CVD and associated risk factors, as well as the technical use of the SMART*health* platform (mobile tablet, SMART*health* application and basic medical equipment) for the identification, referral and follow-up of patients at high predicted CVD risk. Primary care doctor and nurse training also provided guidance in the use of the electronic data transmitted by the *kader*, interpretation of the decision support output from the SMART*health* application for disease and risk management, and use of audit and feedback capabilities. Regular monthly meetings of *kaders* at the village level was used for problem resolution. Each *kader* was provided with activity-based remuneration of up to ~IDR 625,000 (~USD 42) per month for *SMARThealth* implementation. To place this in context, prior *kader* remuneration was up to ~IDR 200,000 (~USD 13) per month for government-initiated programs, which consisted of approximately one day of work per week. Participation in SMART*health* increased *kaders'* workload to a maximum of 4 days a week during peak periods of activity. *Kader* performance was monitored through the SMART*health* platform with individual contact by supervisors after 10 days of continuous inactivity. Nurses and doctors were paid a fixed amount of ~IDR 1,000,000 (~USD 67) for SMART*health* implementation. The basic salary of a nurse and doctor are ~IDR 2 million (~USD 135) and ~IDR 4 million (~USD 270) per month, which is supplemented by private practice. The additional fixed remuneration provided is consistent with amounts provided by *Badan Penyelenggara Jaminan Sosial* for the management of enrolees. *Kaders*, nurses and doctors all received two automated pre-recorded voice messages each month reinforcing SMART*health* procedures.

CVD risk assessment with clinical decision support
As part of their routine duties, *kaders* performed household visits and invited all household members aged ≥ 40 years to participate. Those who agreed underwent CVD risk assessment through a clinical decision support system on a 7-inch Android tablet device using an Android 4.1 operating system. This application prompted the *kader* to collect basic sociodemographic information, as well as a relevant personal and family health history including medication use. The *kaders* also used standardized equipment to measure height and weight and used an automated sphygmomanometer to record blood pressure (Omron HEM7130). Three blood pressure measurements were recorded, with the average of the last two considered by the clinical decision support system. Random capillary blood glucose levels were also measured using a Freestyle Optium Neo blood glucose monitoring system, with a value of ≥200 mg/dL (11.1 mmol/L) considered by the clinical decision support system to be consistent with diabetes in those without a prior diagnosis. The clinical decision support system then identified individuals considered at high predicted CVD risk, defined by the presence of any of the following: (1) a past history of CVD confirmed by a doctor diagnosis; or (2) an extreme BP elevation (SBP >160 mmHg or DBP >100 mmHg); or (3) a 10-year predicted CVD risk ≥ 30%; or (4) a 10-year predicted CVD risk of 20-29% and a SBP>140 mmHg. In the absence of Indonesian guidelines, the 10-year risk of fatal or major non-fatal major CVD event (myocardial infarction or stroke) was automatically estimated using algorithms based on the World Health Organization/International Society of Hypertension "low information" risk charts tailored to the South-East Asian Region-B, which recommends screening individuals aged ≥40 years and uses age, sex, blood pressure, smoking and diabetes status [1]. Based on the clinical decision support system output, *kaders* were prompted to provide individualised lifestyle advice and refer all high-risk

individuals to nurses or doctors for consideration of preventive medication prescription. The clinical decision support system for doctors and nurses, the latter who had delegated authority to provide subsequent prescriptions for 30 days, was similar to that provided to the *kaders*, but also provided recommendations for medication use. Unless contraindicated, prescription of a BP lowering drug, a statin and aspirin was recommended for patients with a past history of doctor-diagnosed CVD, while a combination of a BP lowering drug and a statin was recommended for all other high-risk individuals. High-risk individuals were automatically referred back to the *kader* for follow-up in the community to support lifestyle and medication adherence. The decision support algorithm prioritized individuals for follow-up depending on the estimated absolute risk (3-6 months for patients with CVD and/or estimated absolute risk ≥30%; every year for those with estimated risk 20-30%). The prioritization algorithm also considered other factors, including whether or not the high-risk individual had seen a doctor following referral; had been prescribed medications; and achieved target BP; or was a current smoker. Priority listings rather than precise dates for follow-up were provided to *kaders*. At each encounter with a *kader*, nurse or doctor, additional decision support was generated for those not achieving target BP or with high random blood glucose levels. Routine cholesterol screening was not available in this context. On average, an initial screening required approximately 30 minutes, with 10 minutes for *kader* follow-up visits.
All data collected by *kaders*, nurses and doctors through the SMART*health* application were uploaded into a shared electronic medical record (OpenMRS) [2] via the Sana Mobile Dispatch Server and stored on a central server. This allowed doctors and nurses to view data acquired by *kaders* and for *kaders* to view the treatment recommendations made by doctors and nurses.

Patient engagement
In addition to the monthly follow-up visits by the *kaders*, automated pre-recorded personalized voice messages were sent to high-risk patients to promote lifestyle changes, medication adherence and medical follow-up. Two messages were sent every week, with one conveying the advantages of healthy lifestyle changes and the other targeting patient-specific issues such as reminders for a doctor visit, or for adherence to a specific medication.

The decision support and patient engagement cycle of care is summarized below:



eReferences
1. WHO-ISH cardiovascular risk prediction charts. Available at: http://www.who.int/cardiovascular_diseases/guidelines/Chart_predictions/en [accessed 10 September 2018].

2. OpenMRS. Available at: https://openmrs.org [accessed 10 September 2018].

eAppendix 2. Additional Details on Statistical Methods

Computing standardized differences

Standardized differences[1] between the intervention and control group are calculated as follows.

For continuous variables:

$$d = \frac{|\overline{x}_{Intervention} - \overline{x}_{Control}|}{\sqrt{\frac{s^2_{Intervention} + s^2_{Control}}{2}}}$$

Where $\overline{x}_{Intervention}$ and $\overline{x}_{Control}$ denote the mean of a baseline variable in each group, and $s^2_{Intervention} and\ s^2_{Control}$ denote the variance, respectively.

For binary variables:

$$d = \frac{|\hat{p}_{Intervention} - \hat{p}_{Control}|}{\sqrt{\frac{\hat{p}_{Intervention}(1-\hat{p}_{Intervention}) + \hat{p}_{Control}(1-\hat{p}_{Control})}{2}}}$$

Where $\hat{p}_{Intervention}$ and $\hat{p}_{Control}$ denote the proportion of a binary variable.

A standardized difference lower than 0.1 is often considered in guidelines as negligible, indicating the covariate is balanced across the two groups.

Sequential Holm-Bonferroni method

For secondary outcomes, the Holm-Bonferroni method[2] was used to adjust for the Family Wise Error Rate (FWER), i.e. the probability of making one or more false discoveries. The three considered secondary outcomes were the proportion of high-risk individuals achieving a systolic blood pressure target of <140 mmHg and the mean change in systolic and diastolic blood pressure levels from baseline to end of follow-up among high risk individuals.

Let's consider H_1, H_2 and H_3 be the secondary outcomes family of m=3 tested hypotheses and P_1, P_2 and P_3 the corresponding p-values. We ordered p-values from the lowest to highest value $P_{(1)}$, $P_{(2)}$ and $P_{(3)}$ and their respective hypothesis $H_{(1)}$, $H_{(2)}$ and $H_{(3)}$. Using α=.05, we applied the following formula for each $P_{(k)}$:

$$P_{(k)} > \frac{\alpha}{m + 1\ - k}$$

All P-values were lower than $\frac{\alpha}{m+1\ -k}$ and therefore the three null hypotheses were rejected.

Calculation of Intraclass Correlation Coefficients (ICC)

ICCs were calculated based on between cluster variance and within cluster variance, i.e. proportion of variance explained by clustering, using the following formula:

$$ICC = \frac{Between\ cluster\ variability}{(Between\ cluster\ variability + \ Within\ cluster\ variability)} = \frac{\sigma_u^2}{(\sigma_u^2 + \sigma_e^2)}$$

Estimations of σ_u^2 and σ_e^2 differ according the nature of the outcome (either continuous or binary). For continuous outcomes σ_u^2 and σ_e^2 are estimated from the model, as well as σ_u^2 for binary outcomes but σ_e^2 is assumed to follow a standard logistic distribution, which happens to have variance $\frac{\pi^2}{3}$ or approximately 3.29.

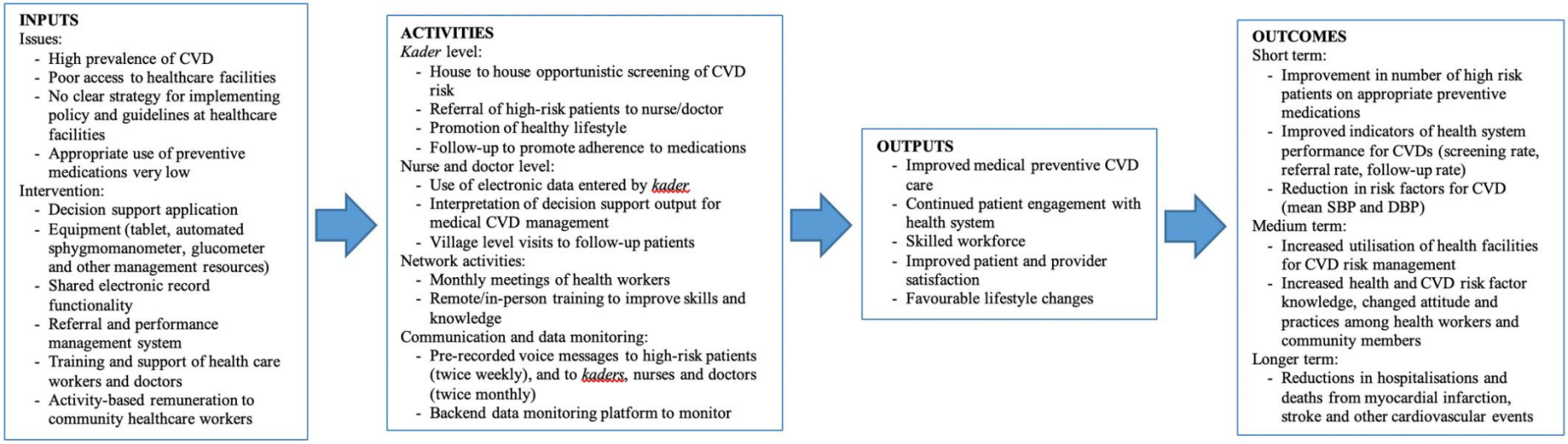
eReferences

1. Austin PC. Using the Standardized difference to compare the prevalence of a binary variable between two groups in observational research. *Commun. Stat. - Simul. Comput*. 2009;14;38(6):1228–34.

2. Abdi H. Holm's sequential Bonferroni procedure. In: Encyclopedia of Research Design. Thousand Oaks, CA: SAGE Publications; 2010. pp. 1-8.

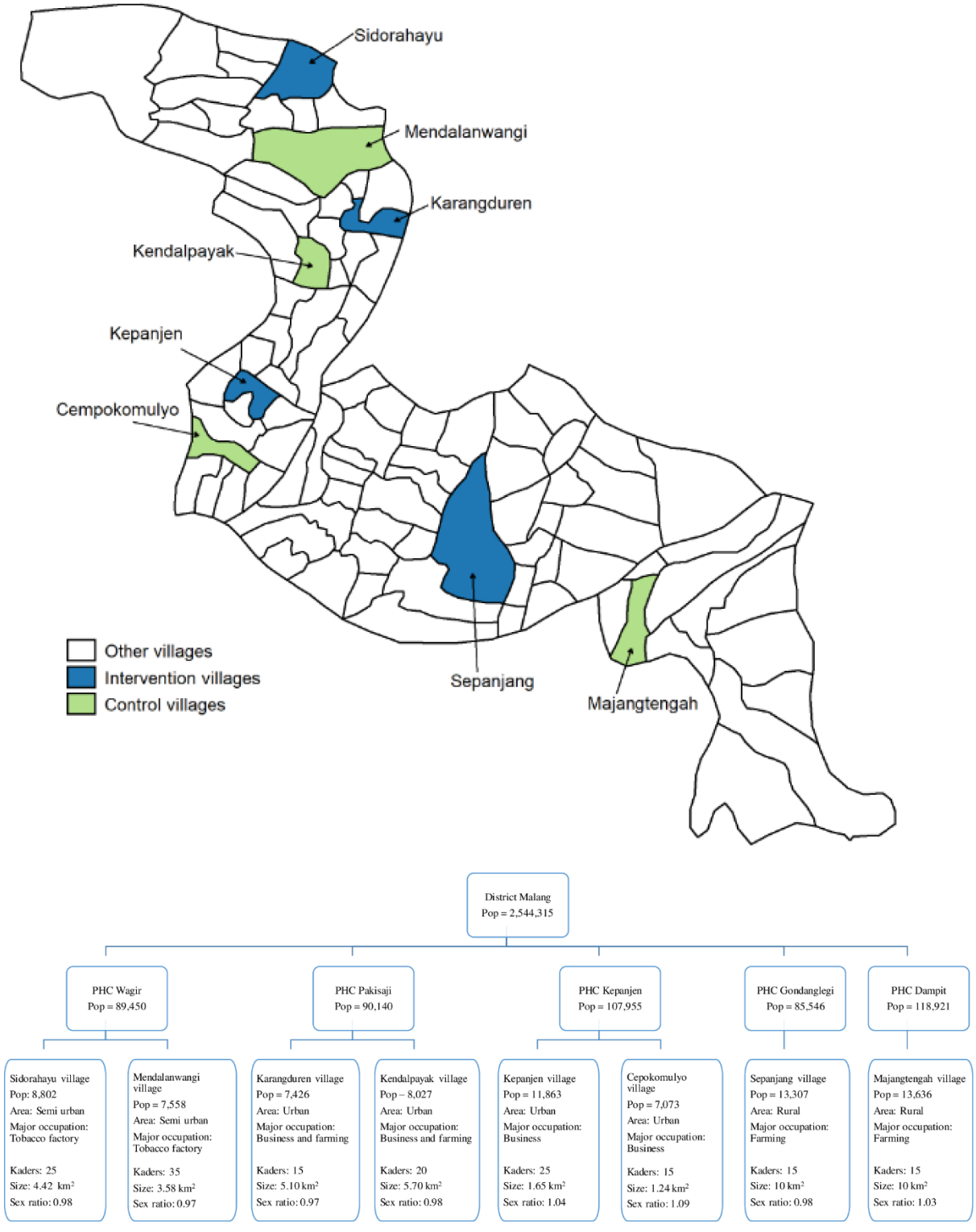
3. Donner A. and Klar N. Design and Analysis of Cluster Randomization Trials in Health Research. Arnold Publishing Co., London, U.K., 2000.

eFigure 1. SMART*health* Logic Model



This theory of change was developed using the COM-B Framework (Michie S, et al. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. Implement Sci. 2011; 6: 42) and MRC complex interventions frameworks (De Silva, M.J., et al. Theory of change: a theory-driven approach to enhance the Medical Research Council's framework for complex interventions. Trials. 2014; 15: 267).

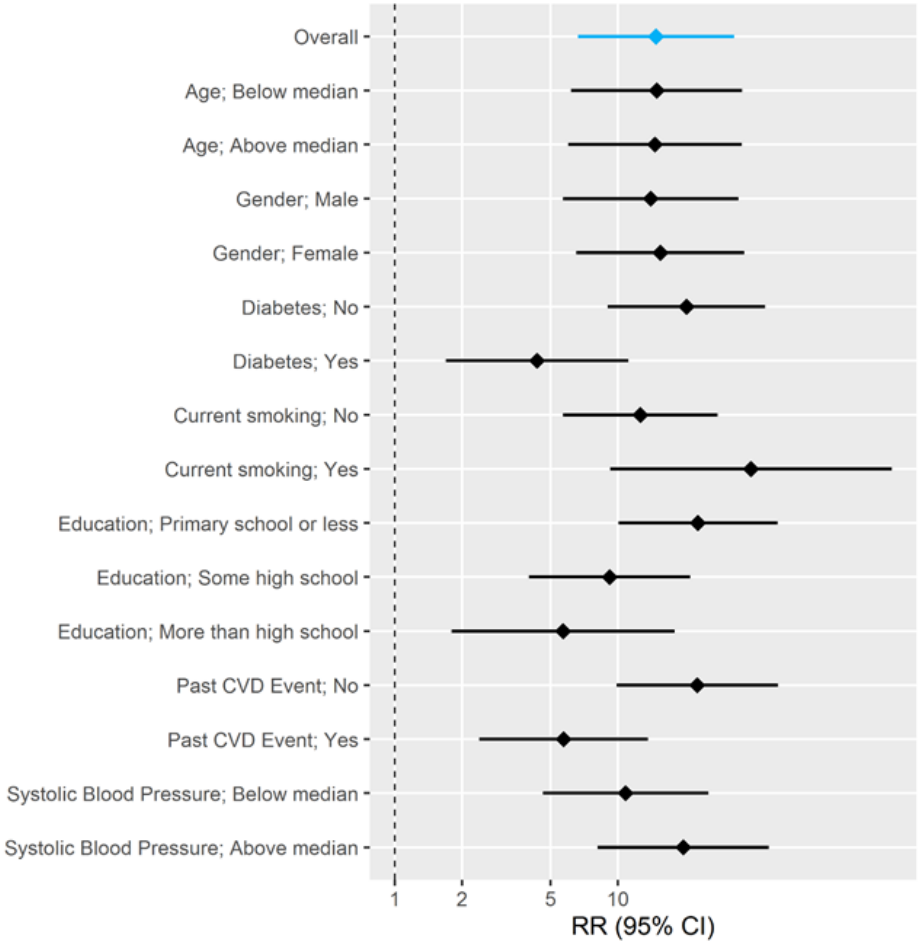
eFigure 2. Study Villages



Each intervention village was matched to a control village on the basis of population size, rurality, predominant occupation, distance from tobacco factories, and number of kaders. To identify appropriate control villages, a full listing of all other villages under the jurisdiction of each intervention village's primary health center was first obtained. The matching characteristics were then summarized for each of these villages using existing District Health Agency data, population census data and data from community-level key informants as required. For each intervention village, a control village that matched most closely on the majority of these characteristics was then chosen, in consultation with

the District Health Agency. As a matching control village could not be identified in the catchment area in the case of one primary health center, the control village from a neighboring primary health center catchment area was identified.

eFigure 3. Subgroup Analyses for Primary Outcome



	RR (95% CI)	*P-value for homogeneity*
Overall	14.8 (6.6 to 33.2)	
Age; Below median	15.0 (6.2 to 36.2)	.96
Age; Above median	14.7 (6.0 to 36.0)	
Gender; Male	14.1 (5.7 to 34.8)	.79
Gender; Female	15.5 (6.5 to 36.9)	
Diabetes; No	20.3 (9.0 to 45.9)	<.001
Diabetes; Yes	4.3 (1.7 to 11.1)	
Current smoking; No	12.6 (5.7 to 28.0)	.09
Current smoking; Yes	39.5 (9.2 to 169.4)	
Education; Primary school or less	22.9 (10.1 to 52.0)	.03
Education; Some high school	9.2 (4.0 to 21.2)	
Education; More than high school	5.7 (1.8 to 18.0)	
Past CVD Event; No	22.7 (9.9 to 52.4)	<.001
Past CVD Event; Yes	5.7 (2.4 to 13.7)	
Systolic Blood Pressure; Below median	10.8 (4.6 to 25.5)	.11
Systolic Blood Pressure; Above median	19.7 (8.1 to 47.6)	

eTable 1. Concordance Between *Kader*-Identified and Researcher-Identified High-Risk Individuals in the Intervention Villages

		***kader*-identified high-risk individuals**		
		Yes	**No**	Total
Researcher identified high-risk individuals	**Yes**	1694	1270	2964
	No	607	6476	7083
	Total	2301	7746	

Cohen's k = 0.52

Among individuals screened by both independent researchers and *kaders* in the intervention villages (n=10047):

- 73.6% of individuals identified as being high-risk by *kaders* had also been identified as high-risk by independent researchers.
- 83.6% of individuals identified as not being high-risk by *kaders* had also been identified as not being high-risk by independent researchers
- 1877 individuals had discordant risk classification; risk factors that determine this using ISH-WHO risk chart categories are compared below:

	Researcher-collected data (N=1877)	***Kader*-collected data (N=1877)**	**Absolute difference (%)**
Age groups (years), n (%)			
<40	0/1877 (0.0%)	1/1877 (0.1%)	0.1
40-49	514/1877 (27.4%)	470/1877 (25.0%)	2.4
50-59	665/1877 (35.4%)	660/1877 (35.2%)	0.2
60-69	399/1877 (21.3%)	430/1877 (22.9%)	1.6
70-79	233/1877 (12.4%)	243/1877 (12.9%)	0.5
≥80	66/1877 (3.5%)	73/1877 (3.9%)	0.4
Female, n (%)	1178/1877 (62.8%)	1180/1877 (62.9%)	0.1
SBP (mmHg), n (%)			
<130	253/1877 (13.5%)	418/1877 (22.3%)	8.8
130-149	521/1877 (27.8%)	791/1877 (42.1%)	14.3
150-169	733/1877 (39.1%)	527/1877 (28.1%)	11.0
≥170	370/1877 (19.7%)	141/1877 (7.5%)	12.2
Known CVD, n (%)	222/1877 (11.8%)	109/1877 (5.8%)	6.0
Diabetes, n (%)	170/1877 (9.1%)	156/1877 (8.3%)	0.8
Current smoking, n (%)	351/1877 (18.7%)	319/1877 (17.0%)	1.7

Abbreviations: SBP=systolic blood pressure; CVD=cardiovascular disease

Variability as expressed as pooled standard deviation of blood pressure measurements between researchers and *kaders* for the 10047 individuals who were assessed by both was 23.4 mmHg for systolic blood pressure and 13.0 mmHg for diastolic blood pressure.

eTable 2. Baseline Characteristics of the Census Population

Characteristic	Control (n=10,988)	Intervention (n=11,647)	P-value
Age (years), mean (SD)	55.1 (11.0)	54.6 (10.5)	.001
Female sex, n (%)	6081 (55.3%)	6730 (57.8%)	<.001
Education, n (%) Primary school or less Some high school More than high school	 7149 (65.1%) 3240 (29.5%) 599 (5.5%)	 6591 (56.7%) 4259 (36.6%) 784 (6.7%)	<.001
Known diabetes, n (%)	522 (4.8%)	719 (6.2%)	<.001
Current smoking, n (%)	3073 (28.0%)	2928 (25.1%)	<.001
SBP (mmHg), mean (SD)	140.0 (23.5)	140.8 (23.9)	.02
SBP (mmHg), median (IQR)	136.0 (123.0, 153.5)	137.0 (123.0, 154.0)	.02
DBP (mmHg), mean (SD)	88.3 (12.9)	88.7 (13.2)	.02
DBP (mmHg), median (IQR)	86.5 (79.5, 95.5)	87.0 (80.0, 96.0)	.01
BMI (kg/m^2), mean (SD)	24.9 (4.7)	25.1 (4.8)	<.001
High risk due to established CVD, n (%)	499 (4.5%)	729 (6.3%)	<.001
High risk due to other reasons, n (%)	2586 (23.5%)	2765 (23.7%)	.72
High risk on appropriate preventive medications[a], n (%)	2 (0.1%)	28 (0.8%)	<.001
High risk on BP lowering medication, n (%)	304 (9.9%)	484 (13.9%)	<.001
High risk on statin therapy, n (%)	21 (0.7%)	75 (2.1%)	<.001
Established CVD on antiplatelet medication, n (%)	13 (2.6%)	47 (6.4%)	.002

Abbreviations: BMI, body mass index; BP, blood pressure; CVD, cardiovascular disease; DBP, diastolic blood pressure; IQR, interquartile range; SD, standard deviation

[a]Combination of BP lowering medication(s), statin therapy and antiplatelet medication if high risk due to known CVD; combination of BP lowering medication(s) and statin therapy if high risk due to other reasons

eTable 3. Baseline Characteristics of High-Risk Individuals Who Were and Were Not Followed Up

Characteristic	Control		Intervention	
	Followed-up (n=2429)	Not followed-up (n=656)	Followed-up (n=2632)	Not followed-up (n=862)
Age (years), mean (SD)	58.8 (11.3)	59.9 (11.8)	57.9 (10.7)	59.7 (11.5)
Female sex, n (%)	1460 (60.1%)	378 (57.6%)	1693 (64.3%)	473 (54.9%)
Education, n (%) Primary school or less Some high school More than high school	 1690 (69.6%) 621 925.6%) 118 (4.9%)	 446 (68.0%) 170 (25.9%) 40 (6.1%)	 1631 (62.0%) 852 (32.4%) 146 (5.6%)	 508 (58.9%) 301 (34.9%) 53 (6.1%)
Known diabetes, n (%)	183 (7.5%)	64 (9.8%)	236 (9.0%)	108 (12.5%)
Current smoking, n (%)	480 (19.8%)	115 (17.5%)	450 (17.1%)	183 (21.2%)
SBP (mmHg), mean (SD)	167.4 (21.1)	166.8 (22.0)	166.8 (22.0)	165.8 (23.0)
DBP (mmHg), mean (SD)	101.4 (12.9)	101.3 (13.8)	101.4 (13.5)	100.0 (14.2)
BMI (kg/m^2), mean (SD)	25.6 (4.8)	25.9 (5.1)	26.2 (4.8)	25.5 (4.7)
High risk due to established CVD, n (%)	371 (15.3%)	128 (19.5%)	520 (19.8%)	209 (24.2%)
High risk due to other reasons, n (%)	2058 (84.7%)	528 (80.5%)	2112 (80.2%)	653 (75.8%)
On appropriate preventive medications[a], n (%)	2 (0.1%)	0 (0.0%)	23 (0.9%)	5 (0.6%)
On BP lowering medication, n (%)	235 (9.7%)	69 (10.5%)	363 (13.8%)	121 (14.0%)
On statin therapy, n (%)	17 (0.7%)	4 (0.6%)	56 (2.1%)	19 (2.2%)
Established CVD on antiplatelet medication, n (%)	10 (2.7%)	3 (2.3%)	35 (6.7%)	12 (5.7%)

Abbreviations: BMI, body mass index; BP, blood pressure; CVD, cardiovascular disease; DBP, diastolic blood pressure; SD, standard deviation

[a] Combination of BP lowering medication(s), statin therapy and antiplatelet medication if high risk due to known CVD; combination of BP lowering medication(s) and statin therapy if high risk due to other reasons

eTable 4. Additional Baseline Characteristics of High-Risk Individuals

Characteristic	Control (n=3085)	Intervention (n=3494)	P-value
Age category (years)			
<40	0/3085 (0.0%)	2/3494 (0.1%)	
40-50	722/3085 (23·4%)	800/3494 (22.9%)	
51-60	997/3085 (32·3%)	1229/3494 (35.2%)	.07
61-70	773/3085 (25·1%)	856/3494 (24.5%)	
71-80	438/3085 (14·2%)	464/3494 (13.3%)	
>80	155/3085 (5·0%)	143/3494 (4.1%)	
Marital status			
Single	19/3068 (0·6%)	60/3494 (1.7%)	
Married	2329/3068 (75·9%)	2662/3494 (76.2%)	
Separated	5/3068 (0·2%)	5/3494 (0.1%)	<.001
Divorced	52/3068) (1·7%)	130/3494 (3.7%)	
Widowed	663/3068 (21·6%)	637/3494 (18.2%)	
Occupation			
Casual worker	577/3055 (18.9%)	410/3474 (11.8%)	
Government employee	98/3055 (3.2%)	100/3474 (2.9%)	
Private industry employee	439/3055 (14.4%)	517/3474 (14.9%)	
Self-employed	601/3055 (19.7%)	857/3474 (24.7%)	<.001
Home duties	741/3055 (24.3%)	961/3474 (27.7%)	
Unpaid / unemployed	482/3055 (15.8%)	477/3474 (13.7%)	
Retired	117/3055 (3.8%)	152/3474 (4.4%)	
Random blood glucose (mg/dL)			
n	3062	3476	
Mean (SD)	131.3 (65.9)	138.9 (70.6)	<.001
Family history of CVD	381/3085 (12.4%)	655/3494 (18.7%)	<.001

Abbreviations: CVD, cardiovascular disease; SD, standard deviation

eTable 5A. Intervention Effects – Primary Analysis Based on researcher-Identified High-Risk Individuals in Control and Intervention Villages: Without Adjustment for Baseline Covariates

Outcome	Control (n=2429)	Intervention (n=2632)	Risk difference (95% CI)	Relative risk or mean difference (95% CI)	P-value[a]	ICC
Appropriate treatment[b], No. (%)	25/2429 (1.0%)	409/2632 (15·5%)	14.5% (13.1 to 16.0)	15.0 (6.6 to 34.4)	<.001	.077
Achieving BP target, No. (%)	539/2429 (22.2%)	815/2632 (31·0%)	8.8% (6.4 to 11.2)	1.4 (1.3 to 1.5)	<.001	<.001
Change in SBP, mean (SEM), mmHg	-9.2 (0.4)	-17·2 (0·4)	–	-7.9 (-9.6 to -6.2)	<.001	.002
Change in DBP, mean (SEM), mmHg	-5.0 (0.2)	-8·3 (0·3)	–	-3.4 (-4.4 to -2.3)	<.001	.002
BP lowering medication, No. (%)	382/2429 (15.7%)	1495/2632 (56·8%)	41.1% (38.7 to 43.5)	3.8 (2.4 to 5.8)	<.001	.027
Lipid lowering medication, No. (%)	59/2429 (2.4%)	523/2632 (19·9%)	17.4% (15.8 to 19.1)	9.6 (3.7 to 24.6)	<.001	.113
Antiplatelet medication, No. (%)[c]	47/371 (12.7%)	128/520 (24·6%)	11.9% (6.9 to 17.0)	2.0 (0.9 to 4.4)	.07	.068
Current smoking[d], No. (%)	447/2429 (18.4%)	420/2632 (16·0%)	-	-	-	-
Change in BMI, mean (SEM), kg/m^2	0.0 (0.1)	-0·3 (0·1)	–	-0.2 (-0.9 to 0.4)	.49	.019

Abbreviations: BMI, body mass index; BP, blood pressure; CI, confidence interval; CVD, cardiovascular disease; DBP, diastolic blood pressure; ICC, intra-class correlation coefficient; SEM, standard error of the mean.

[a] P-value for adjusted relative risk or mean difference.

[b]Combination of BP lowering medication(s), statin therapy and antiplatelet medication if high risk due to known CVD; combination of BP lowering medication(s) and statin therapy if high risk of CVD events due to other reasons.

[c] Among individuals at high risk due to known CVD at baseline.

[d] Model does not converge.

Missing values – body mass index (63 control, 50 intervention); blood pressure (3 control, 9 intervention). The missing blood pressure values were due to data transmission errors from the mobile application to the central database, as there were no missing values for determining high-risk status (the automatic calculation of which requires blood pressure values for those without known cardiovascular disease).

eTable 5B. Intervention Effects – Primary Analysis Based on Researcher-Identified High-Risk Individuals in Control and Intervention Villages: Full Adjustment for Baseline Covariates

Outcome	Control (n=2429)	Intervention (n=2632)	Adjusted risk difference (95% CI)	Adjusted relative risk or mean difference (95% CI)	P-value[a]	ICC
Appropriate treatment[b], No. (%)	25/2429 (1.0%)	409/2632 (15.5%)	14.0% (12.4 to 15.7)	14.9 (6.9 to 32.2)	<.001	.065
Achieving BP target, No. (%)	539/2429 (22.2%)	815/2632 (31.0%)	7.9% (5.8 to 10.0)	1.3 (1.2 to 1.5)	<.001	<.001
Change in SBP, mean (SEM), mmHg	-9.2 (0.4)	-17.2 (0.4)	–	-8.3 (-9.6 to -6.9)	<.001	.001
Change in DBP, mean (SEM), mmHg	-5.0 (0.2)	-8.3 (0.2)	–	-3.4 (-4.4 to -2.4)	<.001	.002
BP lowering medication, No. (%)	382/2429 (15.7%)	1495/2632 (56.8%)	37.4% (35.0 to 39.8)	3.6 (2.5 to 5.2)	<.001	.019
Lipid lowering medication, No. (%)	59/2429 (2.4%)	523/2632 (19.9%)	16.4% (14.7 to 18.1)	9.7 (3.8 to 24.8)	<.001	.111
Antiplatelet medication, No. (%)[c]	47/371 (12.7%)	128/520 (24.6%)	9.5% (4.5 to 14.6)	2.0 (1.0 to 3.7)	.04	.043
Current smoking[d], No. (%)	447/2429 (18.4%)	420/2632 (16.0%)	-	-	-	-
Change in BMI, mean (SEM), kg/m^2	0.0 (0.1)	-0.3 (0.1)	–	-0.2 (-0.9 to 0.4)	.48	.020

Abbreviations: BMI, body mass index; BP, blood pressure; CI, confidence interval; CVD, cardiovascular disease; DBP, diastolic blood pressure; ICC, intra-class correlation coefficient; SEM, standard error of the mean.

For the outcome of appropriate medicines use, adjustment for baseline use of individual drug modalities was not done. For each of the outcomes of use of individual drug modalities, adjustment for baseline appropriate medication use was not done.

[a]P-value for adjusted relative risk or mean difference.

[b]Combination of BP lowering medication(s), statin therapy and antiplatelet medication if high risk due to known CVD; combination of BP lowering medication(s) and statin therapy if high risk of CVD events due to other reasons.

[c]Among individuals at high risk due to known CVD at baseline.

[d]Model does not converge.

Missing values – body mass index (63 control, 50 intervention); blood pressure (3 control, 9 intervention). The missing blood pressure values were due to data transmission errors from the mobile application to the central database, as there were no missing values for determining high-risk status (the automatic calculation of which requires blood pressure values for those without known cardiovascular disease).