Ye J, Orji IA, Baldridge AS, et al; Hypertension Treatment in Nigeria Program Investigators. Characteristics and patterns of retention in hypertension care in primary care settings from the Hypertension Treatment in Nigeria Program. JAMA Netw Open. 2022;5(9):e2230025. doi:10.1001/jamanetworkopen.2022.30025

**eTable 1.** Number of Patients Registered and Number of Patient Visits by Calendar Month and Area Council

**eTable 2.** Characteristics of Retention in Hypertension Care by Area Council

**eFigure 1.** Example of the Audit and Feedback Report for the Hypertension Treatment in Nigeria Program

**eFigure 2.** Flow Diagram of Study Participants

**eTable 3.** Characteristics of Primary Health Care Center Staff by Area Council

This supplementary material has been provided by the authors to give readers additional information about their work.
Table 1. Number of patients registered and number of patient visits by calendar month and area council.

| Area                  | Abaji | Abuja Municipal Area Council | Bwari | Gwagwalada | Kuje | Kwali | Total |
|-----------------------|-------|------------------------------|-------|------------|------|-------|-------|
| Month                 | Reg.  | Visit | Reg.  | Visit | Reg.  | Visit | Reg.  | Visit | Reg.  | Visit | Reg.  | Visit | Reg.  | Visit | Reg.  | Visit | Reg.  | Visit | Reg.  | Visit | Reg.  | Visit | Reg.  | Visit |
| January               | 17    | 19    | 1     | 1     | 0     | 0     | 42    | 42    | 0     | 0     | 4     | 6     | 64    | 68    |       |       |       |       |       |       |       |       |
| February              | 164   | 168   | 88    | 78    | 78    | 137   | 164   | 42    | 46    | 51    | 52    | 560   | 603   |       |       |       |       |       |       |       |       |
| March                 | 143   | 197   | 166   | 195   | 76    | 103   | 113   | 167   | 73    | 88    | 36    | 63    | 607   | 813   |       |       |       |       |       |       |       |       |
| April                 | 50    | 129   | 102   | 189   | 66    | 104   | 60    | 186   | 23    | 70    | 57    | 108   | 358   | 786   |       |       |       |       |       |       |       |       |
| May                   | 42    | 180   | 130   | 244   | 62    | 103   | 72    | 271   | 46    | 111   | 54    | 130   | 406   | 1071  |       |       |       |       |       |       |       |       |
| June                  | 120   | 368   | 183   | 358   | 102   | 190   | 166   | 430   | 39    | 154   | 54    | 146   | 664   | 1646  |       |       |       |       |       |       |       |       |
| July                  | 63    | 353   | 145   | 353   | 101   | 214   | 113   | 424   | 24    | 150   | 80    | 192   | 526   | 1686  |       |       |       |       |       |       |       |       |
| August                | 45    | 302   | 135   | 345   | 65    | 176   | 109   | 502   | 24    | 170   | 56    | 192   | 434   | 1687  |       |       |       |       |       |       |       |       |
| September             | 44    | 303   | 132   | 356   | 81    | 174   | 72    | 439   | 19    | 176   | 40    | 190   | 388   | 1638  |       |       |       |       |       |       |       |       |
| October               | 50    | 358   | 114   | 303   | 79    | 225   | 69    | 412   | 20    | 174   | 28    | 158   | 360   | 1630  |       |       |       |       |       |       |       |       |
| November              | 91    | 340   | 199   | 357   | 60    | 147   | 77    | 404   | 21    | 171   | 95    | 222   | 543   | 1641  |       |       |       |       |       |       |       |       |
| December              | 46    | 209   | 184   | 353   | 65    | 158   | 77    | 426   | 25    | 165   | 49    | 187   | 446   | 1498  |       |       |       |       |       |       |       |       |
| January, 2021        | 180   | 592   | 271   | 548   | 69    | 192   | 183   | 599   | 84    | 278   | 154   | 408   | 941   | 2617  |       |       |       |       |       |       |       |       |
| February, 2021       | 117   | 539   | 353   | 663   | 96    | 333   | 184   | 576   | 64    | 282   | 87    | 333   | 901   | 2726  |       |       |       |       |       |       |       |       |
| March, 2021          | 140   | 706   | 285   | 827   | 70    | 323   | 130   | 582   | 64    | 388   | 68    | 373   | 757   | 3199  |       |       |       |       |       |       |       |       |
| April, 2021          | 50    | 580   | 210   | 780   | 99    | 353   | 140   | 649   | 67    | 419   | 50    | 311   | 616   | 3092  |       |       |       |       |       |       |       |       |
| May, 2021            | 115   | 716   | 265   | 895   | 126   | 418   | 143   | 704   | 57    | 432   | 70    | 303   | 776   | 3468  |       |       |       |       |       |       |       |       |
| June, 2021           | 161   | 819   | 230   | 933   | 130   | 494   | 146   | 732   | 45    | 423   | 85    | 453   | 797   | 3854  |       |       |       |       |       |       |       |       |
| July, 2021           | 95    | 653   | 145   | 702   | 92    | 453   | 119   | 670   | 57    | 385   | 34    | 339   | 542   | 3202  |       |       |       |       |       |       |       |       |
| Total                | 1733  | 7531  | 3338  | 8497  | 1517  | 4270  | 2152  | 8379  | 794   | 4082  | 1152  | 4166  | 10686 | 36925 |       |       |       |       |       |       |       |       |
**eTable 2. Characteristics of retention in hypertension care by area council.**

| Indicator | Area Council |
|-----------|--------------|
|           | Abaji N=1733 | AMAC N=3338 | Bwari N=1517 | Gwagwalada N=2152 | Kuje N=794 | Kwali N=1152 | Total N=10686 |
| Retention Pattern, N (%) | | | | | | | |
| Patients who returned ≤ 37 days | 683 (39.4) | 992 (29.7) | 463 (30.5) | 824 (38.3) | 412 (51.9) | 440 (38.2) | 3814 (35.7) |
| Patients who returned in 37-90 days | 342 (19.7) | 395 (11.8) | 193 (12.7) | 308 (14.3) | 114 (14.4) | 207 (18.0) | 1559 (14.6) |
| Patients who returned in 90-180 days | 134 (7.7) | 139 (4.2) | 84 (5.5) | 111 (5.2) | 47 (5.9) | 51 (4.4) | 566 (5.3) |
| Patients who returned in 180-365 days | 82 (4.7) | 89 (2.7) | 59 (3.9) | 30 (1.4) | 10 (1.3) | 20 (1.7) | 290 (2.7) |
| Cumulative follow-up in 365 days | 1241 (71.6) | 1615 (48.4) | 799 (52.7) | 1273 (59.2) | 583 (73.4) | 718 (62.3) | 6229 (58.3) |
| Patients who returned in >365 days | 16 (0.9) | 12 (0.4) | 10 (0.7) | 16 (0.7) | 5 (0.6) | 4 (0.3) | 63 (0.6) |
| Time Elapsed Between 1<sup>st</sup> and 2<sup>nd</sup> Visit for all the patients, day, median (IQR) | 41 (31, 71) | 34 (29, 57) | 64 (46, 99) | 33 (29, 52) | 32 (29, 45) | 40 (31, 61) | 39 (32, 62) |
| Time Elapsed Between 1<sup>st</sup> and 2<sup>nd</sup> Visit for those who did not return in 37 days, day, median (IQR) | 71 (53, 136) | 79 (53, 151) | 97 (67, 168) | 67 (48, 107) | 63 (46, 93) | 68 (54, 104) | 74 (53, 125) |

Abbreviations: AMAC=Abuja Municipal Area Council; IQR=interquartile range.

*Only considered those who had follow-up visits.*
**eFigure 1.** Example of the audit and feedback report for the Hypertension Treatment in Nigeria Program.
**eFigure 2.** Flow diagram of study participants.

11078 Individuals assessed for eligibility

- Age between 18-100
- Baseline BP Present
- Sex Recorded

Yes, N=10875

Patient have a pre-existing diagnosis of HTN
OR
On a HTN medication at Baseline
OR
Baseline BP SBP ≥ 140 OR DBP ≥ 90

No, N=203

10686 Individuals included in the primary analysis

No, N=189

392 Individuals ineligible
**eTable 3.** Characteristics of primary health care center staff by area council.\(^a\)

| Area          | Abaji | AMAC | Bwari | Gwagwalada | Kuje | Kwali | Total |
|---------------|-------|------|-------|------------|------|-------|-------|
| Number of primary healthcare center (PHCs) | 8     | 15   | 8     | 11         | 8    | 10    | 60    |
| Total number of generalist medical doctors | 0     | 22   | 2     | 4          | 2    | 1     | 31    |
| Part-time generalist medical doctors | 0     | 21   | 1     | 1          | 1    | 0     | 24    |
| Total number of specialist medical doctors | 1     | 0    | 0     | 1          | 0    | 9     | 11    |
| Part-time specialist medical doctors | 0     | 0    | 0     | 1          | 0    | 0     | 1     |
| Total number of non-physician clinicians/paramedical professionals | 0     | 1    | 0     | 0          | 0    | 1     | 2     |
| Part-time non-physician clinicians/paramedical professionals | 0     | 1    | 0     | 0          | 0    | 0     | 1     |
| Total number of nursing professionals | 9     | 51   | 23    | 33         | 25   | 14    | 155   |
| Part-time nursing professionals | 2     | 25   | 3     | 14         | 11   | 0     | 55    |
| Total number of pharmacists | 0     | 1    | 3     | 2          | 0    | 3     | 9     |
| Part-time pharmacists | 0     | 0    | 1     | 1          | 0    | 0     | 2     |
| Total number of laboratory technicians (medical and pathology) | 8     | 31   | 13    | 14         | 7    | 9     | 82    |
| Part-time laboratory technicians (medical and pathology) | 1     | 29   | 7     | 9          | 2    | 0     | 48    |
| Total number of community health extension workers | 19    | 65   | 40    | 83         | 38   | 35    | 280   |
| Part-time community health extension workers | 7     | 22   | 15    | 30         | 10   | 3     | 87    |
| Total number of junior community health extension workers | 16    | 47   | 20    | 18         | 9    | 15    | 125   |

\(^a\) Numbers are counts of primary health care center staff by area council.
| Part-time junior community health extension workers | 5   | 22  | 14  | 9  | 0  | 2  | 52 |
|---------------------------------------------------|-----|-----|-----|----|----|----|----|
| Total number community volunteers                 | 8   | 55  | 35  | 10 | 1  | 27 | 136|
| Part-time community volunteers                    | 2   | 43  | 24  | 6  | 0  | 6  | 81 |
| Total number community health officers            | 1   | 11  | 5   | 6  | 4  | 7  | 34 |
| Part-time community health officers               | 0   | 5   | 1   | 0  | 0  | 1  | 7  |
| Total number of other staff                       | 8   | 32  | 26  | 47 | 8  | 21 | 142|
| Part-time other staffb                            | 3   | 16  | 31  | 35 | 7  | 8  | 100|
| Total number of staff                            | 70  | 316 | 167 | 218| 94 | 142| 1007|
| Total number of part time staff                   | 20  | 184 | 97  | 106| 31 | 20 | 458|
| Number of staff per PHC, median (IQR)             | 6.5 (6, 10.5) | 15 (10, 24) | 23.5 (10, 31) | 15 (13, 30) | 8 (5, 10) | 10 (8, 15) | 12 (7-23) |
| Number of part time staff per PHC, median (IQR)   | 2.5 (1, 4) | 7 (5, 20) | 9.5 (5.5, 17.5) | 12 (2,13) | 3.5 (1.5, 6.5) | 0 (0, 5) | 5.5 (2.12) |
| Number of registered patients per PHC, median (IQR)| 215 (157.5, 239.5) | 236 (178, 261) | 176.5 (124.5, 198) | 180 (121, 204) | 66.5 (55, 110.5) | 86 (53, 177) | 177.5 (109, 223.5) |
| Number of patient per staff, median (IQR)         | 25.5 (21.5, 32) | 16 (9, 22) | 8 (6, 14) | 9 (7, 15) | 9 (7, 13.5) | 7 (5, 10) | 10.5 (7, 20) |
| Number of patient per part-time staff, median (IQR)| 72 (52, 111) | 22 (12, 53) | 15 (10, 29.5) | 14 (10, 27) | 17 (12, 35) | 13.5 (5.5, 39) | 20 (12, 52) |

Abbreviations: AMAC=Abuja Municipal Area Council; PHC=primary healthcare center.

*aAll the numbers are from the first supervision visit at each primary healthcare center (months/year).

*bOther staff include health attendant, medical record officer, security worker, and cleaner.