Chapter 5: Results

5.1. Selection of Participants

Forty-nine (49) study participants were selected to participate in this study; however, 23 participants were dropped due to their smartphones being incompatible with the OptiBP application. Out of the remaining 26 participants, 43.6% (n=9) were from Nyacyonga Health Centre, and 65.4% (n=17) were from Nyarugenge District Hospital. Figure 5 below summarizes the participant's selection, enrolment, and follow-up process.

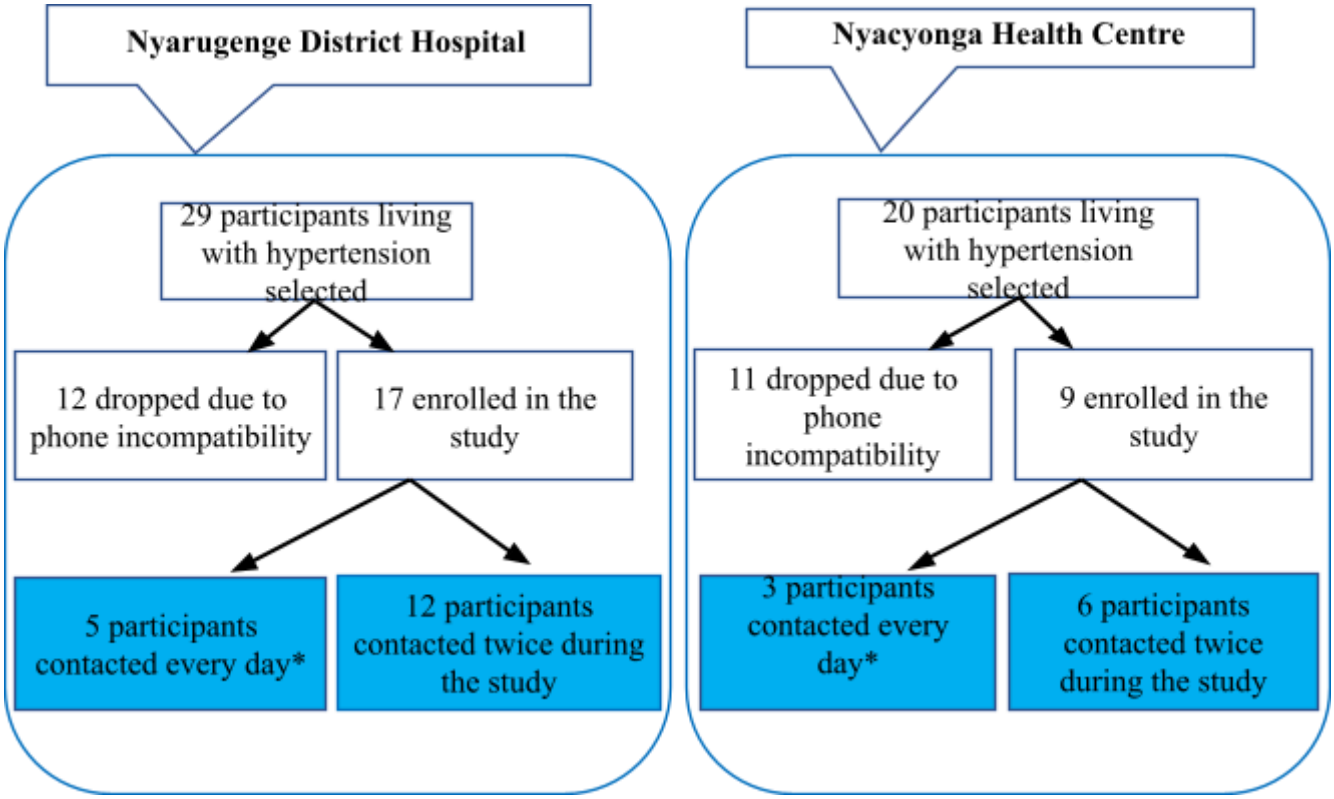


Figure 7: Selection and Enrolment of study participants

* Group 1 – *Sent a text message daily and calls from day 2 to day 6*
*** Group 2 – sent messages on day 2 and day 5 only*

5.2. Characteristics of the study participants

Our samples had 23.1% (n=6) males and 76.9% (n=20) females. The youngest participant was 28 years and the oldest 70 years, with the mean age being 51.54 and standard deviation being 11.59, while the median was 52 and the interquartile range of 13(IQR = 59 - 46). Most of the participants (53.8% = 14) were married, 50% (n=13) had attained secondary education, and 65.1% (n=17) were unemployed. Also, 100% (n=26) reported having taken their antihypertensive drugs during the last seven days, thus reporting high adherence to treatment among them. Regarding the length of use of smartphones, 73.1% (n=19) of the participants had used the smartphones for less than two years, and only 26.9% (n=7) had used the smartphones

for more than five years. The comprehensive characteristics of the 26 study participants are presented in Table 3 below:

Table 2: Characteristics of the study participants

Descriptor	Participants (n=26) n (%)
Facility	
Nyacyonga health centre	9(34.6%)
Nyarugenge district hospital	17(65.4%)
Sex	
Male	6(23.1%)
Female	20(76.9%)
Age Categories	
20 - 50	11(42.3%)
51 - 80	15(57.7%)
Marital Status	
Single	4(15.4%)
Married	14(53.8%)
Divorced	1(3.8%)
Separated	2(7.7%)
Windowed	5(19.2%)
Education level	
Primary	9(34.6%)
Secondary	13(50.0%)
Tertiary	4(15.4) %
Employment Status	
Unemployed	17(65.4%)
Self-employed	9(34.6%)

Smartphone use and Ownership	Participants (n=26) n (%)
Years using a smartphone	
0-2	19(73.1%)
3-5	4(15.4%)
6 and above	3(11.5%)
The phone used to test the Feasibility of the OptiBP App	
Personal Phone	7(26.9%)
Biospectal phone	19(73.1%)
Follow-up as a reminder to measure BP	
Group 2**	18(69.2%)
Group 1*	8(30.8%)

* Group 1 – *Sent a text message daily and calls from day 2 to day 6*

** *Group 2 – sent messages on day 2 and day 5 only*

5.3. Usability of the OptiBP application among People Living with Hypertension in Rwanda

In our study, 46.1% (n=12) of the respondents considered the OptiBP application usable, with a SUS score of ≥68, while 53.9% (n=14) of the respondents scoring <68, thus suggesting it was less usable among the Rwandan population living with hypertension. The table below summarizes the univariate analysis for SUS scores among the study participants.

Table 3: Description of categorised and overall System Usability Scores

		Percent (n=26) n%
SUS categories		
<68		14(53.9%)
≥68		12(46.1%)
Overall		
Median		65.00
Interquartile range		15.00
95% Confidence interval		
	Lower bound	63.41
	Upper bound	69.32
One sample Wilcoxon signed rank (compared to a standard score of 68)		P-value = 0.251

Table 4: Summary of Cross tabulation and Chi-square (SUS Score-Category and Independent variables)

		SUS as category			SUS as a continuous variable	
Variables		**SUS Score Category**		**P value**	**Mann Whitney Test statistics (Z)**	**Asymp. Sig. (2-tailed)**
		<68	≥68			
Sex	Male	3(11.5%)	3(11.5%)		-.216	.829
	Female	11(42.3%)	9(346%)	0.83		
Age Group	20 - 50	6(23.1%)	5(19.2%)	0.95	-.026	.979
	51 - 80	8(30.8%)	7(26.9%)			
Level of Education	Primary	5(19.2%)	4(15.4%)		1.382	.501
	Secondary and above	9(34.6%)	8(30.8%)	0.98		
Length of use of smartphone	0-2 years	8(30.8%)	11(42.3%)	0.048*	3.946	.267
	≥3 years	6(23.1%)	1(3.8%)			
Monitoring BP before this study	No	13(50.0%)	9(34.6%)	0.74	-.253	.801
	Yes	2(7.6%)	2(7.6%)			

SUS as a Categorical variable: Among participants who used smartphones for 0-2 years, 30.8%(n=8) have a score of less than 68, while 42.3%(n=11) have a score greater than or equal to 68. For participants who used smartphones for three or more years, 23.1% (n=6) have a score of less than 68, while 3.8%(n=1) have a score ≥ 68. However, the (P-value = 0.048) suggests that the length of smartphone use has a significant association with SUS scores which indicates that the longer the duration of smartphone use.

Factors like monitoring blood pressure before the study, sex, and age group did not show significant associations with SUS scores, as indicated by the p-values of 0.74 and 0.95, respectively.

SUS as a continuous variable: The Mann-Whitney test was conducted to compare the distributions of SUS scores between two independent groups. The results revealed no significant difference between the compared groups, with all p-values exceeding 0.05.

Smartphone specifications

Out of the 26 smartphones available during the study, only seven phones owned by participants were compatible; the remaining 19 were provided phones by the preceptor organization.

The smartphones that were compatible with OptiBP and those that were not compatible are described in the table below.

Table 5: Specifications of smartphones that were compatible or not compatible with the OptiBP application.

	Not compatible	**Compatible**
Random Access Memory (RAM)	<3GB	3GB to 8GB
Read Only Memory (ROM)	<36GB	Ranges from 32GB to 128GB
Processor type	Octa-core processors with speeds ranging from 1.3GHz to 2.0GHz, such as Cortex A7 and Media Tek MT6735	Octa-core processors with clock speeds ranging from 1.6GHz to 2.9GHz
Android type	Android 8.0, Android 9.0, Android 10, Android 11, and Hios versions	Android 8, Android 9.0 (Pie), Android 11, and Android 12
Camera specifications	Ranges from Single rear cameras with resolutions of 5MP, 8MP, or 13MP to dual, triple, or quad rear cameras with resolutions of 13MP, 16MP, 50MP, or 64MP	Ranges from single rear cameras with 8MP resolution to dual or triple rear cameras with resolutions of 13MP, 16MP, 48MP, 50MP, or 64MP
	Aperture values < f/1.6	Aperture values include f/1.6, f/1.8, f/2.0, and f/2.4
Flashlight	LED flash, dual LED flash, and quad LED flash	LED flash, dual LED flash, and quad LED flash

Refer to here Annex 4 for details of phones that worked.

5.4. Acceptability of the OptiBP Application among People Living with Hypertension in Rwanda

The UTUAT questionnaire used the Likert Scale (1 – 5 score), from strongly disagree to strongly agree. The results are presented as per the UTUAT constructs in Figure 6 above.

Table 6: Results for the UTUAT constructs

Performance Expectancy

i. Performance Expectancy

This construct is divided into two parts, the **possibilities** and the **outcomes** of the OptiBP application. On the possibilities of the OptiBP app, 100% (n=26) agreed that integrating the OptiBP application into the smartphone made it possible to measure BP everywhere and that it can easily be integrated into patient care and management in hospitals. However, 53.9% (n=14) noted that the OptiBP is still not a standard blood pressure monitor, thus they still do not have enough trust in the application; only 46.2% (n=12) of the participants regarded the OptiBP application as a standard blood pressure monitoring tool, thus trusting the app.

Regarding the outcomes of the OptiBP app, 61.5% (n=16) noted that the OptiBP did indicate when the blood pressure was high through a colour-coded system (blue-low, green-normal and red-high). In comparison, 30.8% (n=8) indicated that the app did not indicate when the BP was high and 7.7% (n= 2) were neutral. Regarding the slight difference between the OptiBP and the hospital BP monitor as per the study participants, 76.9% (n=20) noted that this difference led them not to trust the OptiBP monitor, while 23.1% (n=6) trusted the application despite the difference in the BP outcomes.

	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
Possibilities of the OptiBP app					
Integration of the OptiBP into the smartphone enables me to measure BP everywhere	-	-	-	26 (100%)	-

OptiBP App can be integrated into patient care	-	-	-	26 (100%)	-
OptiBP app is not yet a standard monitor, this decreases my trust in it	2 (7.7%)	12 (46.2%)	-	12 (46.2%)	
Outcome of OptiBP					
OptiBP does not indicate when the BP is high	16 (61.5%)		2 (7.7%)	8 (30.8%)	
At times OptiBP did not indicate when the BP was high					
The difference between the hospital monitor and OptiBP leads me to have less trust in OptiBP	6(23.1%)			20 (76.9%)	

ii. Effort Expectancy

Regarding the ease of use of the OptiBP app, 96% (n=25) agreed that it was easy to use the application, while 100% (n=26) agreed that the app measured blood pressure faster than the hospital digital BP machine. However, some participants (23.1%; n=6) experienced instances where the OptiBP application took more than 2 minutes to complete the blood pressure measurement process.

Measurement of the BP using the OptiBP application cannot be performed with cold hands, as indicated by most of the participants 65.4% (n=17). It does not require extensive knowledge about measuring blood pressure 65.4% (n=17), although a portion of participants (34.6%) expressed a need for more knowledge before using the application.

Regarding the design of the OptiBP application, most participants 58.3% (n=14) expressed the need for OptiBP application background to be of a lighter colour to enhance visualization, and 46.2% (n=12) agreed that the current font size on the screen is very small, while 11.5% found it challenging to read (65.4% found it readable) and 23.1% had no issues. A small percentage of participants (11.5%) voiced concerns about data privacy, while the majority (76.9%) did not express such worries.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
The OptiBP is easy to use.	1 (3.8%)			25 (96.2%)	
Compared to digital/manual BP machines, the OptiBP measures BP faster.				26 (100%)	
The OptiBP app takes more than 2 minutes to measure BP.		6 (23.1%)		20 (76.9%)	
Daily BP measurements cannot be performed with cold hands.		17 (65.4%)	4 (15.5%)	5 (19.2%)	
Then OptiBP does not require one to have a lot of knowledge about measuring the BP.		17 (65.4%)		9 (34.6%)	
Design of OptiBP					
The OptiBP needs a light version to improve visualization		14 (58.3%)		12 (46.2%)	
The font size of the screen is very small	3 (11.5%)	17 (65.4%)		6 (23.1%)	
I am worried about my data privacy while using OptiBP	3 (11.5%)	20 (76.9%)		3 (11.5%)	
iii. Social Influence					

Most of the participants 88.8% (n=23) agree that the OptiBP application can be used to measure BP without being support

	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
Measuring BP using OptiBP can be done without any help		2 (7.7%)		23 (88.8%)	

iv. Facilitating Conditions

Although the OptiBP application does not require internet after calibration, 19.2% (n=5) think it requires internet connectivity daily.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
OptiBP requires internet connectivity any time I use it	4 (15.4%)	15 (65.4%)		5 19.2%	

v. Willingness to pay a monthly Subscription.

Most of the participants, 93% (n=24), are willing to pay a monthly subscription between 300 to 1000 Rwandan francs to access the application on their smartphones.

Cost (Price value)	**No**	**Yes**
I am willing to pay a monthly subscription fee if OptiBP is made available in Rwanda	2 (7.7%)	24 (93.3%)

How much are you willing to pay?	**Participants**
300 RWF	3(11.5%)
500 RWF	13(50%)
700 RWF	1(3.8%)
1000 RWF	9(34.6%)

Cross Tab of UTAUT 2 against the independent variables
Tables of Cross tabulation are available in Annex 3.

Sex
Both male and female participants expressed concerns about the time it takes to measure blood pressure. Data privacy is a common concern among both genders, emphasizing the importance of implementing robust security measures and communicating them effectively to users. Females showed a higher inclination towards paying for the OptiBP application, indicating that the product might have greater acceptance and market potential among women.

Female participants had a more positive perception of OptiBP application compared to males. A significant portion, 34.6%(n=9) of females, agreed that OptiBP application takes more than 2 minutes to measure blood pressure.

Age
Participants across different age groups perceived the OptiBP application as more than just a systolic blood pressure (SBP) monitor, which is right as the OptiBP application measures both SBP and DBP. Participants in all age groups expressed concerns about data privacy while using the OptiBP application, highlighting the importance of addressing privacy concerns and building trust with users.

A significant portion, 34.6%(n=9) of participants who are of age 20 - 35, agreed that the OptiBP application does not require a lot of knowledge about measuring blood pressure, indicating its user-friendly nature. A majority, 76.9%(n=20), did not have to consult the user manual and instructions frequently, indicating ease of use and intuitive design among them.

Among participants aged 36-50, a majority, 65.4%(n=17), disagreed that the OptiBP application measures SBP only. Also, among the age group, the perception that OptiBP does not require a lot of knowledge about measuring blood pressure was shared by 34.6%(n=9).

Level of Education
Overall, the categorization emphasizes the need for tailored messaging to address specific concerns and promote the benefits of the OptiBP application among different education levels. Participants with higher education levels are more receptive to adopting innovative technologies like OptiBP. They also highlight the importance of information to enhance their understanding and trust in OptiBP.

Among participants with a primary education level, 30.8%(n=8) agreed that the OptiBP application is easy to use, while 34.6%(n=9) disagreed that it measures systolic and diastolic blood pressure. Interestingly, 34.6%(n=9) of this group agreed that the OptiBP application should be integrated into smartphones for easy monitoring, indicating potential interest in mobile health solutions. Participants with a secondary education level had a more positive attitude towards the OptiBP application. 50%(n=23) of them agreed that it measures both systolic and diastolic blood pressure, and 50%(n=23) also agreed on integrating OptiBP application into

smartphones. This group displayed a high level of acceptance and trust in the OptiBP application.

Participants with a tertiary education level showed the highest awareness and trust in the OptiBP application. 76.9%(n=17) of them agreed that the OptiBP application is easy to use, and 76.9%(n=17) also agreed on integrating OptiBP application into patient care. This group demonstrated a positive perception of OptiBP application as a standard blood pressure monitor.

Years of Using Phone

In the group with three or more years of phone usage, concerns aligned with the other group with less than three years of use, but no specific usability or trust issues were mentioned. Participants across all groups raised concerns about trust in the OptiBP application as a standard BP monitor and its accuracy in indicating high blood pressure.

Table 7: Positive elements of the OptiBP application

What are the positive elements of the app you have just tested?	Participants (n %)
Privacy safety during the measurements	4(15.4%)
Easy to use	2(7.7%)
Convenient BP measurement	21(80.8%)
It is fast to use	1(3.9%)
History data availability	1(3.9%)
I can make Informed decision	2(7.7%)
Portable because it's in a mobile phone	1(3.9%)
Reliable	2(7.7%)
Satisfied with the app for self-monitoring	2(7.7%)
Grand Total	**36***

**This is a multiple-choice question and so more than 26 frequency is possible*

The positive elements of the tested app are highlighted in Table 7 above. Among the participants, the most frequently mentioned positive aspects were the convenience of blood pressure measurement, which was reported by 80.8% n=21. Other positive elements included privacy, safety during measurements, ease of use, the ability to make informed decisions, portability due to being on a mobile phone, reliability, and overall satisfaction with the app for self-monitoring. These findings indicate that the participants perceived the app positively, offering benefits such as convenience, data accessibility, and user satisfaction.

vi. Net Promoter categories

The NPS was assessed from the question "*Will you recommend this mobile application to someone else?"* of which participants can select between 1 to 10. The promoters are those who score 9 and 10, while the passives scored 7 and 8. The detractors are those who score ≤6. This means that promoters are more likely to recommend the application, while the passives are not sure, and detractors are not willing to promote this application.

The **Net Promotor Scale (NPS)** is the difference between the Percentage of promoters and detractors. In our study, the percentage of promoters and detractors among the participants is 53.8% and 26.9%, respectively.

Therefore, the NPS of our study = 53.8% – 26.9% = 26.9% suggests a positive sentiment among the users, thus suggesting that they are somewhat likely to recommend the OptiBP application to others.

For generating a contingency table, we divided the NPS into two groups which include <9 and ≥9. This enables us to do a 2x2 table with the age groups 20 – 50 and 51 to 80. The promoters scored 9 and 10 while the detractors and passives scored 8 and below.

Table 8: Crosstabs for the NPS Scores and independent variables

Variables		Detractors and passives	Promoters	P-Value
Sex	Male	4(15.4%)	2 (7.7%)	
	Female	15 (57.7%)	5 (19.2%)	0.686
Age category	20-50	7 (26.9%)	4 (15.4%)	
	50-80	12(46.2%)	3(11.5%)	0.353
Education Level	Primary	8 (30.8%)	1 (3.8%)	
	Secondary and above	11 (42.4%)	6 (23.1%)	0.186
Length of use of smartphones	0-2 years	13 (50.0%)	6 (23.1%)	
	3-5 years	4 (15.4%)	0 (0.0%)	
	Above 6 years	2 (7.7%)	1 (3.8%)	0.418

The cross-tabulation shows the distribution of NPS scores based on sex, age category, education level, and length of smartphone use. It indicates no significant associations between these independent variables and NPS scores. The percentages of "Detractors and Passives" and "Promoters" vary across the categories, but the p-values suggest that these differences are not statistically significant. Therefore, the table does not provide evidence to conclude that sex, age category, education level, or length of smartphone use have a significant impact on NPS scores.

5.5. Total measurements and compliance with the recommended time for measuring blood pressure.

We instructed the participants to measure at least twice a day (morning, between 5 am to 9 am, and evening, between 6 pm to 11 pm) for the next seven days. However, we didn't consider the first measurements on day one as the first BP measurements were done in the hospital after calibration of the OptiBP application. Participants did the last test on the morning of day seven before coming to the hospital for the administration of the questionnaire. This makes 12 measurements per participant, and since we have 26 participants, all the total expected measurements were 312. Out of the 312 expected BP measurements, only 215 (68.91%) were performed by participants within the stipulated time. The table below shows the frequency and

percentage of participants that made all 12 measurements within the stipulated time and those who did not.

Table 9: Participants' compliance rates with BP measurements

Compliance level	Participant (n %)
Compliant*	12 (46.2%)
Not compliant	14 (53.8%)

**Participants who measured all 12 BP within the stipulated time*

Table 10: Crosstabs for the Compliance rates and independent variables

Variables		Not compliant	Compliant	P-Value
Sex	Male	5 (19.2%)	1 (3.8%)	0.099
	Female	9 (34.6%)	11 (42.3%)	
Age category*	20-50	9 (34.6%)	2 (7.7%)	0.014
	50-80	5 (19.2%)	10 (38.5%)	
Education Level	Primary	6 (23.1%)	3 (11.5%)	0.34
	Secondary and above	8 (30.8%)	9 (34.6%)	
Length of Use of Smartphones	0-2 years	10 (38.5%)	9 (34.6%)	0.89
	3-5 years	2 (7.7%)	2 (7.7%)	
	Above 6 years	2 (7.7%)	1 (3.8%)	
Monitoring BP before the study	Yes	2 (7.7%)	2 (7.7%)	0.867
	No	12 (46.2%)	10 (38.5%)	

** There is statistical significance between age and compliance and therefore we performed the Cramers V test, which is at 0.432*

Table 11: Reasons why some participants were non-compliant

Reasons for no compliance	Participants (n%)
Application failure	1 (3.9%)
Busy	8 (30.8%)
Misinformation about when to measure (He/she thought the measurement was for a different time)	1 (3.9%)
Uninstallation of application	3 (11.5%)
Grand Total	**13***

**This was 13 because the question was optional*

The table shows reasons for non-compliance with the OptiBP application. The most common reason was being busy, reported in 8 cases. Other reasons included application failure, removal of the application, and misunderstanding of measurement timing, highlighting challenges participants faced in adhering to the recommended schedule. Participants who has the application uninstalled were assisted to re-install within 3hrs and this was outside the stipulated time of measurement.

When we compared the group that was followed up closely and the group that was not followed up closely, there was no significant difference in the result worthy of presentation in this analysis.

5.6. The correlation between the hospital BP machine and the OptiBP application

Analysis of BP measurement

We measured the participants' blood pressure on day one of data collection using a digital blood pressure machine (EDANiM8) and the OptiBP application. The purpose of these two sets of blood pressure measurements was for calibration purposes. However, the OptiBP application did not indicate the first two blood pressure measurements during the calibration, and because of that, we asked the participants to measure their blood pressure using the OptiBP application. The two blood pressure measurements were taken in two minutes each, as described in our BP measurement protocol in the methods section of this study.

The mean Systolic Blood Pressure (SBP) in the first round of measurements using the digital machine was 112 mmHg and 95 mmHg using the OptiBP application, respectively. The maximum SBP using the digital BP machine was 178 mmHg while using the OptiBP application was 157 mmHg. The mean SBP was 140 mmHg and 134 mmHg, respectively. During the second round of blood pressure measurement, the minimum SBP using the digital BP machine was 108 mmHg and a maximum of 169 mmHg, while using the OptiBP application, the minimum SBP was 96 mmHg and a maximum of 159 mmHg. The mean SBP was 137 mmHg and 133 mmHg, respectively.

For the Diastolic Blood Pressure (DBP), the minimum DBP using the digital blood pressure during round one was 61 mmHg, and using the OptiBP application was 57mmHg, with a mean DBP of 76 mmHg and 82 mmHg, respectively.

During the second round of testing, the minimum DBP was 61 mmHg using the OptiBP application and 56 mmHg using the digital blood pressure machine, and a mean DBP of 78 mmHg and 78 mmH,g respectively. The maximum DBP blood pressure measurements using the OptiBP application were 98 mmHg and 109 mmHg using the digital BP machine, while the maximum DBP in the second round using the OptiBP application was 99 mmHg and 100 mmHg using the digital blood pressure machine. A detailed report of the blood pressure outcomes among the participants is presented in Table 12 below

Table 12: comparison between the OptiBP app and the hospital digital BP machine

Systolic Blood Pressure (OptiBP vs Digital BP machine)	Diastolic Blood Pressure (OptiBP vs Digital BP machine)

Measures	1st OptiBP SBP	1st Digital SBP	2nd OptiBP SBP	2nd Digital SBP	Measures	1st OptiBP DBP	1st Digital DBP	2nd OptiBP DBP	2nd Digital DBP
Mean	134.35	140.81	133.23	137.38	Mean	76.04	82.54	78.17	78.88
Minimum	95.00	112.00	96.00	108.00	Minimum	57.00	61.00	61.00	56.00
Maximum	157.00	178.00	159.00	169.00	Maximum	98.00	109.00	99.00	100.00

Table 13: correlation between the BP measurements performed using the OptiBP app and the Hospital Digital BP machine

Correlation of BP measurements using the OptiBP app and the hospital digital BP machine			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	Sig. (2-tailed)
	Pearson Correlation	Sig. (2-tailed)				Lower	Upper		
1st OptiBP SBP/1st Digital SBP	0.74	0	-6.46	11.72	2.30	-11.20	-1.73	-2.81	0.01
2nd OptiBP SBP/2nd Digital SBP	0.66	0	-6.44	9.25	1.85	-10.26	-2.62	-3.48	<0.01
1st OptiBP DBP/1st Digital DBP	0.55	<0.01	-4.15	13.14	2.58	-9.46	1.15	-1.61	0.12
2nd OptiBP DBP/2nd Digital DBP	0.48	0.01	-3.00	13.75	2.75	-8.68	2.68	-1.09	0.29

The correlation above reveals significant and consistent associations between OptiBP and digital systolic and diastolic blood pressure measurements. There is a strong positive correlation between the 1st OptiBP SBP and 1st Manual SBP, as well as the 2nd OptiBP SBP and 2nd Manual SBP, indicating a close relationship between the measurements. The correlations for diastolic blood pressure are slightly weaker but still significant.

Difference between OptiBP and Digital BP measurements

Participants expressed concerns about obtaining lower BP measurements with the OptiBP application compared to the digital method used at the clinic. To explore this, we calculated the differences between the first OptiBP measurement and the corresponding digital measurement

for calibration purposes. The table provides a breakdown of these differences categorized into specific ranges.

Out of the 144 measurements made for calibration, 44.2% of the measurements fall within the range of ±4.99 mmHg, while 28.9% fall within the range of ±5 to ±9.99 mmHg. Around 7.7% of measurements range from ±10 to 14.99 mmHg, and 19.2% deviate by ≥±15 mmHg. These percentages offer an overview of the distribution and variability of the measurements. These findings suggest that while a significant proportion of measurements aligned closely between OptiBP and digital measurements, there were instances where larger differences were observed.
For the 1st OptiBP SBP and manual SBP, the mean difference was 9.23, with a standard deviation of 14.42. Similarly, for the 1st OptiBP DBP and manual DBP, the mean difference was 8.27, with a standard deviation of 11.83. The 2nd OptiBP SBP and manual SBP showed a mean difference of 7.04 and a standard deviation of 12.01. Also, the 2nd OptiBP DBP and manual DBP had a mean difference of 8.37 and a standard deviation of 10.90. These results highlight the potential of OptiBP as a non-invasive and accurate method for monitoring blood pressure while also complying with AAMI/ISO standards.