Evaluation Plan

Title	BlueSync™ Field Evaluation
Product Name	BlueSync™ Smart Monitoring System
Sponsor/Local Sponsor	Medtronic, PLC. 8200 Coral Sea Street NE Mounds View, MN U.S.A. 55112 1-800-328-2518 Europe, Middle East, Africa Medtronic, Bakken Research Center B.V. Endepolsdomein 5 6229 GW Maastricht The Netherlands +31-43-35-66-566
Manufacturer	Medtronic, Inc. Operational Headquarters 710 Medtronic Parkway Minneapolis MN 55432 (+1) 763-514-4000
Document Version	Version 1.0

Sponsor Contact

Medtronic, Inc. is sponsoring the BlueSync™ Field Evaluation. Regional contact information is provided below. This information may be subject to change during the course of the field evaluation. Periodic updates to the evaluation contact information will be sent to sites as needed.

Table 1: Evaluation Sponsor Contact Information

Evaluation Contacts	
Worldwide Study Leader Name, Title: Keith Holloman, Sr. Clinical Research Specialist Direct Phone: 1-763-525-1645 Direct Fax: 1-763.526.5897 keith.holloman@medtronic.com	*Europe Study Leader Europe* Name, Title: Kevin Hermans, PhD, Clinical Research Specialist Direct Phone: +31 (0)43 356 6437 Direct Fax: +31 (0)43 356 6514 kevin.hermans2@medtronic.com

1. Version History

Version	Summary of Changes	Author(s)/Title
1.0	Not Applicable, New Document	Keith Holloman, Sr. Clinical Research Specialist

2. Investigator Statement

Investigators will be provided with a separate investigator agreement to document their obligation and commitment with respect to field evaluation conduct.

Table of Contents

[redacted]

Figures

Tables

3. Glossary

Term	Definition
app	Application
Azure™	Azure™ Smart Pacemaker
BlueSync™	BlueSync Smart Monitoring System
CRF	Case Report Form
CRT-P	Cardiac Resynchronization Therapy Pacemaker
FEA	Field Evaluation Agreement
CV	Curriculum Vitae
Ethics Committee	MEC/IRB/HREB/Ethics Board
DWAS	Data Warehouse & Analytics Services
GCP	Good Clinical Practice
IPE	In-person evaluation
LV	Left Ventricular
MCL Heart app	MyCareLink Heart App
RA	Right Atrial
ICF	Informed Consent Form
RRT	Recommended Replacement Time
RV	Right Ventricular
Smart device	Smartphone or Tablet

4. Synopsis

Title	BlueSync™ Field Evaluation
Type	Post Market Non-interventional Field Evaluation
Product Name	BlueSync Smart Monitoring System (BlueSync)
Sponsor	Medtronic, Inc. Cardiac Rhythm and Heart Failure Clinical Research 8200 Coral Sea Street NE Mounds View, MN U.S.A. 55112 1-800-328-2518
Regional Sponsor	Medtronic, Bakken Research Center B.V. Endepolsdomein 5 6229 GW Maastricht The Netherlands +31-43-35-66-566
Indication under investigation	Patients indicated for pacemaker or CRT-P therapy and implanted with the commercial released Medtronic Azure™ Pacemaker or CRT-P Percepta™, Serena™, Solara™ CRT-P device within approved indications for use. Patients will be provided standard care after implant.
Purpose	The purpose of this field evaluation is to collect and evaluate information related to CareLink transmission compliance as well as patient perceived benefit of BlueSync™ and clinic perception of the value of BlueSync™ and satisfaction with BlueSync™. To assess the CareLink transmission compliance (adherence to scheduled transmission), the primary endpoint will characterize the proportion of the CareLink scheduled transmissions that are completed within a prescribed time period. The evaluation will also assess adoption to remote monitoring, patient perceived benefit of BlueSync™ (how patients interact with the smart device application) and clinic perception of the value of BlueSync™ and satisfaction with BlueSync™ (benefits experienced by clinicians that use BlueSync™). Interim analyses will take place after 2-months of follow up for all enrolled patients. Enrollment and/or follow-up will not be stopped due to the interim analyses.
Product Status	The evaluation will be conducted using the components described in Table 2. All components will be market released. Instructions for use of the devices used in this evaluation are provided in their respective manuals.

Table 2: System component information for the BlueSync™ Smart Monitoring System in Europe

Model Name	Model Number	Serial Number Prefix
Azure™ XT DR MRI SureScan™	W2DR01	RNF
Azure™ S DR MRI SureScan™	W3DR01	RNJ
Azure™ XT SR MRI SureScan™	W2SR01	RNE
Azure™ S SR MRI SureScan™	W3SR01	RNI
Percepta™ CRT-P Quad MRI SureScan™	W4TR04	RNV
Percepta™ CRT-P MRI SureScan™	W1TR04	RNU
Serena™ CRT-P Quad MRI SureScan™	W4TR05	RNX
Serena™ CRT-P MRI SureScan™	W1TR05	RNW
Solara™ CRT-P Quad MRI SureScan™	W4TR06	RNZ
Solara™ CRT-P MRI SureScan™	W1TR06	RNY

System component #1

- BlueSync™ Smart Monitoring System
- MyCareLink Heart app
- MSW002 (Android), MSW004 (IOS)

System component #2

- Azure™ Dual and Single Chambered Smart Pacemaker and Percepta™, Serena™, Solara™ CRT-P devices with Bluetooth enabled functionality, as indicated in Table 2.

System component #3

- All market-released pacing and LV leads

	Additional system components • Patient's own smart device. BlueSync™ offers app-based remote monitoring via the patient's own smart device. The Azure™ Smart Pacemaker includes a Bluetooth Low Energy chip that allows wireless communication between the pacemaker and the patient's smart device. The patient's smart device with BlueSync™ acts as a hub and transmits the data to the remote monitoring network.
Primary Objective	To assess the CareLink compliance to scheduled transmission, the primary objective is to characterize the proportion of the CareLink quarterly scheduled transmissions that are completed at specified intervals during the 12-month follow-up period after the baseline visit in the CareLink Database via BlueSync™.
Sample Size	Approximately 700 patients may complete the screening questionnaire. It is expected that 60% (420) of the screened patients will use smart technology and 60% (252) of the screened patients that use smart technology will meet the inclusion/exclusion criteria and may be enrolled in the evaluation. Assuming attrition from enrollment through 12-month follow-up is 7%, a total of 252 enrolled patients would result in approximately 234 patients available to assess the primary endpoint. A sample size of 234 evaluable patients will produce a two-sided 95% confidence interval width of approximately 10%. The evaluation is expected to be conducted at approximately 20 evaluation sites, 10 in Europe and 10 in the United States. Up to approximately 35 patients will participate from each evaluation site. Clinicians will screen sequential patients who are indicated for implant with a pacemaker or CRT-P device. Patients who will be/have been implanted with Azure™ pacemaker or Percepta™, Serena™, Solara™ CRT-P device will be invited to participate in the evaluation if the specified selection criteria are met. Patients will complete a visit at the enrollment/baseline which is standard of care. Additionally patients will complete a survey during the enrollment/baseline visit, and once during the 12 month follow-up after the baseline visit which is designed to measure patient engagement.
Duration	The expected evaluation duration is approximately 16 months: Four months for enrollment of all patients and 12 months to complete follow-up. The duration of individual patient participation will be at least 12 months from enrollment to 12-months follow-up after the baseline visit.

Screening Criteria	• Patient indicated for a pacemaker with or without Cardiac Resynchronization Therapy (CRT)
Inclusion/Exclusion Criteria	Inclusion criteria: • Patient will be/have been implanted with an Azure™ or Percepta™, Serena™, Solara™ CRT-P device compatible with BlueSync • New or replacement devices are allowed. • Must have smart device (Smartphone or tablet) that meets system requirements and be willing to use during evaluation period • Must be able to complete the required 12 month follow-up after the baseline visit • Must have legal age according to local law Exclusion criteria: • Patient unwilling to complete required surveys during 12 month evaluation period.
Evaluation Procedures and Assessments	Screening: The clinician will meet with the patient to conduct patient screening and then complete a screening questionnaire that may include and not be limited to the following questions: • Is the patient willing to do remote monitoring? • Does the patient own a smart device? • Is the operating system on the patient's smart device compatible with MCL Heart app? • Is the patient willing to participate in the evaluation? • Baseline Information about the patient If the patient declines participation, the reasons will be documented on the screening log. Patient screening must be completed within two weeks after implant of the Azure or CRT-D device. Enrollment: When a patient completes the device pairing of the BlueSync compatible device with the CareLink network via the My CareLink Heart App. Implant: Device implant is not being evaluated in the evaluation; is not part of the evaluation and will be performed according to standard of care. No documentation of programming of device information is required. Baseline: The following information will be collected at the baseline visit:

	• Patient Demographics • Age • Education • Smart device Experience • Smart device usage The following procedures will be completed after implant and within two week of discharge from the hospital or clinic or when a patient with a previously implanted BlueSync device is converted to the BlueSync system. • The process to pair the MyCareLink Heart app and the patient's smart device to the patient's implanted device will be initiated. Specific instruction will be provided to the clinic and patient under separate cover. • After the patient's implanted device is paired with the MyCareLink Heart app, a transmission will be used to confirm that the MyCareLink Heart app in the patient's smart device is paired with the patient's implanted device. • The patient will complete their first survey to assess patient perceived benefit of BlueSync™. • A clinician survey corresponding to each patient will be completed to assess clinic perception of value of BlueSync™. Twelve Month Follow-up Period After the Baseline Visit: • A total of six scheduled transmissions with the MyCareLink Heart app will be completed during the 12-month follow-up period. • Two monthly scheduled transmissions must occur in the first 2 months of follow up (one scheduled transmission at month 1 and the second transmission at month 2). • Four scheduled transmissions must occur quarterly 1 each starting at month 3 of follow up (one scheduled at month 3, another scheduled at month 6, the next scheduled at month 9 and the last one scheduled at month 12). • During the 12-month follow-up period after the baseline visit patients will complete a survey during a scheduled device follow-up to assess patient perceived benefit of BlueSync™ • In those situations where a routine device follow-up visit is not scheduled the survey will be completed using remote options. • Clinician surveys corresponding to each patient will be completed to assess clinic perception of value of BlueSync™ and satisfaction with BlueSync™ at baseline and 12 months • At each clinic; a workflow questionnaire will be completed by clinic personnel after all enrolled patients have completed the device pairing • Clinic personnel will complete and maintain an event log which will include, but not be limited to the following ○ Technical issues related to the BlueSync phone app

	○ Impact of CareLink alerts on workflow Evaluation completion: • The patient's participation in the evaluation will end after 12 months of follow-up.
Safety Assessments	The products used in the evaluation are market approved and used within the current indications for use as indicated in the product labeling. The collection of adverse event and patient death data is not required to meet the objective(s) of this evaluation. Thus, no clinical assessment of safety data will be performed during this field evaluation.

5. Introduction

5.1. Background

Modern cardiac disease management seeks to integrate multiple device technologies and capabilities to optimize disease management and health outcomes. The BlueSync™ Smart Monitoring System utilizes a Bluetooth enabled smart device application to interface with the Azure™ Smart pacemaker to provide wireless remote monitoring for patients.

The use of smart device technology allows for the integrated monitoring by a smart device and eliminates the "bedside monitor". The informative and reassuring app allows the patient to view the status of CareLink transmission, physical activity and provides access to educational information which creates a completely new experience for the patient.

Since Medtronic has never launched a product that relies on patients utilizing their own smart device instead of a home monitor, BlueSync™ will be evaluated for compliance, patient perceived benefit, and value to the clinic using the technology as well as for identifying workflow issues in this new paradigm.

Value of Remote Monitoring for pacemaker patients

The 2015 HRS Expert Consensus Statement on Remote Interrogation states that remote monitoring represents the new standard of care with alert-driven in-person evaluation (IPE) replacing most routine office interrogations.

Early detection of arrhythmias, lead issues and battery Recommended Replacement Time (RRT) may lead to important clinical actions for pacemaker patients. Pacemaker patients have a high risk of AF. AF is a known risk factor for stroke. There is an opportunity to better manage AF leveraging the pacemaker capabilities[1].

In large studies, remote monitoring of pacemaker patients is associated with:

- Increased survival: Patients with high Remote Monitoring (RM) adherence had 53% greater survival than low RM and 140% greater survival than no RM[2]
- 26% faster diagnosis of clinical actionable events (PREFER)[3]
- 66% fewer hospitalizations from atrial arrhythmias (COMPAS)[4]
- 56% fewer ambulatory visits (COMPAS)[4]

- Lower health care expenditures in office visits among patients with permanent pacemakers (PPMs)[5]

5.2. Purpose

The purpose of this field evaluation is to collect and evaluate information related to CareLink transmission compliance as well as patient perceived benefit of BlueSync™ and clinical perception of value of BlueSync™ and satisfaction with BlueSync™. Collection of this data will provide data to support development of clinical evidence that will be used to aid in market adoption. To assess the CareLink transmission compliance (adherence to scheduled transmission), the primary endpoint will measure the proportion of the CareLink quarterly scheduled transmissions that are completed within a prescribed time period. The field evaluation will also assess adoption to remote monitoring, patient perceived benefit of BlueSync™ (how patients interact with the MyCareLink Heart application) and clinic perception of value of BlueSync™ and satisfaction with BlueSync™ (benefits experienced by clinicians that use BlueSync™). Interim analyses will take place after 2-months of follow up for all enrolled patients. Enrollment and/or follow-up will not be stopped due to the interim analyses.

The expected evaluation duration is 16 months; four months for enrollment and twelve months to complete follow-up. The duration of individual patient participation will be 12 months from enrollment date.

6. Objectives and Endpoints

6.1. Objectives

6.1.1. Primary Objective

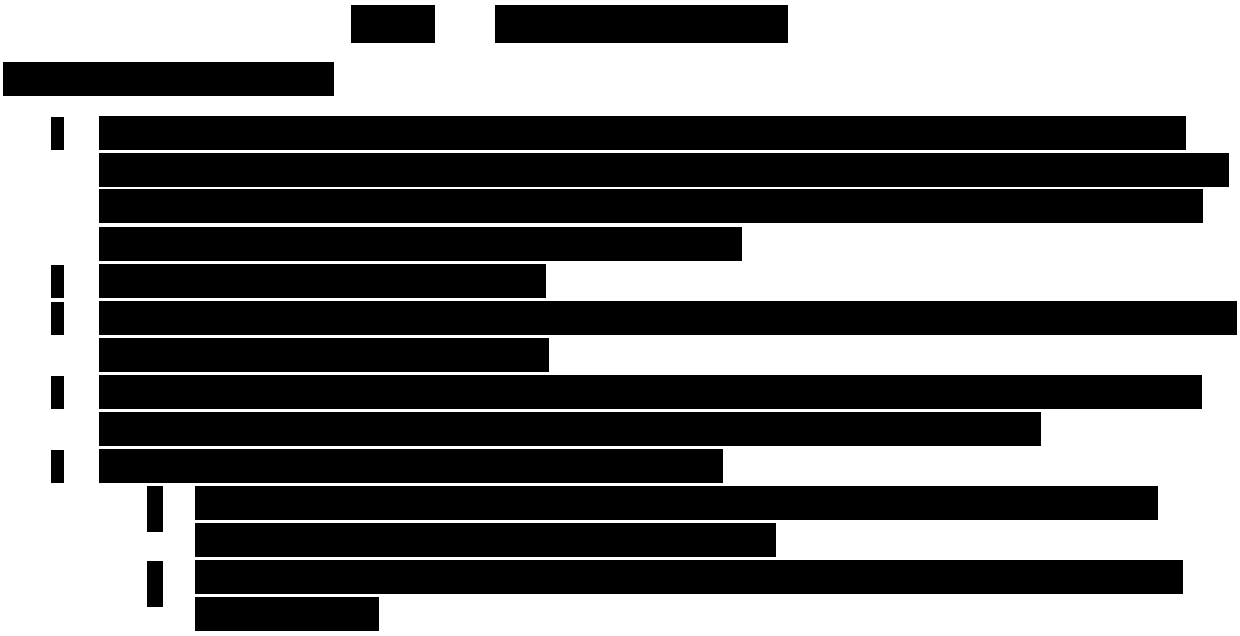
To assess chronic CareLink transmission compliance (adherence to scheduled transmission), the primary objective is to characterize the proportion of the CareLink quarterly scheduled transmissions that are completed within the prescribed window during the 12-month follow-up after the baseline visit in the CareLink Database via the MyCareLink Heart™ app

- Four scheduled transmissions must occur quarterly 1 each starting at month 3 of follow up (one scheduled at month 3, another scheduled at month 6, the next scheduled at month 9 and the last one scheduled at month 12).

6.1.2. Secondary Objective

To assess acute (1st two months) CareLink transmission compliance (adherence to scheduled transmission), the secondary objective is to characterize the proportion of the CareLink monthly scheduled transmissions that are completed within the prescribed window during the2-month follow-up after the baseline visit in the CareLink Database via the MyCareLink Heart™ app

- Two monthly scheduled transmissions must occur in the first 2 months of follow up (one scheduled transmission at month 1 and the second transmission at month 2).



6.1.4. Additional Analysis

Analytics data will be evaluated by the BlueSync™ Systems Engineer and will not be part of the objectives for the evaluation.

6.2. Endpoints

6.2.1. Primary Endpoint

Proportion of CareLink quarterly scheduled transmissions that are completed within prescribed window during the 12-month follow-up after the baseline visit in the Carelink Database using BlueSync™.

Rationale for endpoint selection: The primary endpoint will use the proportion of CareLink quarterly scheduled transmissions that are completed within prescribed window during the 12-month follow-up after the baseline visit in the CareLink Database via BlueSync™ to assess compliance with scheduled transmissions.

Remote monitoring of cardiac implantable electronic devices (CIEDs) has been shown to be cost effective, convenient and associated with reduced mortality[2]. Patient compliance with monitoring is another important criterion which is important to clinicians. By demonstrating improved compliance with monitoring over time, the evaluation will support the primary benefits of BlueSync™ which are:

- Seamless remote monitoring via a patient's smart device, even outside the home, leads to increased adherence/compliance with monitoring
- Patient access to select information and automatic transmissions reduce workload and calls to the clinic

7. Evaluation Design

The BlueSync™ Field Evaluation will be a multi-center, prospective, single-arm, post-market field evaluation. All patients will be implanted with any Medtronic market-released pacemaker or CRT-P device that is compatible with BlueSync (Table 2). It is recommended to use Medtronic RA, RV and LV leads that are compatible with the pacemaker and CRT-P devices used in the evaluation.

The purpose of this field evaluation is to collect and evaluate information related to CareLink transmission compliance as well as adoption of remote monitoring, patient perceived benefit of BlueSync™ and clinical perception of value of BlueSync™ and satisfaction with BlueSync™.

Approximately 700 patients may be screened and complete the screening questionnaire. It is expected that 60% (420) of the screened patients will use smart technology and 60% (252) of the screened patients that use smart technology will meet the inclusion/exclusion criteria and may be enrolled in the evaluation.

Assuming attrition from enrollment through 12 month of follow-up is 7%, a total of 252 patients may be enrolled in this evaluation to allow approximately 234 patients to have Azure™, or Percepta™, Serena™, Solara™ CRT-P device implanted and compatible with BlueSync and MyCareLink Heart app downloaded onto the patient's smart device and patients been followed for 12-month with a total of six scheduled transmissions to occur from outside of the clinic.

The evaluation is expected to be conducted at approximately 20 evaluation sites, 10 sites in Europe and 10 sites in the United States. Up to approximately 35 patients will participate from each evaluation site.

7.1. Duration

The expected total evaluation duration is approximately 16 months. This represents 4 months for patient enrollment and at least twelve months for the patient follow-up. Patients are anticipated to be in the evaluation for approximately 12 months. Patients will complete a baseline visit and then complete participation in the evaluation after the 12 months follow-up period. Patients will not be replaced with newly enrolled patients upon completion of participation in the evaluation. As described in Section 12.1.6, the sample size accounts for attrition.

7.2. Rationale

Medtronic has developed the BlueSync™ feature which is a cardiac monitoring system that is secure, reliable, provides select information to patients about their pacemaker or CRT-P device and uses only the patient's smart device to monitor the patient remotely. BlueSync™ connects the Azure™ Pacemaker or Percepta™, Serena™, Solara™ CRT-P device via low energy to the patient's smart device and the CareLink network. BlueSync™ allows for automatic transmission of device data through the use of Bluetooth technology. The patient only needs to keep their smart device within one meter of their implanted device.

This evaluation provides an opportunity to confirm that BlueSync™ will improve patient compliance to scheduled transmission as recorded in the CareLink Network. See Section 5.2 for further background information and evaluation of collected data. See Section 12 for further background on the evaluation design.

8. Product Description

8.1. General

The evaluation will be conducted using the components described in Table 3. All components will be market released. Instructions for use of the devices used in this evaluation are provided in their respective manuals. Device is intended to be used for patients diagnosed with bradycardia or heart failure who are indicated for implant of a pacemaker or CRT-P device.

8.2. Evaluation Components

All devices used in the evaluation have FDA and CE mark approval. All devices will be used inside the intended use and for approved indications.

Table 3: System component information for the Azure™ Smart Pacemaker

Model Name	Model Number	Serial Number Prefix
Azure™ XT DR MRI SureScan™	W2DR01	RNF
Azure™ S DR MRI SureScan™	W3DR01	RNJ
Azure™ XT SR MRI SureScan™	W2SR01	RNE
Azure™ S SR MRI SureScan™	W3SR01	RNI
Percepta™ CRT-P Quad MRI SureScan™	W4TR04	RNV
Percepta™ CRT-P MRI SureScan™	W1TR04	RNU
Serena™ CRT-P Quad MRI SureScan™	W4TR05	RNX
Serena™ CRT-P MRI SureScan™	W1TR05	RNW
Solara™ CRT-P Quad MRI SureScan™	W4TR06	RNZ
Solara™ CRT-P MRI SureScan™	W1TR06	RNY

Any market-released, commercially available RA, RV, and LV leads that are compatible with the pacemaker and CRT-P devices (see Table 3) may be used in this field evaluation. It is recommended to use Medtronic RA, RV and LV leads that are compatible with the pacemaker and CRT-P devices used in the evaluation.

BlueSync™ offers app-based remote monitoring via the patient's own smart device: The Azure™ pacemaker and Percepta™, Serena™, Solara™ CRT-P devices. Azure™ pacemakers include a Bluetooth Low Energy chip that allows wireless communication between the pacemaker and the patient smart

device. The patient's smart device acts as a hub and transmits the data to the remote monitoring network.

8.3. Product Use

Figure 1 Explanation of BlueSync™

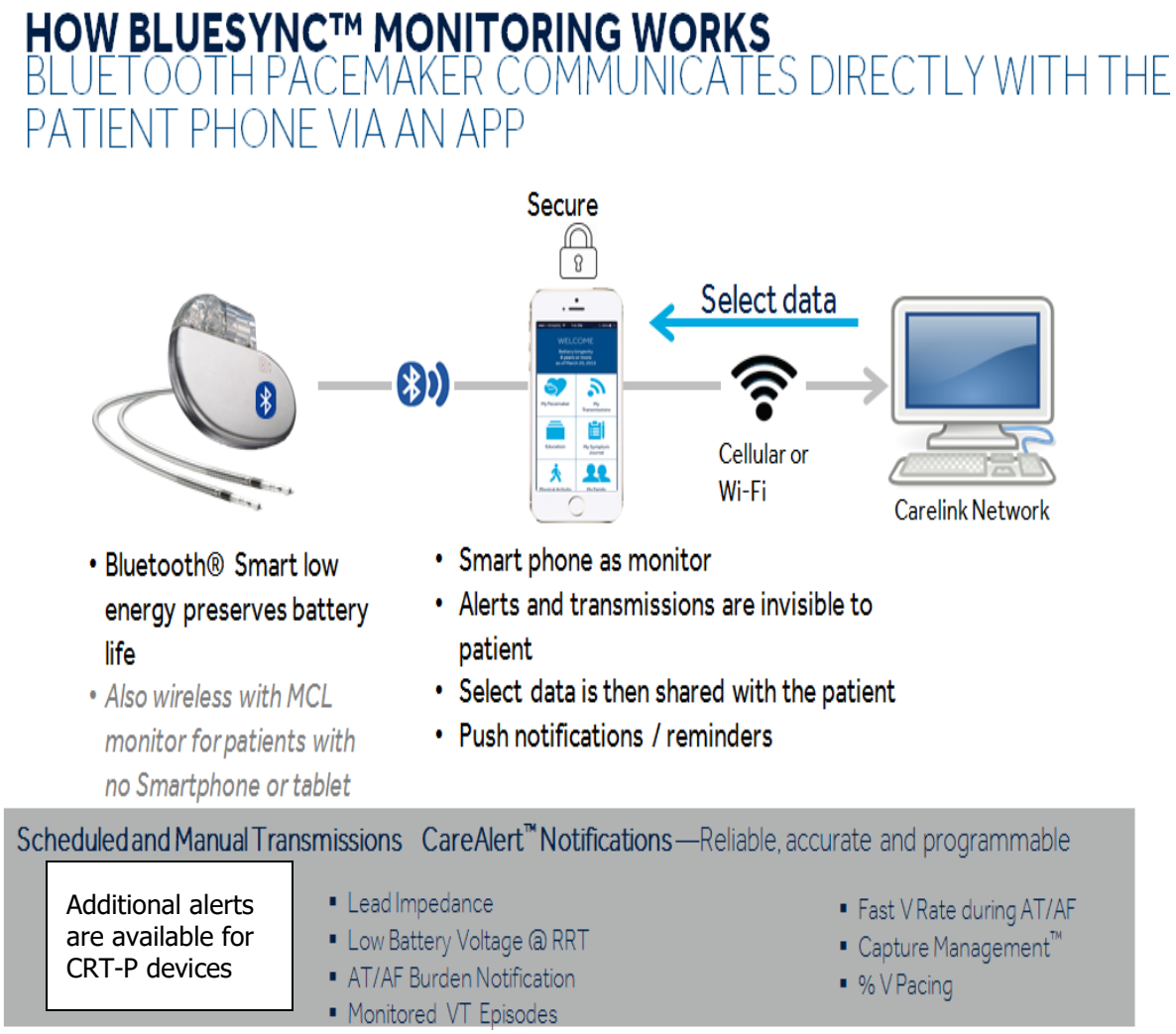
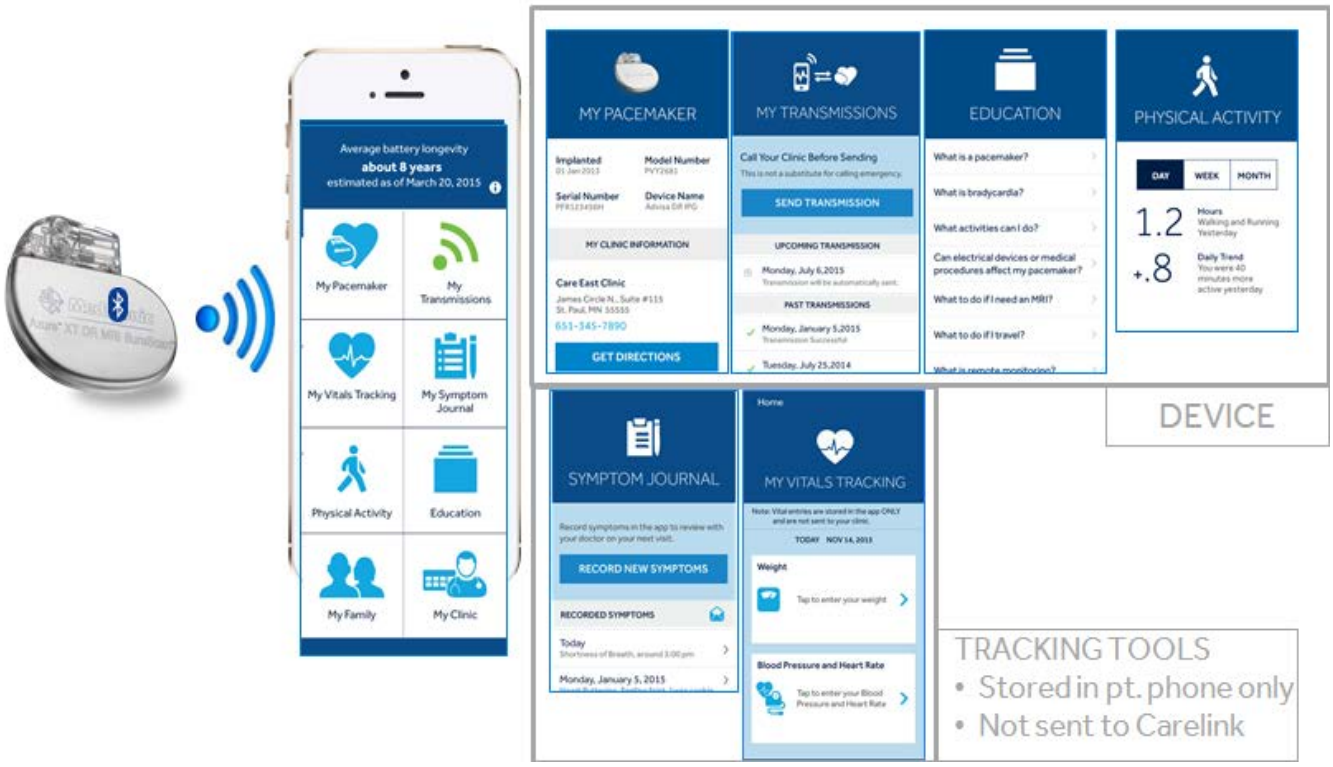


Figure 2 MyCareLink Heart App Operation



8.4. Product Training Requirements

Details of required training can be found in section 10.1.

9. Selection of Patients

9.1. Evaluation Population

The evaluation will enroll patients who will be or have been implanted with an Azure pacemaker or CRT-P device and who meet all of the specific evaluation inclusion criteria, and none of the exclusion criteria for the BlueSync™ field evaluation.

9.2. Patient Enrollment

In order for patients to be considered for enrollment, they must meet all of the inclusion criteria and none of the exclusion criteria. If necessary approval from the MEC/IRB/HREB/Ethics Board (Ethics Committee) of the BlueSync™ Evaluation Plan, and any other applicable documents must be obtained prior to enrolling patients in the evaluation.

9.3. Inclusion Criteria

Patient indicated for a pacemaker with our without Cardiac Resynchronization Therapy (CRT) will participate in the specified screening process to determine eligibility for participation. See section 10.3.1 Patient Screening.

Patients must meet all of the following inclusion criteria to be eligible to participate in the evaluation:

Inclusion criteria:

- Patient will be/have been implanted with an Azure™ or Percepta™, Serena™, Solara™ CRT-P device compatible with BlueSync
- New or replacement devices are allowed.
- Must have smart device (Smartphone or tablet) that meets system requirements and be willing to use during evaluation period
- Must be able to complete the required 12 month follow-up after the baseline visit
- Must have legal age according to local law

9.4. Exclusion Criteria

- Patient is unwilling to complete required surveys during 12-month evaluation period after the baseline visit.

9.5. Minimization of Bias

In summary, potential sources of bias that may be encountered in this evaluation have been considered and minimized by careful evaluation design.

Selection of patients, treatment of patients, and evaluation of evaluation data are potential sources of bias. Methods incorporated in the evaluation design to minimize potential bias include (but are not limited to):

- Each site will enroll no more than approximately 35 (15%) patients to ensure a diverse patient population experience across multiple geographies and types of hospitals.
- All center personnel will be trained in evaluation transmissions workflow and other procedures to ensure consistency across all geographies and evaluation centers.

All patients indicated for a pacemaker or CRT-P device will be screened to determine their ability to participate in the evaluation.

- Patient demographics will be collected at baseline and differences that may affect primary endpoints will be identified
- Data collection requirements and evaluation procedures will be standardized across all sites
- A separate Statistical Analysis Plan (SAP) will be developed to further describe statistical methods, pre-specified data handling rules, and pre-specified analyses that will be included in the clinical evaluation report prior to analysis of the data.

10. Evaluation Procedures

Prior to performing evaluation related procedures, all sites must have documentation from Medtronic of site readiness. Additionally any clinic requirements for Ethics Committee/Institutional Review Board should be documented.

Sponsor representatives may provide support as required for the evaluation under supervision of the Principal Investigator, including:

- Provide evaluation training relevant and pertinent to the involvement of personnel conducting evaluation activities and investigator responsibilities
- Technical support under the supervision of an evaluation investigator, but no data entry, shall be performed by Medtronic personnel or their representatives at sites

10.1. Evaluation Personnel Requirements

All clinical investigators managing the patient's bradycardia must be qualified practitioners and experienced in the diagnosis and treatment of patients with bradycardia. All implanting physicians must be experienced and/or trained in the handling of pacemakers and CRT-P devices.

The role of the principal investigator is to implement and manage the day-to-day conduct of the field investigation as well as ensure data integrity and the rights, safety and well-being of the patients involved in the field evaluation.

The principal investigator shall:

- Be qualified by education, training, and experience to assume responsibility for the proper conduct of the field evaluation

The principal investigator shall be able to demonstrate that the proposed investigational site:

- Has the required number of eligible patients needed within the recruitment period
- Has one or more qualified investigators, a qualified investigational site team and adequate facilities for the foreseen duration of the field evaluation
- adequate time and resources to conduct the evaluation throughout the duration of the evaluation
- Ability to comply with applicable Institutional Review Board (IRB)/Ethics Committee (EC) and regulatory requirements
- Documentation that investigator is not debarred, disqualified, or working under sanctions in applicable regions

Site personnel training and delegation will be completed prior to participation in this evaluation. Table 4 lists the requirements for evaluation personnel prior to conducting any evaluation procedure.

Table 4: Evaluation Personnel Requirements

Evaluation Personnel	Documented Evaluation Training	Activated by Medtronic
Primary Investigators	X	X
Co-Investigators	X	X

Evaluation Personnel	Documented Evaluation Training	Activated by Medtronic
General Evaluation Personnel (Coordinators, technicians, etc.)	X	X*

*Coordinators only

10.2. Site Approval to participate in Field Evaluation

During the process to prepare sites for participation in the evaluation (prior to patient enrollment), Medtronic will train site personnel on the Field Evaluation Plan data collection and reporting tools. If new members join the evaluation center team, they will receive training on the applicable field evaluation requirements relevant to their role before contributing to the field evaluation.

A Field Evaluation Agreement (FEA) shall be entered into effect by Medtronic, the participating investigation site and/or the principal clinical investigator at each investigational site as per local legal requirements, and returned, fully executed, to Medtronic prior to the commencement of any evaluation activities. Financial aspects of conducting and reporting an evaluation will be specified in the agreement. By signing and dating the agreement the investigator indicates approval of the field evaluation.

Prior to performing evaluation related activities, all local regulatory the following requirements shall be fulfilled:

- Fully executed Field Evaluation Agreement
- Documentation of delegated tasks
- Documentation of evaluation site personnel training

Additional requirements imposed by the Ethics Committee and regulatory authority shall be followed, if applicable.

Medtronic will provide each evaluation center with field evaluation materials (i.e. patient binders, case report forms) and documentation of evaluation center/investigator readiness; this letter must be received prior to patient enrollment.

10.3. Schedule of Events

- Field evaluation data is collected at designated time points throughout the evaluation as indicated in Table 5. See Section 16 for more information. At baseline; demographics of the patient are collected. Additionally at baseline and at the end of the 12 month follow-up period after the baseline visit clinic surveys will be completed. A total of six scheduled transmissions with the MCL Heart app will be completed during the 12 month follow-up period. Two monthly scheduled transmissions must occur in the first 2 months of follow up (one scheduled transmission at month 1 and the second transmission at month 2). Four scheduled transmissions must occur quarterly 1 each starting at month 3 of follow up (one scheduled at month 3, another scheduled at month 6, the next scheduled at month 9 and the last one scheduled at month 12).

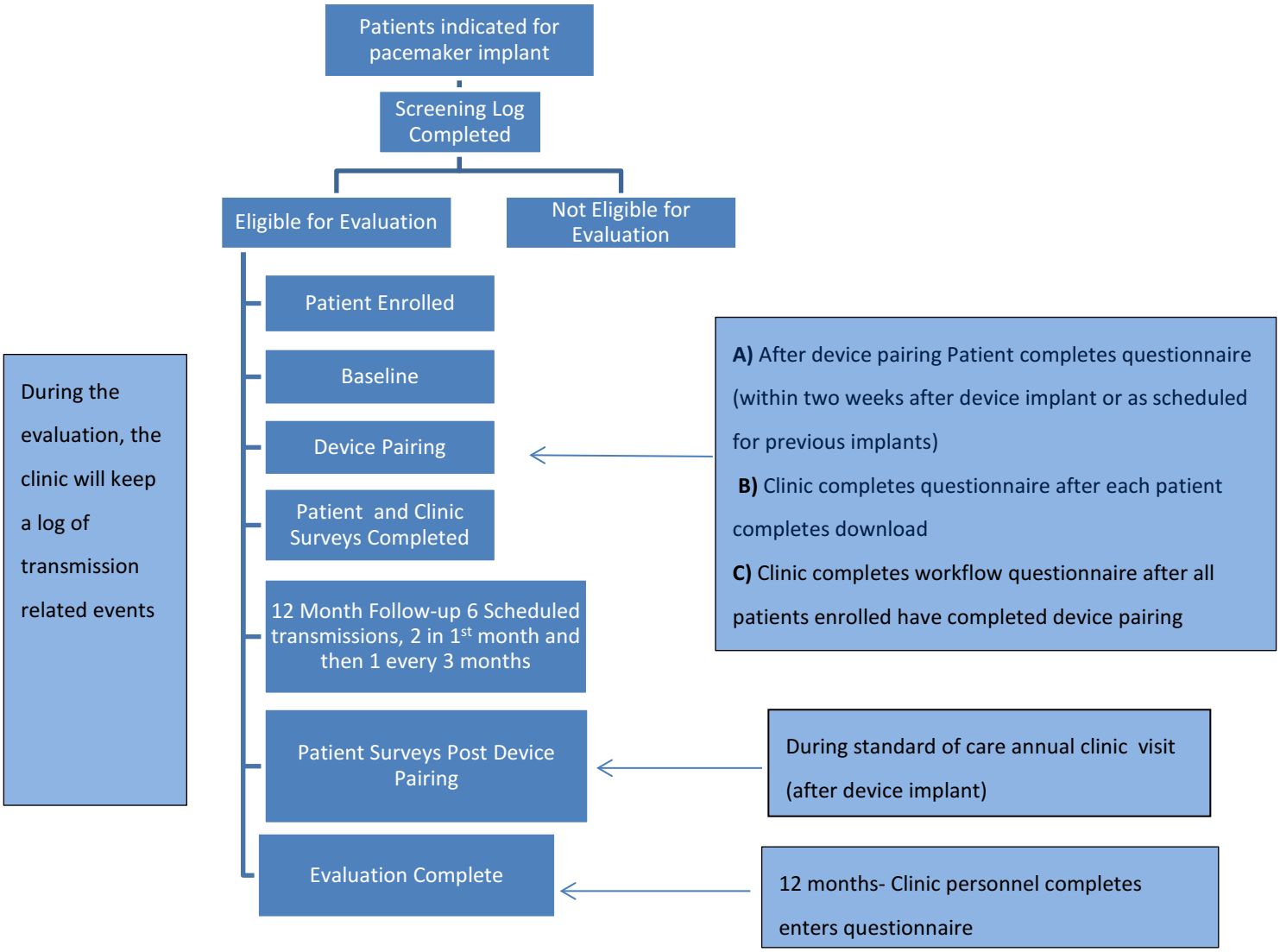
At the end of the evaluation, the data will be frozen and retained by Medtronic

Table 5: Data collection and evaluation procedure requirements

Field Evaluation Data Collection Requirements	Screening log	Enrollment	Baseline	Device Pairing	After enrollment During annual pacemaker visit	Evaluation Completion (12 months)
Patient Screening	X					
Enrollment			X			
Evaluation eligibility confirmed	X	X				
Patient Demographics	X		X			
Patient Education and smart device usage			X			
[redacted]						
2 scheduled transmissions in the 1st two months 4 Scheduled Transmissions 1 at 3, 6, 9 and 12 months*					X	
Evaluation Completion Form						X

* A total of six scheduled transmissions with the MyCareLink Heart app will be completed during the 12-month follow-up period. Two monthly scheduled transmissions must occur in the first 2 months of follow up (one scheduled transmission at month 1 and the second transmission at month 2). Four scheduled transmissions must occur quarterly 1 each starting at month 3 of follow up (one scheduled at month 3, another scheduled at month 6, the next scheduled at month 9 and the last one scheduled at month 12).

Figure 3 Evaluation Screening, Enrollment and Follow-up



10.3.1. Patient Screening

Screening will occur prior to enrollment. All patients indicated for a pacemaker or CRT-P device that are identified sequentially by the clinics will be invited to participate in the screening process.

The clinician will meet with the patient to conduct patient screening and then complete a screening questionnaire that may include and not be limited to the following questions:

- Is the patient willing to do remote monitoring?
- Does the patient own a smart device?
- Is the operating system on the smart device compatible with MCL Heart app?
- Is the patient willing to participate in the evaluation?
- Patient Demographics

If the patient declines participation, the reasons will be identified on the screening log. Patient screening must be completed prior to discharge from the hospital or clinic and before enrollment.

10.4. Enrollment

Enrollment occurs when a patient completes the device pairing of the BlueSync compatible device with the CareLink network via the My CareLink Heart App.

10.5. Implant

Device implant/Replacement is not being evaluated as part of the evaluation and will be performed according to standard of care procedures

10.6. Baseline Visit

The following information is required to be collected at the baseline visit:

- Patient Demographics
- Gender
- Age
- Education
- Smart device Experience
- Duration of smart device ownership
- Type of smart device
- Compatibility
- Comfort level with technology
- Smart device usage
- Type of use
  - Phone calls
  - Text messages
  - Email
  - Internet Use

The following procedures will be completed after implant and within two weeks of discharge from the hospital or clinic except for patients who had a BlueSync compatible device implanted previously:

- The MyCareLink Heart app will be downloaded on the patient's smart device after implant and the process for pairing the MyCareLink Heart app to the Azure device will be initiated. Specific instruction will be provided to the clinic and patient under separate cover.
- After the patient's implanted device is paired with the MyCareLink Heart app, a transmission will be used to confirm that the MyCareLink Heart app in the patient's smart device is paired with the patient's implanted device. The patient will complete their first survey to assess patient perceived benefit of BlueSync™.
- A clinician survey corresponding to each patient will be completed to assess clinic perception of value of BlueSync™ and satisfaction with BlueSync™.

10.7. Twelve Month Follow-up Period

Twelve Month Follow-up Period after the Baseline Visit:

- A total of six scheduled transmissions with the MyCareLink Heart app will be completed during the 12-month follow-up period.
- Two monthly scheduled transmissions must occur in the first 2 months of follow up (one scheduled transmission at month 1 and the second transmission at month 2).
- Four scheduled transmissions must occur quarterly 1 each starting at month 3 of follow up (one scheduled at month 3, another scheduled at month 6, the next scheduled at month 9 and the last one scheduled at month 12).
- During the 12-month follow-up period after the baseline visit patients will complete a survey during a scheduled device follow-up to assess patient perceived benefit of BlueSync™
- Clinician surveys corresponding to each patient survey will be completed to assess clinic perception of value of BlueSync™ and satisfaction with BlueSync™ at baseline and 12 months
- A workflow questionnaire will be completed by clinic personnel after all enrolled patients have completed the device pairing
- Clinic personnel will complete an event log which will include but not be limited to the following
    - Technical issues related to the BlueSync phone app
    - Impact of CareLink alerts on workflow
- The event log will be maintained by the clinic until all enrolled patients have completed the 12 months Field Evaluation duration.

10.8. Evaluation Completion

The participants involvement in the evaluation will end after 12 months or after one of the following occur:

- Patient refuses to complete the second survey
- Patient decides to withdraw from the evaluation
- Patient Death (should include cause of death if available)

Following completion of the evaluation, patients will continue to receive standard medical care. There will be no further evaluation-related activities after evaluation is complete.

10.9. Assessment of Safety

This evaluation will not be assessing safety as part of any endpoints. User (Investigator) reporting of events to regulatory authorities related to market approved products may be required.

10.10. Recording Data

The evaluation will collect data using a phone based electronic data management system. Patient questionnaires will be entered directly into a Smart Device or collected via paper and entered into the electronic data management system. The option used by the patient to complete the questionnaire will be based upon what is most appropriate.

10.11. Patient Withdrawal or Discontinuation

10.11.1. Patient Does Not Meet Eligibility Criteria

If a patient is enrolled and later it is determined that evaluation eligibility criteria have not been met the patient must be removed from participation in the evaluation.

10.11.2. Patient chooses not to continue participation in the evaluation

A patient can withdraw from the evaluation at any time. If the patient wishes not to participate in the evaluation (i.e. the patient revokes consent), the site is required to document the reason for ending participation on the evaluation completion form. In addition, evaluation sites shall follow the regulations set forth by the governing Ethics Committee. If possible, the following data should be collected prior to patient withdrawal:

- Report the reason for patient withdrawal
- Patient survey (if possible)

10.11.3. Investigator Withdraws Patient

No patients should be withdrawn by investigators unless compelling medical justification is present. It is recommended investigators discuss any withdrawals with the evaluation team prior to withdrawing patients. If an Investigator withdrawal is necessary, the following data should be collected prior to patient withdrawal if possible:

- Report the reason for patient withdrawal
- Patient survey (if possible)

11. Risks and Benefits

11.1. Potential Risks

There are no incremental risks introduced to the patient as a result of participation in this evaluation.

The safety and clinical performance of the market released systems in this evaluation have been demonstrated through previous pre-clinical testing and clinical studies in similar populations, but not necessarily the same population as this evaluation. Continuous monitoring, assessment and

documentation of risk will be performed by the investigator.

11.2. Potential Benefits

BlueSync™ may offer no benefit. The information gained from this evaluation could result in the improved management of other patients with bradycardia and heart failure conditions. Additionally, information collected from this evaluation may assist in the design of new product(s)/therapy (ies) and/or instructions for use.

11.3. Risk-Benefit Rationale

The risk-benefit analysis has shown that there are no major or minor additional risks associated with the BlueSync™ feature.

11.4. Reporting of Adverse Events

The collection of adverse event and patient death data is not required to meet the objective(s) of this evaluation. The products used in the evaluation are market approved and used within the current indications for use as indicated in the product labeling; however, it is the responsibility of the Investigator to abide by any adverse event reporting requirements stipulated by the site's IRB. User (Investigator) reporting of events to regulatory authorities related to market approved product may be required. Refer to local regulations for reporting requirements.

11.5. Patient Death

Evaluation of patient death data is not required to meet the objective(s) of this evaluation. Patient death information may only be reported as a reason for ending participation in the evaluation if it were to occur. Investigator reporting of events to regulatory authorities related to market approved product may be required. Refer to local regulations for reporting requirements.

11.6. Product Complaint Reporting

It is the responsibility of the investigator to report all product complaint(s) associated with a medical device distributed by Medtronic, regardless whether they are related to intended use, misuse or abuse of the product. Reporting must be done immediately and via the regular channels for market-released products.

12. Statistical Design and Methods

Medtronic employees or designees will perform all statistical analyses. Additionally, a separate Statistical Analysis Plan (SAP) will be developed to further describe statistical methods, pre-specified data handling rules, and pre-specified analyses that will be included in the clinical evaluation report. Any change to the data analysis methods described in the field evaluation plan will require an amendment only if it changes a principal feature of the field evaluation plan. Any other change to the data analysis methods described in the field evaluation plan, and the justification for making the change, will be described in the evaluation report. Additional exploratory analyses of the data may be conducted as deemed appropriate. Missing data will not contribute to the objectives unless specified otherwise within the analysis methods.

The primary and ancillary objective data will be analyzed after all patients have enrolled and completed their 12-month follow-up. Interim analyses of the secondary as well as applicable ancillary objectives will take place after 252 patients have been enrolled and at the time their 2 month follow up is reached. Enrollment and/or follow-up will not be stopped due to the interim analyses.

12.1. Primary Objective

To assess chronic CareLink transmission compliance (adherence to scheduled transmission), the primary objective is to characterize the proportion of the CareLink quarterly scheduled transmissions that are completed within prescribed window during the 12-month follow-up in the CareLink Database via the MyCareLink Heart™ app.

12.1.1. Hypothesis

There are no pre-specified hypotheses for this objective.

12.1.2. Performance Requirements

There are no pre-specified performance criteria for the analysis.

12.1.3. Endpoint Definition

Scheduled transmissions are transmissions scheduled by a physician and documented in the CareLink Database.

Four quarterly transmissions will be scheduled by the clinic. Four scheduled transmissions must occur quarterly 1 each starting at month 3 of follow up (one scheduled at month 3, another scheduled at month 6, the next scheduled at month 9 and the last one scheduled at month 12).

Scheduled transmissions are expected to be completed within prescribed window in the CareLink Database via the CareLink Heart™ app during the 12-month follow-up. The proportion of the CareLink scheduled transmissions that are completed within prescribed window during the 12-month follow-up in the CareLink Database via the BlueSync™ is the endpoint of interest.

12.1.4. Analysis Methods

For the calculation of the proportion of scheduled transmissions completed,

- Completed scheduled transmission will be included in this calculation.
- For scheduled transmissions that were not completed, only patients who died on or before the schedule date of their scheduled transmission will be excluded in this calculation.

A two-sided 95% confidence interval based on generalized estimating equations (GEE) for binomial distribution will be calculated for this proportion.

12.1.5. Determination of Patients/Data for Analysis

Quarterly scheduled transmission will be used for analysis. For scheduled transmissions that were not completed, only patients who died on or before the schedule date of their scheduled transmission will be excluded from the analysis.

12.1.6. Sample Size

Approximately 700 patients may consent to be screened and complete the screening questionnaire. It is expected that 60% (420) of the screened patients will use smart technology and 60% (252) of the screened patients that use smart technology will meet the inclusion/exclusion criteria and may be enrolled in the evaluation.

Assuming attrition from enrollment through 12-month follow-up is 7%, a total of 252 enrolled patients would result in approximately 234 patients available to assess the primary endpoint.

A sample size of 234 evaluable patients will produce a two-sided 95% confidence interval width of approximately 10%.

12.2. Secondary Objective

To assess acute CareLink transmission compliance (adherence to scheduled transmission), the secondary objective is to characterize the proportion of the CareLink monthly scheduled transmissions that are completed within prescribed window during the first 2-month of follow-up in the CareLink Database via the My CareLink Heart App™ .

12.2.1. Hypothesis

There are no pre-specified hypotheses for this objective.

12.2.2. Performance Requirements

There are no pre-specified performance criteria for the analysis.

12.2.3. Endpoint Definition

Scheduled transmissions are transmissions scheduled by a physician and documented in the CareLink Database.

Two monthly scheduled transmissions must occur in the first 2 months of follow up (one scheduled transmission at month 1 and the second transmission at month 2).

Scheduled transmissions are expected to be completed within prescribed window in the CareLink Database via the CareLink Heart™ app during the first 2-month follow-up. The proportion of the CareLink monthly scheduled transmissions that are completed within prescribed window during the 2-month follow-up in the CareLink Database via the BlueSync™ is the endpoint of interest.

12.2.4. Analysis Methods

For the calculation of the proportion of scheduled transmissions completed,

- Completed scheduled transmission will be included in this calculation.
- For scheduled transmissions that were not completed, only patients who died on or before the schedule date of their scheduled transmission will be excluded in this calculation.

A two-sided 95% confidence interval based on generalized estimating equations (GEE) for binomial distribution will be calculated for this proportion.

12.2.5. Determination of Patients/Data for Analysis

Scheduled transmission will be used for analysis. For scheduled transmissions that were not completed, only patients who died on or before the schedule date of their scheduled transmission will be excluded from the analysis.

[redacted]

[redacted]

[redacted]

13. Evaluation Administration

13.1. Data Management

Data will be collected using an electronic smart device based platform. Data will be stored in a secure, password-protected database. Evaluation management reports may be available to monitor data quality and evaluation progress. Procedures for verification, validation and securing of electronic clinical of the clinical data system will be developed. At the end of the evaluation, the data will be frozen and will be retained indefinitely by Medtronic.

All records and other information about patients participating in this evaluation will be treated as confidential.

13.2. Confidentiality

All records and other information about patients participating in this evaluation will be treated as confidential. See Section 13.1 for further information.

13.3. Record Retention

13.3.1. Investigator Records

The investigator is responsible for the preparation and retention of the records cited below. All of the below records should be kept in the Investigator Site File (i.e., the evaluation binder provided to the investigator) or Patient Evaluation Binder. The following records are patient to inspection and must be retained for a period of two years (or longer as local law or hospital administration requires) after the date on which the investigation is terminated

- All correspondence between the IRB/MEC, sponsor, monitor, regulatory authority and the investigator that pertains to the investigation, including required reports
- Any additional documents as
- Signed and dated Field Evaluation Agreement
- IRB/MEC approval documentation. Written information that the investigator or other evaluation staff, when member of the IRB/MEC, did not participate in the approval process. Approval documentation must include the Ethics Board composition (if applicable)
- Regulatory authority notification, correspondence and approval, where required per local law.
- Evaluation training records for site staff
- Final Evaluation Report including the statistical analysis

13.4. Investigator Reports

If any action is taken by an IRB/MEC with respect to this evaluation, copies of all pertinent documentation must be forwarded to Medtronic in a timely manner. Reports are subject to inspection and to the retention requirements as described above for investigator records.

Table 6: Investigator reports applicable for all geographies per Medtronic requirements

Report	Submit to	Description/Constraints
Withdrawal of IRB/MEC approval (if applicable)	Sponsor and Relevant Authorities	The investigator must report a withdrawal of approval by the reviewing IRB/MEC of the investigator's part of the investigation within 5 working days.
Final Report	IRBs/MECs and Relevant Authorities	This report must be submitted within 3 months of evaluation completion or termination.

13.5. Sponsor Records

Medtronic shall maintain the following accurate, complete, and current records:

- All correspondence which pertains to the evaluation
- Signed Field Evaluation Agreements,
- All approved informed consent templates (if required), and other information provided to the patients and advertisements, including translations
- Copies of all IRB/MEC approval letters and relevant IRB/MEC correspondence and IRB/MEC voting list/roster/letter of assurance if applicable
- Names of the institutions in which the evaluation will be conducted
- Statistical analyses and underlying supporting data
- Final report of the evaluation
- The Evaluation Plan and evaluation related reports, and revisions
- Evaluation training records for site personnel and Medtronic personnel involved in the evaluation
- Any other records that local regulatory agencies require to be maintained.

13.6. Publication and Use of Information

Publications from the BlueSync™ Targeted Launch Clinical Evaluation will be handled according to Medtronic Policies and Standard Operating Procedures and as indicated in the Clinical Trial Agreement.

13.7. Publication Committee

Medtronic may form the BlueSync™ Targeted Launch Evaluation Publication Committee from evaluation investigators. Medtronic personnel may serve as members of the committee. This committee will manage evaluation publications with the goal of publishing findings from the data. The Publication Committee will develop the final Publication Plan as a separate document.

The Publication Committee's role is to:

- manage elements addressed in the publication plan as outlined in this appendix

- develop the final Publication Plan under separate cover
- execute the Publication Plan
- oversee the publication of primary, secondary and ancillary evaluation results
- review and prioritize publication proposals provide input on publication content determine authorship

In addition, the committee will apply and reinforce the authorship guidelines set forth in the Publication Plan. Membership in the Publication Committee does not guarantee authorship. The committee will meet at least yearly, as needed.

13.8. Management of Primary, Secondary and Ancillary Publications

The Publication Committee reviews, prioritizes, and manages all publications including primary, secondary and ancillary publications. Primary and secondary publications are those that address analyses of any or all primary objectives or secondary objectives, respectively, as specified in the Field Evaluation Plan.

An ancillary publication is any publication that does not address the evaluation objectives identified in the Field Evaluation Plan. They include publications proposed and developed by other Medtronic departments or entities, clinicians participating in this clinical evaluation, and clinicians not participating in this clinical evaluation. The committee will work with Medtronic to ensure that requests do not present conflicts with other proposals, are not duplicative, and to determine which ancillary publication proposals, if any, will be supported.

The committee may decide that no publications, including abstracts, will be published prior to the end of the evaluation or with individual center data. Requests for publications on evaluation objectives utilizing subset data (e.g., regional) will be evaluated for scientific validity and the ability of Medtronic to provide resources.

13.9. Criteria for Determining Authorship

Publications will adhere to authorship criteria defined by the International Committee of Medical Journal Editors (ICMJE, Uniform requirements for manuscripts submitted to biomedical journals, www.icmje.org). Individual authorship criteria defined by the target journal or conference will be followed when it differs from ICMJE criteria.

Authors, including Medtronic personnel, must at a minimum meet all of the conditions below:

- Substantial contribution to conception and design, or acquisition of data, or analysis and interpretation of data
- Drafting the article or revising it critically for important intellectual content
- Final approval of the version to be published
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Decisions regarding authorship and contributor-ship will be made by the committee. The selected authors will be responsible for drafting the publication. All selected authors must fulfill the authorship conditions stated above to be listed as authors, and all contributors who fulfill the conditions must be listed as authors.

All investigators not listed as co-authors will be acknowledged as the "Medtronic BlueSync™ Field Evaluation Investigators" and will be individually listed according to the guidelines of the applicable

scientific journal when possible and affiliation. Any other contributors will be acknowledged by name with their specific contribution indicated.

13.10. Transparency

Transparency of evaluation results will be maintained by the following means:

- A final report, describing the results of all objectives and analysis, will be distributed to all investigators.
- Registering and posting the evaluation results on ClinicalTrials.gov based on the posting rules stipulated
- Submitting for publication the primary evaluation results after the evaluation ends
- Disclosing conflicts of interest (e.g., financial) of the co-authors of publications according to the Policies set forth by the corresponding journals and conferences
- Making an individual centers evaluation data accessible to the corresponding investigator after the completion of the evaluation, if requested

14. References

Refer to Appendix c

15. Appendices

APPENDIX A: DRAFT DATA COLLECTION ELEMENTS (CASE REPORT FORMS)

Draft Case Report Forms for the BlueSync™ Field Evaluation will be provided under separate cover. Final CRFs will be provided to sites via the electronic data management system after the site has fulfilled all requirements for database access.

APPENDIX B: PARTICIPATING INVESTIGATORS AND INSTITUTIONS

At the time of the BlueSync™ Evaluation Plan Version 1 completion, a list of clinics that had agreed to participated was not finalized. A complete list of participating investigators and institutions where evaluation activities will be conducted will be distributed under a separate cover when available.

APPENDIX C: BIBLIOGRAPHY

1 Chen KP et al. Reduction of atrial fibrillation in remotely monitored pacemaker patients: results from a Chinese multicenter registry. Chin Med J (Engl). 2013 Nov;126(22):4216-21

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3.Crossley G, et al. Clinical Benefits of Remote Versus Transtelephonic Monitoring of Implanted Pacemakers (PREFER). *J Am Coll Cardiol*. 2009;54:2012-2019.

4. Mabo P, et al. A Randomized Trial of Long-Term Remote Monitoring of Pacemaker Recipients (COMPAS). *Eur Heart J*. 2012;9:1105-1111.

5. Ladapo J, et al. Remote Monitoring of Implantable Cardiovascular Devices is Associated with Reductions in Healthcare Utilization. Presented at HRS 2014.