METRO AUCKLAND CLINICAL GOVERNANCE FORUM INFORMATION PAPER

Title of the paper	**Update on Atrial Fibrillation/Stroke Prevention Project**
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Endorsed by	Alan Davis, Clinical Lead, Northern Region Stroke Network Mayanna Lund, Clinical Lead, Northern Region Cardiac Network
Purpose of the paper	To report on the progress of the AF/Stroke prevention project
Meeting date	25 November 2021

UPDATE ON ATRIAL FIBRILLATION/STROKE PREVENTION PROJECT

Recommendation:

It is recommended that Metro Auckland Clinical Governance Forum:

Receives this paper from the Northern Region AF/Stroke Prevention Working Group

Notes that clinical tools have been developed for both Medtech and MyPractice practice management systems

Endorses the atrial fibrillation clinical indicators detailed in this paper

Recommends PHOs include the AF clinical indicators in their quality plans when the data becomes available.

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Glossary

AF – atrial fibrillation
AFX – atrial fibrillation exemption code
CHA_2DS_2-VASc – clinical scoring system for AF stroke risk
MACGF – Metro Auckland Clinical Governance Forum
PMS – practice management system

1. Executive Summary

This paper updates the forum on the development of clinical tools to improve the rate of prescribing of anticoagulants for patients with atrial fibrillation and elevated stroke risk. The clinical tools have been developed for both Medtech and MyPractice.
The indicators approved by MACGF have been refined as detailed data specifications were developed and clinical workflow was also considered in more detail. The indicator refinements have been included in the practice management system (PMS) tool development.
Metro Auckland Data Stewards have approved the data be uploaded into HealthSafe to facilitate quality improvement and reporting to MACGF. A data specification has been developed and approved by Metro Auckland Data Custodians.
An implementation framework is under development and will include clinical education, guides on PMS tools and a practice based clinical audit.

2. Purpose

To provide an update on progress on implementation of the Atrial Fibrillation (AF)/Stroke Prevention project

3. Background

A paper outlining increased risk of stroke in patients with AF was endorsed by MACGF on 25 June 2020. There were seven recommendations including three clinical indicators to improve the risk assessment and treatment with anticoagulation medications to reduce stroke risk.
The Northern Regional Stroke Network established a working group to facilitate the development of clinical tools to prompt general practice teams to assess patients with AF and offer oral anticoagulation treatment as appropriate. These tools will also allow systematic data capture in the primary care Practice Management Systems (PMS) to support quality improvement initiatives.

4. Progress

The focus has been on clearly defining the clinical indicators and efficient data capture for quality improvement.

Patient Management System Tools

Key Changes for PMS Providers
PMS need to systematically record the CHA_2DS_2-VASc score (Appendix 4).
PMS need to record an exemption code (AFX) to document when a patient has decided not to take an oral anticoagulant medication or when a medication is considered inappropriate by the clinician (Appendix 6). Similar codes have been implemented in Medtech for management of cardiovascular disease and diabetes in the Metro Auckland region. The AFX codes are simpler than those used for CVD as they only apply to one condition and one class of medications. The AFX codes are important for supporting clinical audit and quality improvement as they will give information on:

- Individuals with AF who may have been overlooked
- Rates of patient declines where medications are clinically indicated
- Incidence where clinical judgement indicates risk of adverse medication effects outweighs risk of stroke.

The frequency of these codes will help in designing quality improvement activities or service improvements where oral anticoagulation medications may be underutilised.

PMS needs to prompt clinicians for specific actions such as recording or updating CHA_2DS_2-VASc, prescribing or recording AFX.

Both Predict and MyPractice have made the rhythm field compulsory in their CVD risk assessment tools.

Medtech PMS
Medtech 32 and Medtech Evolution have access to Patient Dashboard. A prototype dashboard was developed and tested with favourable feedback. Some modifications were implemented for Patient Dashboard after the working group worked through the finer

details of clinical workflow and clinical indicator development. The latest version of the proposed workflow is attached as Appendix 1. A CHA_2DS_2-VASc calculator has been embedded in the tool. AFX codes and CHA_2DS_2-VASc scores including those calculated in Predict can be captured through screening terms. The tool is ready for roll out to practices.

MyPractice PMS
MyPractice have integrated an AF form into the existing CVD form. This will also capture patients outside the cardiovascular disease risk assessment age range. This enhancement will also enable AFX codes to be recorded and clinical prompts to be given through the "May I suggest" function. This enhancement should provide a platform for collecting exemption codes for primary and secondary prevention of CVD with dual and triple therapy. A CHA_2DS_2-VASc calculator is embedded in the PMS. The tool is ready for testing in practice.

Indici
ProCare are taking the lead on developing an AF tool. The proposed solution will also enable management of patients and recording of exemption codes for patients with AF and other conditions including CVD and diabetes. Indici uses Snomed codes rather than Read codes. No delivery date at this stage.

Mōhio
Three PHOs are supported by Mōhio. These Medtech and MyPractice practices do not use the tools embedded in the PMS described above. The Mōhio tool both collects data and prompts clinicians with clinical suggestions. Development of the Mōhio tool is scheduled for early to mid November 2021.

Predict
A degree of integration is required between Predict and MyPractice where MyPractice users use Predict for CVD risk assessment and management rather then the MyPractice tool.

Auckland Regional Health Pathways

The Auckland regional health pathways have been updated and the AF programme is aligned with the pathway. The pathway is both an educational resource and can link to patient resources currently under development by the Heart Foundation

Clinical Indicators

The three clinical indicators approved by MACGF have been refined and are detailed in Appendix 2. Consistency of data collection for these indicators is greatly improved by the consistency of clinical prompt tool design. The current indicators determine:

- The proportion of patients with AF who have an appropriate risk assessment using CHA_2DS_2-VASc.
- The proportion of patients assessed at high risk that are currently prescribed anticoagulants.
- The proportion of patients at intermediate risk that are currently prescribed anticoagulants.

The indicators do not include AFX at this stage. Indicators may be further developed as data is collected and analysed.
Data captured will also give a picture of recorded AF prevalence in practices. Activity to improve practice coding may or may not be necessary.

Data Capture for Quality Improvement

The Metro Auckland Data Sharing Framework enables matching and sharing of data for a prescribed set of purposes and ensuring this sharing is safe and efficient. It relies heavily on the Privacy Code and HISO standards and guidelines. The governing body, the Data Stewards approved sharing of the data collected for AF/Stroke prevention for quality improvement. Only de-identified data is shared outside of the PHO/practice environment.

There are some benefits in this data sharing:

- Inconsistent data collection at PMS or PHO level is more easily identified.
- Performance reporting for clinical governance is streamlined.
- More consistent data is available to practices and PHOs for quality improvement.
- A consistent data spec is agreed and can be shared with the Northern region for consistent reporting and quality improvement over all four DHBs.

The Data Custodians are developing a detailed data specification to facilitate automated uploading of data to HealthSafe

Implementation

The responsibility for implementation of the AF/Stroke Prevention programme lies with PHOs as they have the appropriate relationship with the practices.

The project is endeavouring to support PHOs with implementation. In addition to clear indicator definition and development of the clinical tools detailed in this paper an e-learning module is in development. This will be hosted on the Goodfellow Unit website and will include:

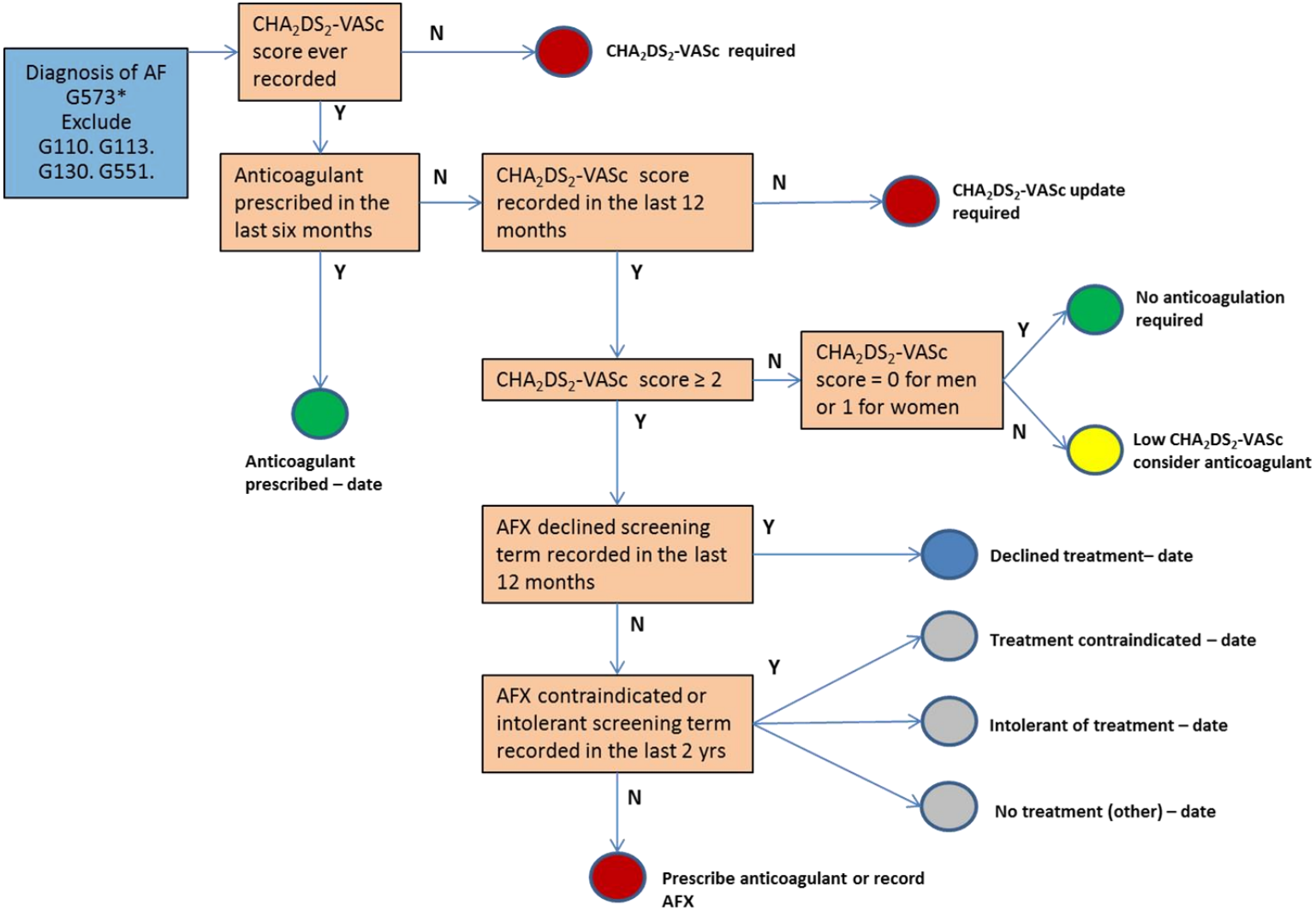
- Clinical education on managing stroke risk in patients with AF
- Clinical rationale for the indicators
- PMS specific guides on use of the tools
- Clinical audit tool that can be populated (by PHOs) with NHI level data

The aim is to facilitate easy adoption of the AF indicators into PHO/practice quality plans.

5. Conclusion

Significant progress has been made in the development of clinical tools that will support quality improvement activities to reduce risk of stroke in patients with AF.

Appendix 1 Process model for recording anticoagulation of patients with AF v5



Appendix 2

METRO AUCKLAND ATRIAL FIBRILLATION INDICATORS AND DEFINITIONS

The below list of indicators have been agreed by the AF/Stroke Prevention Working Group. This has also been agreed by Metro-Auckland Clinical Governance Forum (MACGF). A review of the indicators will be undertaken by MACGF as required.

No.	Clinical Indicators – Atrial Fibrillation	Target
1	**Stroke risk assessment:** Percentage of enrolled patients with atrial fibrillation (aged 15 years and older) who have had a stroke risk assessment using CHA_2DS_2-VASc.	**90%**
2	**Treatment of high risk patients:** Percentage of enrolled patients with atrial fibrillation (aged 15 years and older) with a CHA_2DS_2-VASc score greater than or equal to 2 who are on anticoagulants.	**No target set**
3	**Treatment of intermediate risk patients:** Percentage of enrolled male patients with atrial fibrillation (aged 15 years and older) with a CHA_2DS_2-VASc score equal to 1 who are on anticoagulants.	**No target set**

All indicators will be reported by Ethnicity (Maori, Pacific, Asian, Other), sex, DHB, PHO, Locality, GP Practice.

NOTES:

- Individuals considered for risk assessment include those with either paroxysmal or persistent AF. Both atrial fibrillation and atrial flutter are included.
- Patients who have undergone cardioversion or cardioablation will not be excluded from the denominator as many will still require anticoagulation. Where patients do not require anticoagulation an exemption code (AFX) will be used.
- Individuals with coexisting mild mitral disease should be managed using the CHA_2DS_2-VASc screening tool. Those with moderate to severe disease are not risk assessed using this tool as they are considered high risk and are offered anticoagulation with warfarin.
- Read codes do not differentiate between mild and moderate/severe disease so all patients with AF and coexisting mitral stenosis or hypertrophic obstructive cardiomyopathy will be excluded from the denominator for indicator 1. Patients in this category can be identified in the HealthSafe data and will be managed by PHOs as they are an important high risk group.
- Snomed coding allows patients with mild mitral stenosis to be identified but to ensure consistency these patients will also be excluded from the denominator for indicator 1 and managed separately by PHOs.
- At least one CHA_2DS_2-VASc score will be calculated for all patients with AF (except those excluded as above). This will not need to be repeated if the patient is currently prescribed an anticoagulant.
- For patients not currently prescribed an anticoagulant the CHA_2DS_2-VASc score should be repeated annually. The time period for this indicator is every 15 months which allows for patients visits that may be marginally over the 12 month period and is consistent with the MACGF diabetes clinical indicators.
- The AF/Stroke prevention working group recommends the following treatment thresholds consistent with the NICE guidelines and the Auckland Regional Health Pathways

CHA_2DS_2-VASc score	**Recommendation**
≥2 for women and men	OAC treatment recommended
=1 for men	Consider OAC treatment
=1 for women or =0 for men	No treatment recommended

- This set of indicators does not measure exemption coding (AFX) where patients have declined treatment or clinical judgement determines an anticoagulant is not appropriate. Recording AFX codes is an essential component of this quality improvement programme as it
    - Ensures patients have been reviewed
    - Gives a quantitative estimate of the reasons patients are not treated to guidelines.
- Qualitative analysis of AFX coding at practice level will assist practices and PHOs in determining and implementing quality improvement strategies.
- The ability to record AFX codes will be built into clinical prompt tools used in the practice management systems

AF Indicator 1: Stroke risk assessment: Percentage of enrolled patients with atrial fibrillation (aged 15 years and older) who have had a timely stroke risk assessment using CHA_2DS_2-VASc.

Rationale for Indicator

The CHA_2DS_2-VASc score offers some prediction for risk of stroke among patients with non-valvular AF. The AF/Stroke Prevention working group recommends all patients with AF must have a CHA_2DS_2-VASc score recorded in the patient management system. The CHA_2DS_2-VASc score is simple to use, widely known, and accepted in clinical practice. The score should be re-evaluated yearly in patients who are not anticoagulated. Patients with moderate to severe mitral disease or with hypertrophic obstructive cardiomyopathy are high risk and not suitable for assessment with CHA_2DS_2-VASc.

Eligible Population

Enrolled patients with atrial fibrillation (Appendix 3) aged 15 years and older.
Patients who are currently prescribed anticoagulants require an initial assessment and do not need reassessment.
Patients with mitral disease or with hypertrophic obstructive cardiomyopathy are excluded and will be managed independently of this indicator.

Goal

To improve the systematic assessment of stroke risk in patients with AF.

Target

90% of patients with AF will have had a CHA_2DS_2-VASc assessment. Timeframe for achievement will be determined after data analysis

Indicator Definition

Numerator: *Number of enrolled patients with AF aged 15 years and older (excluding those with coexisting mitral stenosis or hypertrophic obstructive cardiomyopathy) who have had a CHA_2DS_2-VASc score calculated and documented. The score must be calculated within the in the last 15 months unless an anticoagulant medication has been prescribed in the last six months.*
Denominator: *Number of enrolled patients with AF aged 15 years and older (excluding those with coexisting mitral stenosis or hypertrophic obstructive cardiomyopathy)*

Data Source

- PHO: Data sourced from PMS via extract tools used by PHOs.

AF Indicator 2: Management of stroke risk in high risk patients: Percentage of enrolled patients with AF, assessed as high risk of stroke, who have been prescribed an anticoagulant

Rationale for Indicator

The ARCOS study suggested oral anticoagulants are under-utilised in the management of thromboembolic risk in high risk patients with atrial fibrillation.

There is significant clinical data to support that anticoagulation with warfarin or Direct Oral Anti-coagulants (DOACs) in patients with a CHA_2DS_2-VASc score of 2 or greater reduces risk of stroke.

Some patients with AF have in the past been prescribed an antiplatelet agent, such as aspirin and clopidogrel, rather than an anticoagulant. This is no longer considered sufficient prevention against AF related stroke.

Eligible Population

Enrolled patients aged 15 years and older with atrial fibrillation and high risk of stroke.

Goal

To reduce the risk of stroke in patients with AF by prescribing oral anticoagulant medications.

Target

Target to be established after analysis of available data.

Indicator Definition

Numerator: *Number of enrolled patients with AF aged 15 years and older (excluding those with coexisting mitral stenosis or hypertrophic obstructive cardiomyopathy) whose latest CHA_2DS_2-VASc score ≥ 2 that have been prescribed an anticoagulant in the last six months.*

Denominator: *Number of enrolled patients with AF aged 15 years and older (excluding those with coexisting mitral stenosis or hypertrophic obstructive cardiomyopathy) whose latest CHA_2DS_2-VASc score ≥ 2*

Data Source

- PHO: Data sourced from PMS via extract tools used by PHOs.

AF Indicator 3: Management of stroke risk in intermediate risk patients: Percentage of enrolled patients with AF, assessed as intermediate risk of stroke, who have been prescribed an anticoagulant.

Rationale for Indicator

Anticoagulants are not recommended for men with a CHA_2DS_2-VASc score of zero or for women with a CHA_2DS_2-VASc score of 1. The intermediate risk group of men with a CHA_2DS_2-VASc score of 1 should prompt a guideline directed discussion for an agreed patient centric strategy.
This indicator will capture where that discussion has resulted in prescribing or the recording of an exemption code.

Eligible Population

Enrolled patients aged 15 years and older with atrial fibrillation and intermediate risk of stroke

Goal

To reduce the risk of stroke in patients with AF by prescribing oral anticoagulant medications.

Target

Target to be established after analysis of available data.

Indicator Definition

Numerator: *Number of enrolled male patients with AF aged 15 years and older (excluding those with coexisting mitral stenosis or hypertrophic obstructive cardiomyopathy) whose latest CHA_2DS_2-VASc score is equal to1 who have been prescribed an anticoagulant within the last six months.*

Denominator: *Number of enrolled male patients with AF aged 15 years and older (excluding those with coexisting mitral stenosis or hypertrophic obstructive cardiomyopathy) whose latestCHA_2DS_2-VASc score is equal to1*

Data Source

- PHO: Data sourced from PMS via extract tools used by PHOs.

Appendix 3

Atrial fibrillation

Read codes

Atrial fibrillation will **include**

Read codes: Any G573* codes including:

- G5730 Atrial fibrillation
- G5731 Atrial flutter
- G5732 Paroxysmal atrial fibrillation
- G573z Atrial fibrillation and flutter NOS

Patients with coexisting mitral valve disease or hypertrophic obstructive cardiomyopathy are excluded from the denominator for indicator 1 as patients with moderate to severe mitral disease are not managed using CHA_2DS_2-VASc assessment. Read codes do not differentiate between mild and moderate/severe so all patients with the following Read codes are **excluded**.

- G110. Mitral stenosis
- G113. Nonrheumatic mitral valve stenosis
- G130. Mitral and aortic stenosis
- G551. Hypertrophic obstructive cardiomyopathy

Snomed concepts

- Snomed Concept ID 49436004 – Atrial Fibrillation
- Snomed Concept ID 164889003 – Electrocardiographic atrial fibrillation (finding)

Patients with mild mitral disease can be identified using Snomed codes.
Additional Snomed concepts and appropriate exclusions will be identified as Indici PMS development progresses.

Appendix 4

CHA_2DS_2-VASc Score

CHA_2DS_2-VASc score **Risk factors and definitions**		Points
C	**Congestive heart failure** Clinical HF, or objective evidence of moderate to severe LV dysfunction, or HCM	1
H	**Hypertension** or on antihypertensive therapy	1
A	**Age 75 years or older**	2
D	**Diabetes mellitus** Treatment with oral hypoglycaemic drugs and/or insulin or fasting blood glucose >7 mmol/L	1
S	**Stroke** Previous stroke, TIA, or thromboembolism	2
V	**Vascular disease** Angiographically significant CAD, previous myocardial infarction, PAD, or aortic plaque	1
A	**Age 65-74 years**	1
Sc	**Sex category (female)**	1
Maximum score		9
HF=heart failure; LV= left ventricular; HCM= hypertrophic cardiomyopathy; TIA= transient ischaemic attack; CAD= coronary artery disease; PAD= peripheral artery disease		

Risk bands

High risk. Treatment recommended. CHA2DS2-VASc score ≥2 for women and men

Intermediate risk. Consider treatment. CHA2DS2-VASc =1 for men

No treatment recommended for CHA2DS2-VASc =1 for women or CHA2DS2-VASc =0 for men

Appendix 5

Medications

Generic/Trade strengths

Apixaban/Eliquis 2.5, 5mg
Rivaroxaban/Xarelto 10, 15, 20mg
Dabigatran/Pradaxa 75, 110, 150mg
Warfarin/Marevan 1, 3, 5mg
Warfarin/Coumadin 1, 2, 5mg

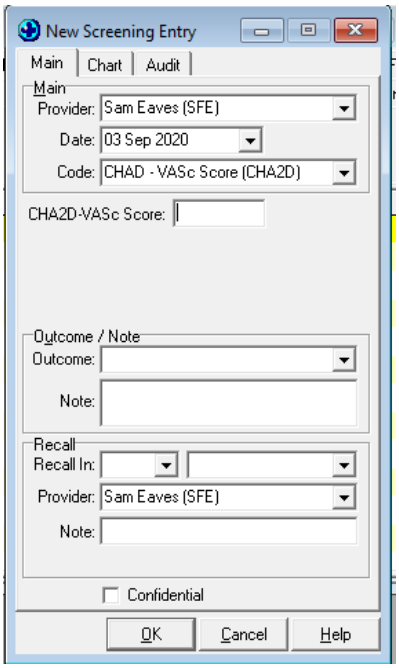
Appendix 6

Medtech Screening Terms

Proposed saving the CHA_2DS_2-VASc score as a screening term (CHA2D)

CHA2DS2-VASc Score is numeric

It is written directly from Dashboard, Predict (or other vendor) or can be manually entered.



Proposed exemption code for anticoagulation for patients with Atrial fibrillation

Atrial Fibrillation Exemption code (AFX)

Supports MACGF clinical indicator for the use of anticoagulants in patients with atrial fibrillation. It allows GPs to exempt patients with the outcomes of;

- declined
- intolerant
- contraindicated
- other.