

Introduction

The Netherlands Heart Registration (NHR) facilitates seven registries in which data of all cardiac interventions is collected, including patient outcomes. This data can be used by physicians to identify potentials for improvement of the quality of care. Transparency of outcomes is facilitated by the NHR in nationwide transparent committees, public reports and online dashboards.

Methods

Registration committees are instituted for each registry, consisting of cardiologists or thorax surgeons from participating hospitals. Meetings of the registration committees (i.e. three to four times a year) is one manner in which hospitals are provided insight into cardiac data, as it allows committee members to share information and learn from each other (Figure 1).

The primary objective of the committees is to monitor outcomes per hospital, discuss differences in processes of healthcare delivery, initiate additional research, define hypotheses and share good practices in case of clinical relevant or significant variation of outcomes.

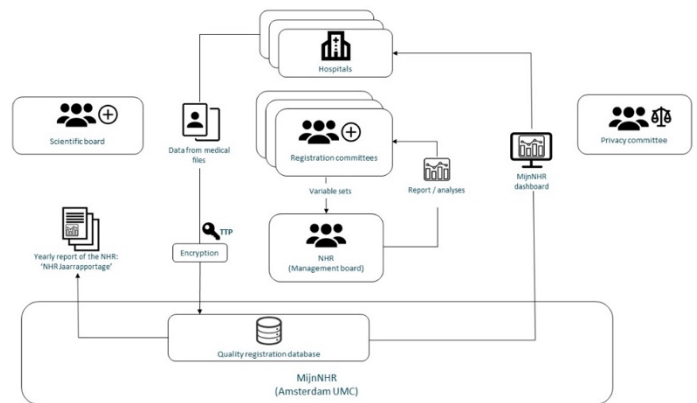


Figure 1. Data flow within NHR structure.

Results

Committees monitor outcome data using, for example, funnel plots and subsequently discussing processes of care in participating hospitals (Figure 2). Regularly, a committee member is invited to enlighten their process when being identified as an outlier regarding a patient outcome, enabling learning and sharing of good practices. Transparency of outcomes and a non-competitive and confidential setting is therefore essential. Also, the committees can organize additional projects to learn more in depth about quality for specific high risk patient groups, e.g. identifying patients who undergo a combined procedure of PCI and TAVI, as recently done by the THI committee (Figure 3) or registration of additional data from patients on cardiogenic shock organized by the PCI committee (Figure 4).

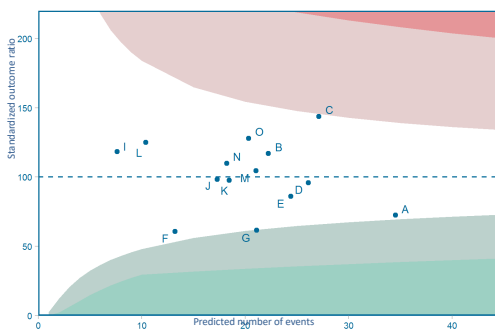


Figure 2. Funnel plot with mortality scores within 30 days after TAVI of participating hospitals.

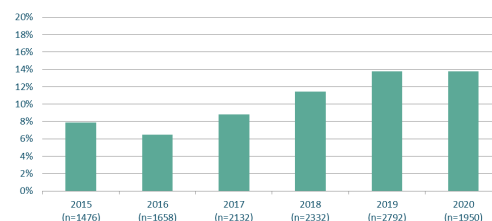


Figure 3. Percentages of combined procedure of PCI and TAVI of all TAVI's per year.

4.2 Overview PCI variables

BIJZONDERINGE VARIABELLEN				
Variabele	Variabeleomschrijving	Vrijheids	Indice niet vrijgeleed, dan aangeeft voor:	Opmerking
PCI:ALD	Intensivisme		x	
PCI:	Intensiviteit		x	

PACIENTENKATEGORIEËN				
Variabele	Variabeleomschrijving	Vrijheids	Indice niet vrijgeleed, dan aangeeft voor:	Opmerking
PCI:KAT:	Start cardiogene shock			Project cardiogene shock
PCI:KAT:	Duur Hartfalen			Project cardiogene shock
PCI:KAT:	Herstelde bloedstroom			Project cardiogene shock
PCI:KAT:	Diagnostische bloedstroom			Project cardiogene shock
PCI:KAT:	hartsequentie			Project cardiogene shock
PCI:KAT:	OHCA aanwezig			Project cardiogene shock
PCI:KAT:	OHCA duur			Project cardiogene shock
PCI:KAT:	MCA			Project cardiogene shock
PCI:KAT:	Langste			Project cardiogene shock
PCI:KAT:	Gevorte			Project cardiogene shock
PCI:KAT:	Verdachte coronair			Project cardiogene shock
PCI:KAT:	Hemoglobine bij opname			Project cardiogene shock
PCI:KAT:	Overlevt bij opname			Project cardiogene shock
PCI:KAT:	Overstapt bij opname			Project cardiogene shock
PCI:KAT:	ICU-sterf			Project cardiogene shock
PCI:KAT:	Tropine			Project cardiogene shock
PCI:KAT:	LV-geïndiceerde ten tijde van shock			Project cardiogene shock
PCI:KAT:	Tijdstip LV-geïndiceerde ten tijde van shock			Project cardiogene shock
PCI:KAT:	RV-geïndiceerde ten tijde van shock			Project cardiogene shock
PCI:KAT:	Tijdstip RV-geïndiceerde ten tijde van shock			Project cardiogene shock

Figure 4. Manual with variables of the cardiogenic shock project within the PCI committee.

Discussion

- Structural registration and subsequently monitoring of data within registration committees allows insights into outcomes of heart patients and potentials for improvement of quality of care.
- New developments within the NHR, such as an infrastructure for research based on the existing registries (e.g. registry-based randomized controlled trials) may provide possibilities for further evaluation and improvement of cardiovascular care.