

ROADMAP

Implementation of C-reactive protein point-of-care testing in nursing homes





Background

C-reactive protein point-of-care testing (CRP POCT) is an effective intervention to support diagnosis and management of suspected **lower respiratory tract infections** in **nursing home residents**.*

This **roadmap** supports nursing home organizations in the implementation of CRP POCT. The following phases of implementation will be addressed consecutively.



**See disclaimer*



Preparations (1/2)

Create an implementation plan with the following components

Check?



- The appointed implementation **leader** (e.g., a manager)
- The appointed **team champion(s)**

A **physician contact person** who will keep track of medical issues regarding CRP POCT use, and a **key-user** who will keep track of technical issues surrounding the use of CRP POCT.

- The target **patient population** for CRP POCT use



- Collaboration with a **diagnostic center / laboratory**

Collaboration is considered essential for high-quality CRP POCT use.

- User agreement / contract

Establish clear and unambiguous collaboration agreements and conditions, amongst others regarding the following: **type of CRP device**, **logistics** (orders and deliveries of the device and testing materials), **quality assurance** (including technical instructions, device checks, customer service from the laboratory POCT-team), and **finances**.



Preparations (2/2)

Create an implementation plan with the following components

Check?



- **Nursing home location(s) / wards** where CRP POCT will be used



Recommendation: for the use of a non-portable CRP POCT device, choose a large-sized location (>75 residents) or smaller locations in close proximity of a larger location.



- **Planning / timeline** of implementation



Include: further alignment with the collaborating laboratory, communication with involved nursing home locations, educational sessions for physicians and CRP POCT end-users, logistics surrounding the startup of CRP POCT-use, and the start of CRP POCT-use.



- **Requirements for implementation**



- The board of directors agrees with the implementation plan
- The board of directors ensures availability of the required resources
- The board of directors facilitates involvement of implementation team members
- Other potential requirements?



Implementation (1/2)

Execute the implementation plan

Check?



- Execute agreements with the **collaborating laboratory**

Regarding: placement of devices, technical training, orders and deliveries of testing materials, quality assurance and device checks, the potential use of supporting ICT-systems, and support with technical issues.



- Assemble the group of **CRP POCT users** (physicians and/or nurses)

Recommendation: balance the group size to ensure sufficient CRP POCT-users during all shifts, while ensuring that everyone keeps routine practice.

- Agree on a clear **division of roles and tasks**

Between those who request, execute and interpret CRP POCT.

- Ensure **short lines of communication** between involved professionals

Recommendation: facilitators include shared or neighboring offices, and short distances to the CRP POCT-device and other materials.



Implementation (2/2)

Execute the implementation plan

Check?



- **Technical training session for CRP POCT users**

By collaborating laboratory at or before placement of CRP POCT device.

- **Medical training session of physicians**

Before placement of CRP POCT device, either individually or centrally (e.g., during a regular physician meeting), by (medical) team champion and based on relevant national guidelines.



- **Inform the location(s) where CRP POCT will be used**

Why, when, how, by whom, and for which patients will CRP POCT be used?

- **Install the CRP POCT device at the location(s)**

Recommendation: pick a spot that is close to the office of the CRP POCT users and/or physicians, where the (refrigerated) materials and the CRP POCT device are close together, and where the CRP POCT device is not close to a heat source.



Continued use

Recommendations for successful and continued use of CRP POCT

- Continued **attention** to the topic of CRP POCT
 - Draw each others attention to the possibility of using CRP POCT when relevant.
 - Schedule experiences with CRP POCT as a regular discussion point for medical team meetings.
- Team champion: ensure sufficient **knowledge**
 - Include the medical training information in the onboarding of new physicians.
 - Repeat the medical training session regularly during medical team meetings and include new insights.
 - Make sure that new CRP POCT users receive the technical training session (e.g., the (technical) key-user is appointed for train-the-trainer).
- Ensure **routine practice** among CRP POCT users
 - If routine practice wanes: adjust CRP POCT-user group size, move the CRP POCT device to a more prominent place, and/or practice the CRP POCT procedure within the CRP POCT user group.
 - Ask the collaborating laboratory for a feedback report: number of tests, test results, and technical errors (individually if possible).
- Execute arrangements regarding **quality assurance**



Disclaimer

This product was developed by the The University Network for Organizations of Care for Older People - Amsterdam (UNO Amsterdam) (www.unoamsterdam.nl) of the department of Medicine for Older People, Amsterdam University Medical Center.

This product was developed in 2021, after conclusion of a [research project](#) on the effect of CRP POCT on antibiotic prescribing for lower respiratory tract infections in nursing homes. This research showed that the introduction of CRP POCT had a strong effect: nursing homes that had access to CRP POCT prescribed fewer antibiotics compared to nursing homes that did not have access to CRP POCT, without negative health consequences for patients.

This research project also evaluated the use and implementation of CRP POCT. These insights were included during the development of this roadmap, as well as insights from dr. Rogier Hopstaken, POCT-specialist with experience at different diagnostic centers. Lastly, recommendations from the Dutch College of General Practitioners (NHG) guideline 'Point-of-care testing in primary care' (2015) were covered where relevant.