

GUIDE.MRD

The GUIDE.MRD project aims to improve cancer care with a blood test called ctDNA (Circulating Tumor DNA). This test finds tiny bits of cancer, called Minimal Residual Disease (MRD), that might stay in the body after a treatment with curative intent, such as surgery. By finding MRD early, doctors can decide who needs more treatment and who doesn't, helping patients avoid unnecessary side effects from treatment that may not be needed and identifying early on if the cancer is recurring. The project has created an ideal pathway to help guide patients through their care after surgery or first treatment.

How We Developed the Ideal Pathway

To make sure the pathway meets everyone's needs, GUIDE.MRD engaged with a wide range of voices:

- **Interviewed 34 people**, including patients and healthcare professionals (oncologists, pathologists, nurses, researchers, professors, ..), to learn about their experiences.
- Held a meeting with **33 experts** to get feedback.
- Shared a **public survey** to hear from more people (19 responses collected).
- Reviewed scientific research and received input from a **Patient Advisory Board** to improve the pathway.

The Ideal Pathway: Three Key Steps

To make sure the pathway meets everyone's needs, GUIDE.MRD engaged with a wide range of voices:

1. Risk Assessment After Treatment with Curative Intent:

After treatment with curative intent (a treatment aiming at eliminating the disease, for example, surgery), a ctDNA test checks for fragments of DNA that are released into the bloodstream by cancer cells, therefore indicating residual cancer cells. If no MRD is found, patients might not need further treatment and could potentially move into a close monitoring phase with no treatment, still relying on ctDNA tests throughout this phase and, later on, over the recurrence surveillance phase. If MRD is found, the doctor and patient discuss the next steps, leveraging the ctDNA test results to help in shared decision-making on any further treatment.

2. Monitoring Treatment Efficacy / Therapeutic Break:

During the monitoring phase, ctDNA tests are done regularly to help clinicians and patients monitor the effect of a therapeutic break. If cancer starts to come back, doctors and patients can decide on the best treatment option early. At this stage, ctDNA would inform decisions that could reduce the

burden of treatment side effects, as well as the overall cost of therapy for patients - especially for people living in countries where national health systems and/or insurance coverage are low. Furthermore, it would enable patients and HCPs to detect cancer recurrence earlier than imaging tests.

3. Recurrence Surveillance:

Even after frequent monitoring ends, ctDNA tests can check for cancer recurrence during the surveillance phase. This may reduce the need for frequent hospital visits, especially for those who need to travel to reach the nearest big facility, as blood sample collection can be arranged in more convenient places and help identify problems early - ctDNA can, in fact, potentially detect recurrence of cancer earlier than imaging techniques or clinical assessment. Once again, ctDNA would, therefore, allow for a reduction of costs and overall burden on patients and healthcare systems as a whole.

Easy-to-Understand Summary



GUIDE.MRD (2024) Healthcare Pathway Map
Scientific Coordinator: Prof. Dr. Klaus Pantel
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What We Learned

Patients and experts highlighted these points:



Work Together: Patients want to be part of treatment decisions with their doctors.



Reduced Uncertainty: Patients and healthcare professionals expressed the need for tools that can help reduce uncertainty in decision-making.



More Education: Patients and healthcare teams need clear information about ctDNA testing.

There are still some problems to solve:



Making Tests Better: Improving how sensitive ctDNA tests are (i.e., making the tests more accurate at detecting cancer in people who have it).



Access for All: Ensuring everyone can benefit from this technology, no matter where they live.

Why This Matters

GUIDE.MRD could change how cancer is treated. Instead of relying only on imaging diagnostics (such as CT scans, MRIs, ..), doctors and patients can use precise ctDNA tests to check if any cancer cells are still present after treatment with curative intent and assess disease recurrence. This approach offers several key benefits for patients:

1. (Shared) Decision Making:

ctDNA testing could be an important tool to leverage during shared decision-making processes between clinicians and patients regarding treatment. For example, ctDNA testing can help inform a dialog between a clinician and patient on avoiding unnecessary treatment for patients with no detectable MRD, ensuring that those who are cancer-free do not undergo potentially harmful treatments and hence avoid the potential short and long-term debilitating side effects. In addition, early detection of a cancer relapse or recurrence can help to decide on the best treatment course to follow.

2. Monitoring Treatment Efficacy / Therapeutic Break:

ctDNA testing can potentially detect the need for treatment earlier than imaging diagnostics. If treatment is required, MRD (minimal residual disease) monitoring helps to assess the efficacy of the treatment and can potentially detect the need for a change in treatment earlier than imaging or clinical diagnostics. Also, in case MRD is no longer detectable, it can enable doctors to consider stopping treatment and reduce

over-treatment, sparing patients from unnecessary therapies. At this stage, ctDNA would potentially reduce the burden of treatment side effects, as well as the overall cost of therapy for patients - especially for people living in countries where national health systems and/or insurance coverage are low.

3. Recurrence Surveillance:

MRD testing can potentially detect recurrence of the cancer much earlier than traditional CT scans, allowing for more proactive, life-saving treatment well before the disease would be visible on scans. This may reduce the need for frequent hospital visits, especially for those who need to travel to reach the nearest big facility, as blood sample collection can be arranged in more convenient places and help identify problems early. Once again, ctDNA would, therefore, allow for a reduction of costs.

4. Reducing Overall Burden:

By avoiding unnecessary treatments, patients are spared from the burden of treatment-related toxicity and side effects. ctDNA testing could also lead to fewer hospital visits, as blood samples for testing may be collected at local facilities closer to the patient's home. This not only reduces patient burden but also has the potential to lower costs for both patients and healthcare systems. Additionally, it can reduce the strain on healthcare systems, including healthcare professionals, by streamlining monitoring and care delivery.



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