

# Pharmacovigilance in management of late-onset side effects

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## Background

Modern medicine developments provide several examples of significant paradigm shifts in patient survival in specific disease areas.

Diagnoses previously equalling early death have transformed into long-term survival conditions, some requiring lifelong treatment. Renal failure and HIV are prime examples of shifts like this where specialised clinics also cater for treatment and detection and management of side effects. In oncology, childhood cancer led the way e.g. acute lymphatic leukaemia, with similar survival shifts in adult cancer populations following later; recently and remarkably with the targeted therapies in some cancers. Particular to cancer in this respect has been the time-limited treatment periods and follow-up before being declared cured; whereafter specialist supervision ends. The childhood cancer example demonstrates that late, rare, life-altering side effects (e.g. neuropsychiatric, cardiac, (in)fertility, accelerated ageing) are often misdiagnosed and inadequately handled outside specialist care. Opportunities to treat and assist the patient are easily neglected due to a failure to recognise the connection between the treatment and the much later side effects the patient is encountering. The acknowledgement of this issue has spurred development of successful long-term follow-up systems for childhood cancer survivors in some countries.

Future paradigm shifts in survival will come, where great hopes for a cure currently rest on advanced therapy medical products (ATMPs) for a broad spectrum of conditions that are starting to enter the medical field. The long-term effects of these treatments are completely unknown.

## Objective/aim

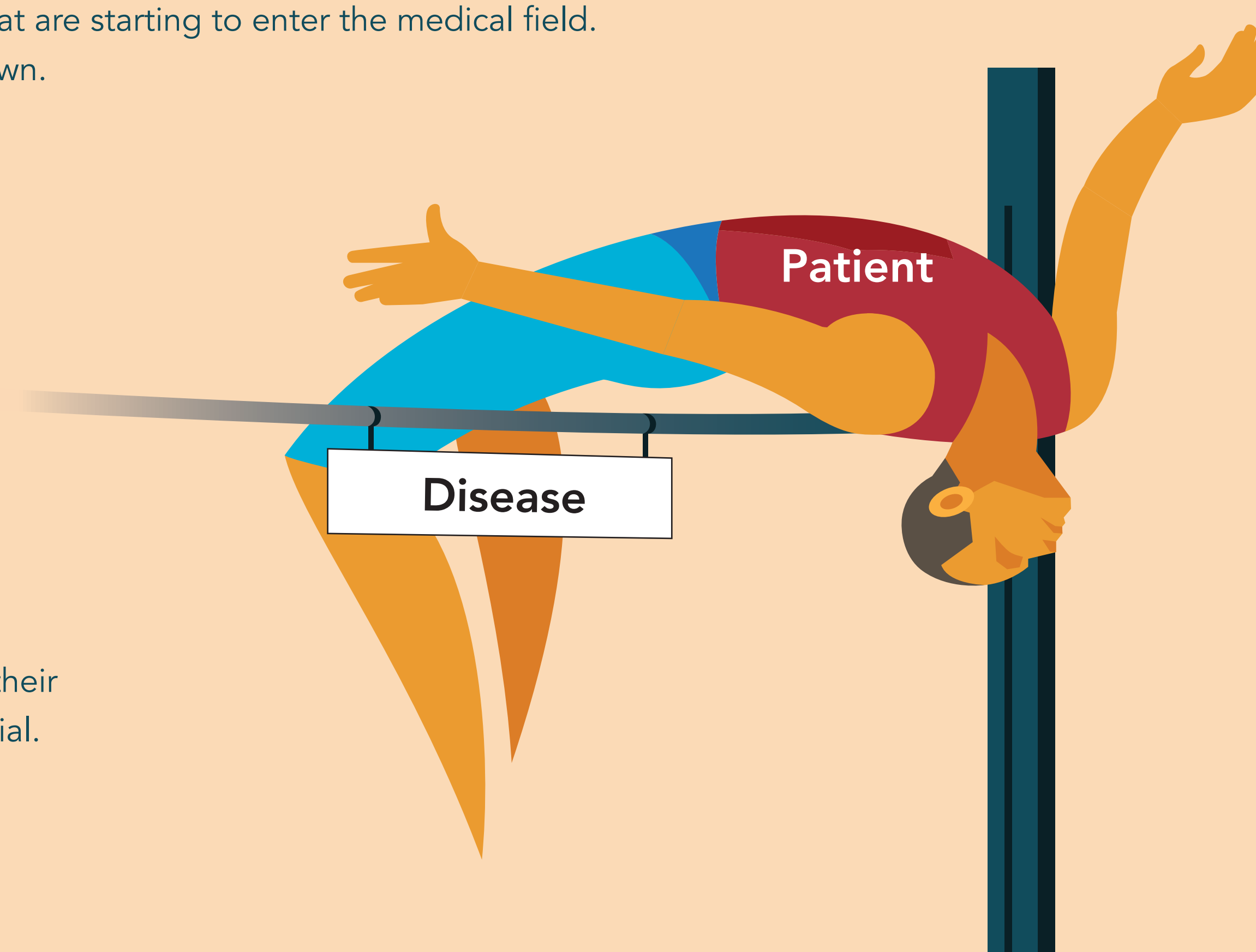
Which long-term follow-up lessons learnt from childhood cancer treatment could also apply to pharmacovigilance (PV)?

## Methods

A round-table discussion convened of policymakers, researchers, industry and patients from various healthcare system settings globally at the 2018 Uppsala Health Summit to give global guidance regarding long-term follow-up of cancer [1, 2]. Three perspectives were covered: clinical, societal and patient. PV-relevant results are reported here.

## Results

Considering rarity of several cancer diagnoses and in particular their subsequent late treatment effects, global collaboration is essential.



### The following goals with special relevance for PV were suggested:

- Establishing global data collection standardisation on survivorship enabling collaboration;
- Strive for needs-driven rather than technology-driven deployment of data science and technological developments;
- Establishing in medical registries alert systems for rare and/or late treatment effects on a patient and population level;
- Establishing post-cancer knowledge centres with minimum required elements;
- Issuing individualised "survivorship passport" at end of specialist treatment to improve individual prioritisations during post-cancer healthcare;
- Establishing WHO cancer guidance on long-term follow-up of cancer on individual, clinical and societal levels to incorporate into national cancer plans (NCP);
- Sustainability, equality and equity and good patient engagement practices [3] should be the hallmark of any guidelines and real-world implementations thereof.

## Conclusion and discussion

It would be advantageous for countries developing basic domestic cancer care via NCPs to plan holistically also considering the needs of survivors. Systems for long-term follow-up of childhood cancer populations developed in high-income countries may constitute generalisable models for other settings and for disease areas currently undergoing treatment and survival paradigm shifts. Regarding data standardisation, collection and analysis, the EHDEN [4] and OHDSI collaborations [5] provide new possibilities for late onset and long-term follow-up and PV activities.

## References

1. Uppsala Health Summit, Pre-Conference report; Long term care for cancer survivors- striving for the best quality of life possible <https://www.uppsalahealthsummit.se/summit-2018/pre-conference-report-/long-term-care-for-cancer-survivors/#anchor-717302>
2. Uppsala Health Summit, Post-Conference report; Long term care for cancer survivors- striving for the best quality of life possible <https://www.uppsalahealthsummit.se/summit-2018/post-conference-report-2018/>
3. Patient Focused Medicines development <https://patientfocusedmedicine.org/resources/>
4. European Health Data and Evidence Network <https://www.ehden.eu/>
5. Observational Health Data Sciences and informatics <https://ohdsi.org/>