Scope of vignette:
- authorised products (with marketing authorisation)
- decision process about routine use (and not individual requests for reimbursement)
- submissions for P&R made by manufacturers

Green = related to/any special considerations for rare disease and ultra-rare disease treatments

New Zealand	**Standard HTA process (non-orphan drugs)**	**Special HTA process HTA (orphan drugs) - Expedited**
Overview of health system and P&R/HTA process	Tax based health system [1] Medsafe, the medicines/medical devices safety authority, gives approval for safety of pharmaceuticals. [2] PHARMAC, the Pharmaceutical Management Agency is responsible for the decision and funding of pharmaceuticals on behalf of the District Health Boards. [3] This includes medicines and some medical devices in the community, vaccines, hospital medicines, haemophilia treatments, and negotiates national contracts for some hospital medical devices. PTAC (pharmacology and therapeutics advisory committee) provides objective advice and recommendations for PHARMAC. [4] Rare disorders sub-committee (created in 2018) provides clinical advice.	
Differentiation of rare disease treatments in the P&R system	1. The medicine has been approved by Medsafe, or an approved international regulatory authority, for the identified indication. 2. The disorder is a clinically defined disorder affecting an identifiable and measurable patient population with a prevalence of less than 1:50,000 in New Zealand. 3. The medicine is only registered for the treatment of the rare disorder, or if it is registered for other disorders (or is part of phase three clinical trials for other disorders), the cumulative prevalence across all indications still meets principle 2.	
Eligible medicines	Any new medicine with Medsafe approval (by exception a very few medicines have been considered without Medsafe approval.) [5]	Medicines for rare diseases, taking into account multiple indications [6]
Process	1. Application prepared: Manufacturer discusses application with PHARMAC, then submits application. 2. Consider evidence: Preliminary evaluation by PHARMAC and clinical advisors (PTAC) or subcommittee or both. Application is reviewed, and additional information collected, preliminary analysis. Recommendation made (positive (low, medium or high), cost-neutral (only if same cost or	Same, BUT rare disease medicines don't require Medsafe approval before application can be submitted. [8]

New Zealand	Standard HTA process (non-orphan drugs)	Special HTA process HTA (orphan drugs) - Expedited
	cheaper than available funded alternative) or decline funding). 3. Assess relative value: PHARMAC evaluates product using PHARMAC's factors for consideration framework, application is ranked against all other applications. 4. PHARMAC and supplier negotiate, if ranked high, proposal is further developed, and provisional agreement attained. If low ranked, no action or consult on proposed decline decision. 5. Consult and decide on potential funding or decline decisions: submissions considered, proposal amended if necessary, PHARMAC board or delegate makes final funding decision. [7] 6. Implement: decision notification, implementation activated.	
Disease specific expert input (e.g. clinicians or patients in any stage of the process)	At both evaluation stages (preliminary evaluation, assessing relative value), PHARMAC and clinical advisors (PTAC or subcommittee or both) are involved in the decision making (PHARMAC board or delegate makes final decision). Consultation allows patients and expert clinicians, not only advisory boards, to input into decision making.	At both evaluation stages (preliminary evaluation, assessing relative value), PHARMAC and clinical advisors (PTAC and/or rare disease subcommittee are involved in the decision making (PHARMAC board or delegate makes final decision).
Key domains in assessment	All funding decisions are made using the Factors for Consideration, as outlined below.	Same with a particular emphasis on the Need domain. Noting that there are often no suitable alternative treatments for these patient groups.
Evidentiary requirements	Decision making is made using the best available evidence. Clinical advice reflects the appraisal of the strength and quality of the evidence.	Same, acknowledging that the evidence base is often more limited for rare disorders and so must work with best available data. Generally, RCT data is preferred, however, non-RCT data is routinely accepted across all conditions – applications are not dismissed solely due to no RCT evidence.

New Zealand	Standard HTA process (non-orphan drugs)	Special HTA process HTA (orphan drugs) - Expedited
		Uncertainty is usually dealt with pragmatically using sensitivity analysis in the cost utility analysis. Ranges are informed by the literature and clinical advice.
PROMs	EQ-5D 3L is currently the preferred Health-Related Quality of Life instrument. The Tariff is, however, based on population preferences for health states rather than patient preferences. Patient reported outcome measures may be considered when presented as part of a submission to PHARMAC. PROMs may inform the disease and health need description, including the need of caregivers.	
Appraisal framework	Based on PHARMAC factors for consideration framework (01.07.2016) [3][9][10]: **Need** - health system: disease, illness or condition recognised as a government priority - family: related needs of family and wider society; impact of disease or condition on certain populations (minorities/health disparities) - person: impact on life expectancy and quality of life; availability and suitability of existing treatments **Health benefits** - health system: impact on health system from taking the treatment (e.g. support services to administer new treatment); impact on government health system priorities - family: effects on family and wider society (indirect benefits) - person: health benefits from taking the treatment (survival, Quality of life) **Suitability** - health system: features of the medicines facilitating its use (e.g. reducing problem of error) - family: impact on family / caregivers of providing treatment (e.g. may be easier to give a pill) - person: non-clinical features of the medicine, size, shape, taste, mode of delivery that may affect adherence and outcomes **Costs and savings** - health system: impact on pharmaceutical budget, opportunity costs, cost offsets (e.g. switch from alternative treatment; free up hospital bed because of treatment) - family: costs and savings incurred by family and wider society from treatment - person: costs and savings to patient Economic assessments comprise: cost-utility analysis, budget impact analysis Price information: market price, selling prices to wholesalers in other OECD countries, alternative pricing proposal (possible price/volume tradeoffs) Clinical evidence to include in application: all identified RCTs (English, peer review), and list of unpublished studies The following criteria are particularly relevant for RDTs:	

New Zealand	Standard HTA process (non-orphan drugs)	Special HTA process HTA (orphan drugs) - Expedited
	• Health need of the person – rare disorders can often be debilitating and severe, and so individuals with a rare disorder are often considered to have a high health need. • The availability and suitability of existing medicines, medical devices and treatments – people with rare disorders often have limited alternative treatment options available. • Health need of others – caring for a person with a rare disorder can have impacts on the health of those with this responsibility.	
Reimbursement decision	Appropriate approach to evaluation is determined holistically, for each application, based on the Factors for Consideration, and communication with other relevant bodies when necessary (e.g. DHBs, Ministry of Health) [10] PHARMAC makes the final funding decision: Positive or Decline.	
Pricing process	Range of strategies used: negotiation, reference pricing, tendering, request for proposals, expenditure caps and confidential rebates, multi-product agreements. [5]	
Managed entry agreements	- Confidential discount via rebates - Budget cap - Access criteria to target treatment to specific patients	
Main challenges in appraising medicines for rare diseases (tick all that apply)	X Lack of good quality clinical data X Lack of real world data X Introducing value for money X Monitoring treatment efficacy X Managing budget impact X Lack of criteria/transparency of OMP P&R processes X Making arrangements to work for all stakeholders X Lack of long-term meaningful outcomes	
Impact of special processes	2014 Pilot funded 10 medicines from 28 proposals. Evaluation report [11] 2018 and ongoing process in progress [12]. PHARMAC has an established rare-disorders subcommittee who provide ongoing advice for pharmaceuticals for rare disorders.	
Proposed policy change	None - 2018 process is in progress [12]	
Joint initiatives		
SOURCES		
1	https://www.health.govt.nz/new-zealand-health-system/overview-health-system/statutory-framework	
2	medsafe.govt.nz/other/about.asp	
3	https://www.pharmac.govt.nz/assets/guidelines-for-funding-applications-2017-09.pdf	

New Zealand	Standard HTA process (non-orphan drugs)	Special HTA process HTA (orphan drugs) - Expedited
4	https://www.pharmac.govt.nz/assets/ptac-terms-of-reference.pdf	
5	https://www.pharmac.govt.nz/medicines/how-medicines-are-funded/new-funding-applications/	
6	https://www.pharmac.govt.nz/medicines/how-medicines-are-funded/medicines-for-rare-disorders/	
7	https://www.pharmac.govt.nz/medicines/how-medicines-are-funded/	
8	https://www.pharmac.govt.nz/news/call-for-applications-2018-06-28-rare-disorders/	
9	https://www.pharmac.govt.nz/medicines/how-medicines-are-funded/factors-for-consideration/	
10	https://www.pharmac.govt.nz/assets/operating-policies-and-procedures-4th-ed.pdf	
11	https://www.pharmac.govt.nz/medicines/how-medicinesare-funded/medicines-for-rare-disorders/contestable-rfp/	
12	https://www.pharmac.govt.nz/news/media-2018-07-16-rare-disorders/	

Created in May 2019 by the IMPACT-HTA team with the support of the country experts. Last updated in September 2019.

Acknowledgments: We would like to thank the country experts for their time and valuable contribution in providing the information used to create and validate this vignette. This research is funded under the EC's Horizon 2020 Programme within IMPACT-HTA. Results reflect the authors' views. The EC is not liable for any use of the information communicated.

This vignette was compiled based on information provided by country experts and desk research. The information provided may be incomplete or contain inaccuracies. If you have any comments or updates, please email us at the following email addresses:

- Elena Nicod at elena.nicod@unibocconi.it
- Amanda Whittal at amanda.whittal@unibocconi.it