Supplement 3 Results

Table S4. Collected case vignettes and key results (after phase 2 (EK, SM)).

Case description		Key results after case vignette questionnaires (round 1 + 2)		
Case name	**Key words**	**Referral decision (context 3 optimal regional situation)**	**Identified boundary questions (categories)**	**Discussed during working session**
1. Apple	Dyspnoea, influenza A, delirium, IV antibiotics, 24/7 monitoring, need additional diagnostics	AGCH: 3x STRC HC: 1x		
2. Plum	Dyspnoea, influenza A, suspicion dec cordis after packed cells	AGCH: 3x STRC HC: 1x HOSP: 1x	(B) Monitoring and treatment intensity AGCH (I) Monitoring and treatment intensity other intermediate care models	
3. Mulberry	Delirium, dementia, urinary tract infection (UTI), IV antibiotics	AGCH: 3x STRC HC: 1x (LTC financing label)		
4. Fig	Decreased mobility, bed confinement. No clear diagnosis.	AGCH: 1x STRC HC: 1x STRC LC: 2x	(H) Treatment complexity at other intermediate care models (I) Monitoring and treatment intensity other intermediate care models (J) Observation cognitive functioning	Session 2 AGCH vs. intermediate care
5. Almond	Suspicion delirium, psychotic features, delusions. UTI, urinary retention hyponatraemia	AGCH: 2x HOSP: 1x	(A) Completeness diagnostics and treatment plan (B) Monitoring and treatment intensity AGCH (D) Medical specialist(s) in consult at the AGCH	Session 1 AGCH vs. hospital
6. Pomegranate	Resp. insufficiency type 1 (COVID), IV antibiotics, high need for O2 (NIV), high mortality risk	AGCH: 1x HOSP: 2x		
7. Kaki	Suspicion pneumonia (infl. A), O2 need (3 liter), elevated CK	AGCH: 4x		
8. Cherry	Urosepsis, IV antibiotics, additional diagnostics/lab, renal impairment, low intensity monitoring, treatment restrictions	AGCH: 4x		
9. Pear	General weakness, UTI, atrial fibrillation, IV antibiotics, oral anticoagulant therapy, various specialists in consult	AGCH: 6x HOSP: 1x	(A) Completeness diagnostics and treatment plan (B) Monitoring and treatment intensity AGCH (C) Handling of treatment risks at the AGCH (D) Medical specialist(s) in consult at the AGCH (E) Functional decline and rehabilitation goals	Session 1 AGCH vs. hospital
10. Medlar	Somatic cause fall: UTI & dehydration. Vertebral compress-ion (L2). IV antibiotics, IV fluids.	AGCH: 2x STRC HC: 2x	(H) Treatment complexity at other intermediate care models (I) Monitoring and treatment intensity other intermediate care models (J) Observation cognitive functioning	Session 2 AGCH vs. intermediate care
11. Nectarine	General weakness, dyspnoea, dec. cordis, hyponatraemia, hypokalaemia, elevated CRP, fluid retention IV furosemide, need additional diagnostics	AGCH: 3x HOSP: 1x	(A) Completeness diagnostics and treatment plan (B) Monitoring and treatment intensity AGCH (C) Handling of treatment risks at the AGCH (D) Medical specialist(s) in consult at the AGCH (E) Functional decline and rehabilitation goals	Session 1 AGCH vs. hospital

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12. Peach	Subacute pain left inguinal area; femur bone cyst. multidisciplinary care demand, physical therapy, need additional diagnostics (MRI)	AGCH: 1x STRC HC: 2x (O/W 1x observation) Home: 2x	(H) Treatment complexity at other intermediate care models (I) Monitoring and treatment intensity other intermediate care models (J) Observation cognitive functioning	
13. Chestnut	General weakness, mild hypoxemia, COVID, infl. A, IV fluids and O2 need	AGCH: 1x STRC HC: 1x HOSP: 2x	(F) Geriatric syndromes	
14. Walnut	Hip fracture (THR right) after fall. Not ready for physiotherapy as adhesive has to dry.	GR: 3x (O/W 1x first period not trainable and STRC HC label)		
15. Lemon	Mixed hyperactive, apathetic delirium, no somatic substrate, wandering, need additional diagnostics	AGCH: 1x ELV HC: 2x	(G) Delirium (I) Monitoring and treatment intensity other intermediate care models (J) Observation cognitive functioning	Session 2 AGCH vs. intermediate care
16. Mandarin	Delirium, delusions, deep hyponatraemia, complex specialist care need, various specialists in consult	AGCH: 1x HOSP: 3x	(A) Completeness diagnostics and treatment plan (B) Monitoring and treatment intensity AGCH (D) Medical specialist(s) in consult at the AGCH	Session 1 AGCH vs. hospital
17. Lime	Decreased mobility, UTI, COVID, dyspnoea, delirium, wandering, vascular dementia (LTC ZZP5 indication), need additional observation/ diagnostics	AGCH: 2x STRC HC: 2x (O/W 2x LTC financing label)	(G) Delirium (H) Treatment complexity at other intermediate care models (I) Monitoring and treatment intensity other intermediate care models (J) Observation cognitive functioning	Session 2 AGCH vs. intermediate care
18. Orange	Dyspnoea, bacterial pneumonia, exacerbation COPD, hyponatraemia, IV antibiotics glucose and saline, O2 need, monitoring vital function 3x per day.	AGCH: 3x		
19. Papaya	Contusion left ribs due to fall, influenza A, mild hyponatraemia, suspicion UTI, O2 need, IV diuretics, monitoring electrolyte imbalances,	AGCH: 3x Hospital: 1x	(A) Completeness diagnostics and treatment plan (D) Medical specialist(s) in consult at the AGCH (E) Functional decline and rehabilitation goals	
20. Mango	General weakness after COVID, phatic disorders after ICVA. Need for further observation/ diagnostics to assess whether return home is feasible.	STRC LC: 2x STRC HC:1x	(H) Treatment complexity at other intermediate care models (J) Observation cognitive functioning	
21. Durian	Progressive dyspnoea, severe emphysematous destruction lung tissue (COPD), dec. cordis. O2 need (NIV), IV furosemide, IV AB, risk hypercapnia, need for more diagnostics/lab (neurofibromatosis, electrolytes, blood gas, CT thorax)	HOSP: 3x		
22. Lychee	Dyspnoea, progressive cardiac failure, COPD, IV diuretics, monitoring kidney function, no treatment restrictions.	AGCH: 3x HOSP: 2x (O/W 1x hospital at home)		
23. Guave	Dyspnoea, low saturation, pneumonia due to COVID. O2 need, monitoring vital signs, no treatment restrictions.	HOSP: 3x (O/W 1x hospital at home)		

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Table S5. Coding table

Themes	Categories boundary questions / considerations	Subcategories boundary questions / considerations
1. AGCH admission criteria	Current AGCH admission criteria	Older patient with an acute medical problem that requires hospitalization Adequate hemodynamic stability No need for complex diagnostic tests Return to previous living situation expected within 14 days Geriatric syndromes
	Additions to the AGCH admission criteria	Admission via ED Clarity and agreement on the diagnosis and treatment 24/7 medical specialist care and monitoring is indicated The medical treatment is low to medium complex The (medical) monitoring intensity is low Risks (of treatment); lead to consequences which are treatable at the AGCH location Early rehabilitation and activation is beneficial for the patient A low stimuli environment is of benefit for the patient Admission of patients with specific symptoms and diseases
2A.Triage ambiguities AGCH vs. bed-based geriatric hospital care	(A) Completeness of diagnostics and treatment before transfer to the AGCH	Diagnostics at AGCH Case complexity at AGCH Treatment plan (not) definitive before admission AGCH Lab at AGCH Medical oxygen at AGCH
	(B) Maximum monitoring and treatment possibility at the AGCH	Monitoring vital signs at AGCH Maximum monitoring intensity at AGCH Maximum treatment intensity at AGCH
	(C) Handling of treatment risks at the AGCH	Treatment risks during admission at AGCH No limited treatment policy (and admission AGCH)
	(D) Medical specialist(s) in consult at the AGCH	Whether medical specialist should be in consult Maximum number of medical specialists in consult at AGCH
	(E) Functional decline and rehabilitation goals mandatory for AGCH admission	Maximum score (ADL) functioning for AGCH admission? Hospital associated functional decline expected Rehabilitation goal(s) Prognosis concerning return home is unclear LTC indication Palliative care needs
	(F) Geriatric syndromes mandatory for AGCH admission	Age Frailty Geriatric syndromes
2B. Triage ambiguities AGCH vs. bed-based intermediate care (STRC, GR)	(G) Referral decision-making for patients with delirium	Delirium: when hospital vs. intermediate care indication? Referral decision-making when delirium + hospital indication Referral decision-making when delirium + hospital indication + no AGCH (with locked ward) available Referral decision-making when delirium + no hospital indication Referral decision-making when delirium + no hospital indication + LTC indication
	(H) Maximum treatment complexity at other intermediate care models,	Specialized medical care (AGCH) versus general medical care (STRC and GR) Treatment expertise at STRC and GR

		Nursing procedures at STRC and GR
	(I) Maximum observation and treatment intensity at other intermediate care models	Monitoring and treatment intensity at STRC and GR Treatment hours possible at STRC, GR and AGCH Possibilities with regards to lab at STRC and GR
	(J) Observation of cognitive functioning at other intermediate care models	Not clear at hospital/ED whether return home is possible or LTC indication should be issued Diagnostics at STRC observation bed Monitoring at STRC observation bed
3A. Clinical considerations*	Demographic	Age Characteristics housing
	Somatic status**	Clinical status Diagnosis-related Plan for treatment
	Cognitive and mental status	Dementia Delirium (or risk delirium) Hallucinations (Repellent) behavior Other cognitive impairment(s) Receptive to instruction(s) for rehabilitation Awareness of illness Momentary well-being
	Social***	Caregiver situation Social system of patient Involvement of case manager (dementia)
	Mobility and functional status	Mobility Functional independence (ADL/iADL) Functional decline (ΔADL/ΔiADL) Barthel index Premorbid activity limitation High fall risks Patient's capacity for training
	Multi-domain****	Case complexity Judgement concerning probability of returning to own home LTC indication (and on waiting list) Patient has a rehabilitation need Self-management ability (Reduced) self-care
	Patient preferences***	Limited treatment policy Wishes of the patient with respect to LTC admission Follow-up care possible at same facility? (less transfers)
3B. Organizational considerations*	Micro-level: Care process at facility	Diagnostic procedures Observational procedures Execution of treatment (plan) Expertise of professionals Multidisciplinary care

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		Coordination of care Environmental factors
	Meso-level: Regional organisation of (acute) elderly care	Availability of intermediate care beds (and which models) Possibilities of acute care in an outpatient or home setting Availability of home care Availability of support material/ instruments to use at home Time of day when referral decision-making takes place
	Macro-level: Healthcare system factors	Patient's insurance Pressure to discharge early Reimbursement for provided care (not sufficient) Costs for society / efficiency of care Admission to care model possible directly after ED visit?
3C. Weighing considerations	Weighing clinical considerations	Based on comprehensive (geriatric) assessment Final conclusion made by attending medical specialist Joint agreement between healthcare professional involved
	Weighing clinical and organizational considerations	Organisational triage factors limit referral options Next best option

** Renamed, in the Groot et al.[33]: clinical and organizational triage factors ** renamed, in de Groot et al. [33]: diagnoses, syndromes; *** new category; ****renamed, in de Groot et al. [33]: multi-domain tools and measures)*

† Abbreviations: ADL = activities of daily living; AGCH= Acute Geriatric Community Hospital; GR = geriatric rehabilitation; iADL = instrumental activities of daily living; LTC = long-term care; ED = emergency department; STRC = Short-Term Residential Stay