Evaluation of the Implementation Progress of a New Complex Intervention in a Multimorbidity Patient-Centered Care Model in Chile

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1. How complex interventions respond to Multimorbidity?

- ❑ In Chile, more than nine people have multimorbidity, impacting their quality of life, their families, and the health system costs, making the reorganization of health services a priority.
- ❑ Health complex interventions should be performed and involve structural, organizational, and operational changes that should be measured during the implementation process. Using Key Performance Indicators (KPIs) to track the implementation progress facilitates improvement actions.
- ❑ The Centro de Innovación en Salud ANCORA UC implemented a Multimorbidity Patient-Centered Care Model (MPCM) in seven Primary Health Care Centers (PHCCs) and three hospitals in Santiago.

OBJECTIVE

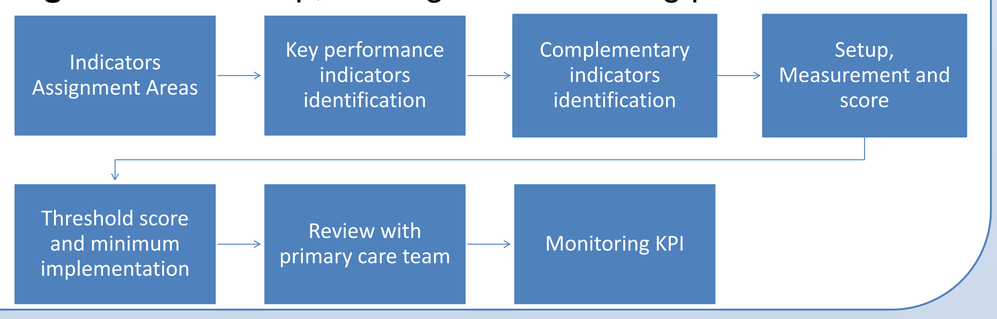
Evaluate the progress in the implementation of the Multimorbidity Patient-Centered Care Model in seven Primary Care Centers in Chile.

2. Methods

- ❑ Four areas were considered for grouping the KPIs according to the intervention strategy's main characteristics (Figure 1).
- ❑ 17 KPIs were chosen based on the minimum core components required for the change toward a multimorbidity approach and implementation sustainability.
- ❑ Monitoring KPIs were self-reported, with dichotomous responses, and were completed by the implementation health care teams.
- ❑ A threshold of 70% determined the minimal expected progress after 12 months of implementation.
- ❑ The setting-up, measurement, and scoring of KPI (Figure 2) were reviewed and discussed with the healthcare teams of the seven PHCCs twice.
- ❑ Monitoring was applied in seven primary health centers in 2020, where 21 healthcare teams and 22,642 patients were exposed to the intervention.

Figure 1. Intervention strategy

Figure 2. KPI setup, scoring and monitoring process



3. Results

- ❑ Seven PHCs in 2020 showed positive implementation progress of the MPCM in most of KPIs.
- ❑ The overall threshold was met with a score of 72% (min 45% - max 100%).
- ❑ Municipalities offered health services for similar populations but had important differences in the results.
- ❑ Results by area of evaluation: the highest scores were in change management and new roles.
- ❑ Results by component showed that six KPIs scored the highest: Decision Makers Support (PHC director and managers), Leaders for the Implementation of the MPCM at the PHC, Alert System Informing PHC Teams of Patients Consulting at the Emergency Room and Hospitalization, High-Complexity Primary Physician, Case Manager, and Transition Nurse.
- ❑ Review process with primary care teams adjusted the type of minimal components

Table 1. Results of the KPIs by area and component for each municipality and PHCC.

Area	Component	Score	Municipality 1		Municipality 2			Municipality 3	
			PHC 1	PHC 2	PHC3	PHC4	PHC5	PHC 6	PHC 7
Change Management	Decision makers support (PHC director and managers)	1	1	1	1	1	1	1	1
	Leader for the implementation of the MPCM at the PHC	1	1	1	1	1	1	1	1
	Local training plan of MPCM for new employees	1	1	0	1	1	0	1	1
Change Management Total Score		3	3	2	3	3	2	3	3
Operational	Adult population stratified by risk, available and with patients ID	3	3	3	3	3	3	3	1
	Unified drug prescription	3	3	3	3	3	3	1	3
	Alert system informing PHC teams of patients consulting at emergency room and hospitalization	1	1	1	1	1	1	1	1
	Integrated multimorbidity scheduled appointments	2	2	1	2	2	0	2	2
Operational Conditions Total Score		9	9	8	9	9	7	7	7
New Roles	Clinical Pharmacist	1	1	1	1	1	1	0	0
	High-complexity primary physician	1	1	1	1	1	1	1	1
	Case Manager	1	1	1	1	1	1	1	1
	Transition Nurse	1	1	1	1	1	1	1	1
New Roles total Score		4	4	4	4	4	4	3	3
Activities and services	Individualized Care Plans	3	3	1	3	3	0	3	2
	Phone counseling	3	3	0	2	3	0	0	2
	Continuity of care with a professional from the team	3	0	0	0	3	0	0	2
	Rescue after hospital discharge	1	0	0	0	1	0	0	1
	Implementation of an induction plan	3	3	0	3	3	0	3	0
	Transition care	2	2	2	1	2	1	2	2
Activities and services total Score		15	11	3	9	15	1	8	9
Total Score		**31**	**27**	**17**	**25**	**31**	**14**	**21**	**22**
Implementation progress percentage		**100%**	**87%**	**55%**	**81%**	**100%**	**45%**	**68%**	**71%**

5. Key Messages

- ❑ The study showed that the healthcare teams monitored the MPCM intervention strategy in terms of implementation progress through key performance indicators.
- ❑ The results differences between the areas of progress may be related to the stages of the pilot implementation.
- ❑ The time invested in the pre-implementation period favored the higher scores of new roles and change management.
- ❑ The centers that did not reach the threshold had less implementation in components that require a deeper and structural change, such as individualized care plans and continuity of care.

6. Conclusions

The set of key performance indicators has the potential to reflect the progress in a complex intervention in health like the MPCM. The automatization and extrapolation to other complex interventions in other groups of patients could provide early useful information to make opportune necessary changes and improve the expected outcomes of the intervention.