Treating to target: ready, fire, aim

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Clinical question
Can we achieve guideline-specified surrogate marker targets (SMTs) in primary care (PC)?

Bottom line
Even in ideal settings, less than 25% of carefully selected patients achieve multiple SMTs. However, clinical outcomes improve with proven interventions (eg, statins, metformin, ACEIs) without achieving targets. Clinicians should focus more on using proven therapies than attaining exact SMTs.

Evidence
- Multiple cohort studies found PC patients did not achieve SMTs (ie, cholesterol, blood pressure [BP], glycated hemoglobin [HbA1c]).
  - Of 1706 patients with diabetes mellitus (DM), 7.3% achieved 3 targets (HbA1c < 7%, BP < 130/80 mm Hg, and cholesterol < 5.18 mmol/L)\(^1\); of 1701 Canadians, 24% had low-density lipoprotein (LDL) levels of < 2 mmol/L; and of 3167 patients with coronary artery disease (CAD), 16% achieved 3 targets (BP < 130/80 to 85 mm Hg, LDL < 2.2 mmol/L, and acetylsalicylic acid use).\(^2\)
- Some RCTs have found achieving targets difficult (despite intense care, maximum doses, and multiple therapies).
  - In a meta-analysis of 7 RCTs (29395 patients), less than 50% attained LDL levels of less than 2 mmol/L with maximum statin dose.\(^3\)
  - In 3 RCTs of DM patients with CAD (5034 patients), about 23% achieved 4 targets (LDL < 2.5 mmol/L, systolic BP < 130 mm Hg, HbA1c < 7%, and not smoking).\(^4\)
  - In the Steno-2 RCT (160 DM patients), at 13 years, 1% hit 5 targets (HbA1c < 6.5%, cholesterol < 4.5 mmol/L, triglyceride < 1.7 mmol/L, SBP < 130 mm Hg, DBP < 80 mm Hg).\(^5\)
- Despite not achieving targets, proven therapies (eg, statins, ACEIs, metformin) improved clinical outcomes. Statins reduced CAD (eg, number needed to treat [NNT] of 27 for low-moderate dose and 91 for high dose over low dose).\(^6\) Proven therapies in Steno-2 study reduced death (NNT=5) and cardiovascular disease (NNT=4).\(^6\)

Context
- Targets in guidelines are primarily based on expert opinion (about 50%) and on lower-level evidence (about 40%) and rarely on RCTs.\(^8\)
- Multiple comorbidities are common in PC, particularly in older adults,\(^9,10\) but rare in clinical trials or guidelines, making application difficult.\(^11\)
- Some newer guidelines are relaxing (hypertension\(^12\) and DM\(^13\)) or removing targets (cholesterol\(^14\)).

Implementation
Small deviations from SMTs are of little clinical importance, and intensifying care exposes patients to side effects and increases costs.\(^15\) Using treatment targets as performance measures for clinicians does not account for these issues nor for patient preferences.\(^16\) Some guidelines now discourage use of target attainment as a performance measure.\(^17\) Some have suggested that “[o]nly when those who promulgate measures are held personally responsible for their decisions should they hold physicians on the front line personally responsible for their implementation.”\(^16\)

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References