

Table 3: summary of aims, hazards and evidence strength

	Intervention	Save time	Increase relevance	Manage app volume	Reduce bias	Reduce burden	Fund high-risk	Increase review qual.	Hazards	Evidence strength rating
Pre-call	Assessment criteria definition		X						Reviewers may not follow guidance; too many criteria risk over-complicating discussions	***
	Demand management: individuals (1)			X	X				Shifts burden to other funders, savings are minimal	*
	Demand management: individuals (2)			X		X			May simply shift re-submission to other funders, somewhat controversial	**
	Demand management: institutions			X		X			Largely shifts burden to institutions; potential additional bias, depending on institutional processes	****
	Working with underrepresented groups					X			May take some time to show effect; may entail administrative burden	****
Application-design & parameters	Applicant behaviours				X				None known	*
	Expression of interest/pre-proposal		X			X			Longer time-to-grant, influx of out-of-scope EoIs, limits information to inform decision-making	***
	Reducing applications length/cutting sections	X				X			Limits information to inform decision-making, may not always save burden for applicants	***
Process design	'Sandpits'/Matching events						X		Problems for access, EDI issues; can be partially resolved through remote events	****
	2-stage application process		X			X			Slight danger of reduced levels of feedback	****
	Applicant anonymisation				X		X		Limited ability to judge feasibility of projects	****
	Automation-assisted reviewer allocation	X			X	X		X	Technology is not widely tested; some algorithms may have problems	***
	Dragon's den-style pitch		X					X	Favours applicants with sharp presenting skills; may present access-problems	*

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	External review only (no panel)	X				X	X		Reduced layers of risk control, potential lack of transparency	**
	Group review							X	Group-bias	*
	Changing the number of reviewers	X				X		X	Increase numbers: a single bad review can sink an application; labour intensive Decrease numbers: reduced robustness, potential for greater bias	***
	Interviews							X	Resource-intensive, bias and/or disadvantage for certain groups	**
	Moderation of reviews							X	Time-consuming for administrators; administrators may not have sufficient thematic expertise	*
	Moderation panel							X	Not known	*
	Panel only (no postal/external review)	X	X					X	Difficulty to cover the required expertise in a panel, may still need additional reviews, potential bias	***
	Peer allocation	X				X			Possibly open to abuse/gaming, adds to applicant burden	***
	Programme manager's discretion	X	X				X		Evidence that it may be under-used as programme managers themselves can be risk averse; lacks transparency, potentially a 'winners' game'	***
	Standing panels vs. portfolio panels							X	Standing panels may potentially lead to institutionalised bias	***
	Use of international assessors				X			X	May require more guidance/training for panellists	**
	Use of metrics							X	Highly controversial: poor measure of excellence, open to bias and abuse, may contravene the DORA	***
	Use of non-academic assessors (i.e. industry, policy & practice, patients, 'user' representatives)		X						May dilute notions of basic research, not recommended for such contexts	****
	Virtual panels	X			X	X			Potentially less robust or detailed discussion, though this is unclear	***
Decis	Wildcard	X					X		Open to abuse if conflicts of interest are not monitored very well. Requires anonymised reviewing	***

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	Partial randomisation				X	X	X		Reputational impact on applicants	***
	Scoring mechanisms		X					X	None confirmed but may disadvantage high-risk/ high-reward applications	****
	Sequential application of criteria (rather than simultaneous application of criteria)		X					X	None known	**
	Use of quotas				X				Very drastic approach	*
Training and feedback	Bringing in reviewers from earlier careers & providing mentoring				X			X	None known	**
	Embedding EDI in assessment				X				Ineffective training may install a false sense of confidence	**
	Expanding or reducing the amount/detail of feedback to unsuccessful applicants							X	Added burden; feedback may be of inconsistent quality	**
	Funder representation on review panels		X					X	None known	**
	Improving quality of reviews		X		X			X	None known	****
	Open review/rebuttal				X			X	Possibly increased burden for funder (and longer timelines depending how rebuttal works)	***