



How can town and city councils incorporate scientific evidence into their decision making about local-level programmes?

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1. What is evidence? Why cities need evidence?

- Evidence can be any information but in this context usually means evidence from research
- Evidence can assist you to make decisions
- When resources are limited, then the need for research evidence may be even more important (in order to be efficient)



And there may be many types of research question

Question	Туре
What do people want?	Needs
What's the balance of benefit and harm of a given approach?	Impact/ effectiveness
Why/how does it work? How does it vary in effect?	Process/explanation
What is happening?	Implementation
What relationships are seen between phenomena?	Correlation
What are people's experiences?	Views/perspectives
What resources are needed ?	Costs



Aggregative approaches in research

Aggregative reviews predominately add up (aggregate) findings of primary studies to answer a review question...

... to indicate the direction or size of effect





Configurative approaches in research

- Configurative reviews predominately arrange (configure) the findings of primary studies to answer the review question....
- ... to offer a meaningful picture of what research is telling us





So identify, interpret and implement research evidence and other information and factors

- First, an issue where research and other evidence be of assistance in informing a decision
- Second, seeking and interpreting such information to assist with the decision
- Third, monitoring implementation and outcomes and re-assess.



The research informed decision making cycle





2. How to find relevant research findings?

- Studies I just happen to know / have sought out
- Conclusions of a traditional literature review
- Conclusions of an expert





May provide insights but dangers:

- Trustworthy?- methodological fallibility of individual studies
- Representative of what known random error
- Relevant focus/context



I have undertaken or read a literature review....

May be an excellent review, but can be dangers of:

Lack of clarity of principles and methods

- Theoretical and ideological assumptions (perspectives driving review)
- Boundaries of knowledge (relevant data and context)
- Quality and relevance appraisal of studies (fit for purpose)
- Clear methods of analysis/synthesis (interpretative process)

I know an expert...

Many skills but:

- Opinion or research
- Practice or research knowledge
- Non explicit theoretical and ideological assumptions ("single topic pressure groups")
- Boundaries and depth of knowledge (hidden sampling bias)
- Up to date (e.g. BSE advice to UK government)
- Unclear method of synthesis (hidden interpretive bias)

Formal research into what is already known

- What is relevant research?
- How to find this?
- What information to take from it?
- How to analyse and make conclusions from this?



3. What is a systematic review?

- Formal accountable method for bringing together what we know – accessible and understandable and explicit about how framed and how executed:
- **Systematic**: 'done or acting according to a fixed plan or system; methodical'
- **Review**: 'a critical appraisal of a book, play, or other work' (OED)

A piece of research just like primary research

Systematic reviews – explicit methods of review

- Secondary research bringing together what we know from good relevant research should be the 1st thing we do:
 - What do we want to know?
 - What do we know already (mapping and synthesis)?
 - What more do we want to know?

(research gaps & appropriate methods to fill these)

Systematic reviews more transparent about relevance, representativeness and quality than many traditional reviews and expert views

The common stages of a systematic review

Form review team (involve 'users') Formulate review question, conceptual framework and inclusion criteria (develop 'protocol') Search for and identify relevant studies **Describe studies** Assess study quality (and relevance) **Synthesis** Synthesise findings **Communicate and engage**

Map

(15)

RCT forest plot: Does children's participation in structured arts activities improve their cognitive learning outcomes?



Newman M, Bird K, Tripney J, Kalra N, Kwan I, Bangpan M, Vigurs C (2010) Understanding the impact of engagement in culture and sport: A systematic review of the learning impacts for young people. London: Department for Culture, Media and Sport. <u>http://culture.gov.uk/images/research/CASE-systematic-review-July10.pdf</u>



Reviews are not all the same

- Length (Rapid or lengthy)
- Depth (Degree of detail)
- Question (e.g. what works and how to understand)
- Approach (aggregating or configuring)
- Complex reviews:
 - Theory driven
 - Mechanisms and contexts
 - Multi component /mixed method reviews

Gough D, Thomas J, Oliver S (2012) Clarifying differences between review designs and methods. Systematic Reviews Journal. http://www.systematicreviewsjournal.com



Local economic development

- Sensitivity to place
- Growing and nurturing local capital
- Competitiveness not the guiding narrative
- Be holistic
- Key levers: skills, community-led development, transport, housing, finance, civic leadership, planning and procurement.

Baars S (2014) The Levers of Local Economic Development. A Local Government

Knowledge Navigator Evidence Review.



But problems with generalized research findings

- Many other variables
- Complexity
- Mechanisms
- Fit for purpose user driven questions (not just supply side (push) research



4. Developing and using evidence on a local level

Engaging users – prioritisation of needs, monitoring and sharing progress, acceptance of difficult decisions

- Lean thinking examining the nature, type, frequency of demand
- Using all your data (e.g. RAS example)
- Behavioural change prototypes and low cost tests

Johnstone D (2013) Squaring the Circle Evidence at the Local Level. London: Alliance for Useful Evidence.

http://www.alliance4usefulevidence.org/assets/Squaring-the-Circle-by-Derrick-Johnstone.odf

Joint Strategic Needs Assessments (JSNAs)

- a statutory requirement, and core to Health and Wellbeing Partnerships
- Bring together different local services
- Coventry example:
 - work with local population on local assets
 - use JSNA as a monitor of progress
 - financial reward for progress from national government



How to enable such local use of research?

- 1. Culture and working practices in both communities;
- 2. Connectivity between local government and research, using both the power of the web and by creating enduring institutional mechanisms;
- 3. Embedding research in councils with joint problem definition and research design by researchers and practitioners;
- 4. Strategic joint work by local government, research funders and researchers on major challenges.

Allen T, Grace C, Martin S (2014) Connecting Research and Local Government in an Age of Austerity. Report of the Local Government Knowledge Navigator

(22) http://www.local.gov.uk/

National or regional services can also play a critical role

- Lead by example in use of research
- Provision of and access to data (eg national pupil data for schools research)
- Shared frameworks, common evaluation strategies
- Regulation
- Capacity building
- Funding
- Synthesis and guidance and tools



National guidance in UK for clinical medicine, public health and social care



NICE Return on Investment Tool comparing packages of provision using cost effectiveness + local population data





Thank you for your attention

Websites

EIPPEE Website: <u>http://www.eippee.eu</u> Evidence and Policy: <u>http://www.policypress.co.uk/journals_eap.asp</u> EPPI-Centre Website <u>http://eppi.ioe.ac.uk</u>

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An introduction to systematic reviews: Sage Publications Ltd



Gough D, Oliver S, Thomas J (2013) *Learning from Research: Systematic Reviews for Informing Policy Decisions: A Quick Guide.* London: Alliance for Useful Evidence., Nesta. <u>http://www.alliance4usefulevidenc</u> <u>e.org/assets/Alliance-FUE-reviewsbooklet-3.pdf</u>



Gough D, Thomas J, Oliver S (2012) Clarifying differences between review designs and methods. *Systematic Reviews Journal*. <u>http://www.systematicreviewsjournal.com</u>

Gough D, (2013) Meta-narrative and realist reviews: guidance, rules, publication standards and quality appraisal. *BMC Medicine*, **11**:22 <u>http://www.biomedcentral.com/1741-7015/11/22</u>