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**Science integrity: Jump-starting Public Science**

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**Takeaways and recommendations**

**Increasing Canada’s scientific integrity**

* Government has to ensure that what it says publicly matches what internal policies communicate to its employees.
* The current environment in the U.S. shows that progress on scientific integrity can be swiftly undone. Canada must ensure that our solutions can be sustained over the long term.
* Scientists need good communications training.
* The media need to know the scientists to call in government departments. Many of these connections were lost in the last 10 years as scientists were less able to speak freely and as many science writers lost their jobs.
* Open data is good but an over-emphasis on researchers having to use Canadian government open licences may be detrimental to collaboration (e.g. if researchers from other countries are being instructed to use their own open data licences).
* Departmental science advisors should have good management skills but they also need to understand science; being a skilled manager doesn’t mean someone is also good at science advice.

**Advice for SBDAs developing scientific integrity agreements**

* All science-based departments and agencies (SBDAs) staffed by 10 or more scientists have been tasked with developing their own scientific integrity policies. [As per the agreement they signed](https://www.tbs-sct.gc.ca/agreements-conventions/view-visualiser-eng.aspx?id=18#toc10541210542) in Spring, PIPSC is endeavoring to work with departments to develop a model policy by the end of the year.
* For policies on scientific integrity to work government must talk to scientists as well as policymakers, and they must take the advice of scientists seriously.
* Policies must include clear guidelines for times of public crisis (e.g. SARS) so that scientists and policymakers respond in a coordinated way.
* Policies must have clear conflict resolution processes and the results of these processes must be made public.
* These processes need to recognize that conflicts require different time frames for resolution. For example, if a scientist wants to present at a conference, a resolution must be found quickly.
* When discussing scientific integrity, the SBDAs should focus on valuing high quality and bias-free work rather than avoiding research misconduct.

**The road ahead**

* Canada’s new Chief Science Advisor should review and learn from the 1999 report *Science Advice for Government Effectiveness* and other past work. There is no need to reinvent the wheel.
* Enshrining scientific integrity in government scientists’ collective agreements is a step in the right direction, but the government must champion a culture change within departments that respects, values and understands scientific integrity.
* Groups like PIPSC must continue their advocacy role to ensure scientific integrity remains a government priority.
* The provinces should also think about how scientific integrity affects their decisions and should consider creating agreements with their scientists.